

Kick-starting the shale boom in Argentina? The new reforms in context

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Introduction

This fall the Argentine government passed a new hydrocarbons bill with the intent of attracting foreign direct investment in its energy sector, particularly in shale oil and shale gas areas. With 802 trillion cubic feet (tcf) of technically recoverable gas, Argentina has the second-largest shale gas reserves behind China. It also has the fourth-largest shale oil reserves (27 billion technically recoverable barrels), as well as a developed domestic gas market and export infrastructure. The country is thus a potentially important player in the global oil and gas markets. Not only has the country been a major supplier of natural gas to neighbouring Chile, Uruguay, Brazil, and Bolivia in the past, but its domestic use is so large that it has become an important importer of natural gas via pipeline from Bolivia and it has built two LNG import facilities. The World Gas Model at Rice University indicates that Argentina could supply LNG to China by 2030. A number of companies (such as Repsol/YPF before its nationalization in April 2012, Total, Apache, Exxon, Shell, Pan American Energy, and Americas Petrogas) have already begun exploring, with Repsol/

YPF making a significant discovery in December 2011.

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Nevertheless, until significant exploration is undertaken one cannot know how much shale gas exists and is potentially recoverable under current economic and technological conditions. In the USA, where shale gas exploration and production has been underway for a number of years, dramatic recalculations of reserves downward have occurred. For example in 2012 the EIA reduced the estimated national shale gas reserves from 827 tcf to 482 tcf, which included a reduction by 66 per cent of the prolific Marcellus Shale basin; two years later, it downgraded a potentially major basin in California (Monterey) by 96 per cent. The liquids potential of Argentine shale gas will be a key factor for investors, but preliminary estimates indicate that only 20 per cent of the most important basin, Vaca Muerta, has liquids. Clearly, a great deal of exploration needs to occur to confirm Argentina's potential. And estimates for full development reach US\$250 billion. Investment in the

logistics and infrastructure, including refining, to support the expected levels of production will also be significant. But Argentina has had a troubled relationship with foreign investors, even beyond its historic sovereign debt default in 2002 and the renationalization of YPF in 2012. Domestic price controls, export controls, broken contracts, and incentive programmes that failed to materialize have all contributed to Argentina's current energy crisis.

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The government of President Cristina Fernández de Kirchner (CFK) expects the optimists to flock to Argentina enticed by the geological fundamentals. Stimulated by a successful negotiation of over US\$1 billion with Chevron in the summer of 2013, the government developed a new hydrocarbons law that promises significant incentives to attract the investment that will reproduce the US shale boom in Argentina. One just needs to get past the broken promises of the past.



Current investment environment in Argentine hydrocarbons

The belief that oil and gas are 'a basic resource for economic growth and the development of the country' is widespread and not unique to the party supporting the CFK government. For example, the Senate supported nationalizing YPF 63:3, with 4 abstentions and the House voted 207:32, with 18 abstaining.

The nationalization left 49 per cent of YPF shares in non-Argentine government hands, but because the Act declares that it is in the public interest for the country to achieve self-sufficiency, the legislation sets a context and a mechanism for direct state control over the company and the sector. The government has been quite willing to use those levers to pressure and discipline companies that fail to explore or produce at rates expected by the government.

Federal Decree 929 in 2013 attempted to stimulate incentives for both conventional and unconventional hydrocarbon production by raising the domestic price of oil and gas, permitting repatriation of some profits after certain levels of investment and production, and offering a price of US\$7.50/MMBtu for new gas supplies. The CFK government appears to be following through on its March 2014 announcement that domestic gas prices would rise significantly this year in a series of monthly increases. But similar Gas Plus and Oil Plus programmes of the recent past failed to have staying power. With inflation over 30 per cent, falling international reserves, and elections next year the commitment of the government to these incentives remains an open question.

Though the first shale hydrocarbon discoveries date from the end of 2010, the current rate of shale exploration is approximately similar to that in 2012,

after a decrease in 2013 as companies reacted to the uncertainty introduced by the nationalization of Repsol/YPF. The NOC holds most of the shale acreage that has been licensed to date, 75 per cent of wells drilled in Vaca Muerta, 90 per cent of the shale oil produced to date, and 80 per cent of the shale gas. Until auctions for new acreage begin, new investors are limited to partnering with YPF or farming-in to the few existing independent projects.

Chevron is the biggest player in Argentine shale after YPF, with almost US\$3 billion invested in 2013–14. Shell Argentina's subsidiary, O&G Developments, announced that it will invest US\$500 million in unconventional drilling in 2014, up from US\$170 million in 2013. Exxon Mobil drilled five wells in 2013 and is currently exploring in six blocks in Neuquén. Total had been the largest gas producer in Argentina until YPF purchased Apache's assets. In shale, Total had 13 exploratory oil wells operating in 2013 (seven in Vaca Muerta) and plans to drill another 12 in 2014; the company partners with Shell in the Rincón de la Ceniza block. Total will also operate its first unconventional gas project in Aguada Pichana this year. Gazprom has had discussions with YPF and will be sending technical teams to evaluate Vaca Muerta sites.

The extent to which these investments were driven by commercial calculations is not clear. Federal government policy restricts currency outflows, meaning that companies (such as Chevron, Dow, Wintershall, Exxon, and Madalena) with profits in the country cannot convert their pesos into dollars and take them out of Argentina. Inflation is running at about 35 per cent and in the recent past the government has seized bank accounts, pensions, and private companies, and has also renegotiated government bonds at a fraction of their original value (this does not refer to the current 'technical default' on its foreign debt).

Consequently, a company would prefer not to keep their Argentine pesos in cash or buy government debt in pesos, which makes investing their Argentine profits in Argentina an attractive, if not ideal, option. Dow Chemical's Argentine subsidiary has a gas-starved petrochemical joint venture in Argentina, associated with YPF to develop the El Orejano block. Once developed, Dow gets a 50 per cent share of the project (though it puts in two-thirds of the investment) or its US\$120 million becomes a five year loan (no terms of loan disclosed). Gazprom's interest in Argentine shale may be Vladimir Putin's compensation for Argentina's willingness to buck the international sanctions the USA and the EU are imposing on Russia for its behaviour in the Ukraine crisis. (Argentina has announced that it will sell agricultural products to Russia to replace lost imports.)

The new hydrocarbons legislation

The new hydrocarbons legislation replaces a law that everyone believes is outdated, but the terms of the new legislation have been controversial. The hydrocarbon-producing provincial governments opposed efforts by the Federal government to establish national criteria that limited provincial discretion in capturing the rents in favour of new federal efforts. Though a deal was reached with the provinces and the legislation passed in the Senate, it was opposed by all the opposition parties, who stipulated that were they to win the Presidential and legislative elections next year, they would change the law.

The new legislation offers significant incentives for investors. Provinces must now follow a standard contract in licensing exploration and production of provincial-owned hydrocarbons, which limits tax and royalty rates. The reform eliminates the future establishment of

areas reserved for state companies and establishes a mechanism to eliminate ENARSA from joint ventures in offshore. YPF is consequently strengthened, since provincial oil companies are no longer able to participate in joint ventures without putting up investment capital and ENARSA is effectively disestablished as a producer. Limitations on exploration permits have been modified; a company may now have an unlimited number of exploration permits, while the area retained for future exploration has been increased for both conventionals and unconventional as long as an unspecified 'good faith' effort has been made to move to production.

Production permits may now be extended for an unlimited time and restrictions on the number of them a party may hold have been eliminated. Initial permits are: 25 years for conventionals, 30 for unconventional, and 35 for offshore (unconventionals and offshore are increased). Permits can be renewed indefinitely in 10 year extensions – previously this was only possible once. Extensions will entail payment of bonuses. Royalties are set at 12 per cent, but provinces can charge an additional 3 per cent for extensions up to a maximum of 18 per cent and can discount down to a minimum of 5 per cent royalty for permits that have migrated from conventional to unconventional, for secondary recovery operations, and for extra-heavy oil. Tariffs on imports of necessary inputs have been eliminated or reduced. With a minimum investment of US\$250 million (down from US\$1 billion) up to 20 per cent of conventional or unconventional oil or gas production can be exported; for offshore the volume is up to 60 per cent of production. Companies are also guaranteed free use of the foreign exchange received for exports.

On paper the reform offers significant incentives for investing in Argentina's

oil and gas. But it does not address key issues that have provided disincentives for investors: domestic prices, export taxes, repatriation of profits, and domestic content requirements. One can also expect that royalty rates will rise once production is well under way. Even Colombia, with a reputation for being market-friendly, varies royalties by the size of fields and has a maximum rate of 25 per cent, not 18 per cent. It will be politically impossible for any Argentine government to stick to 18 per cent royalties as production rises.

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'ON PAPER THE REFORM OFFERS SIGNIFICANT INCENTIVES FOR INVESTING IN ARGENTINA'S OIL AND GAS.'

Conclusions

It is difficult to understand the current state of development in Argentina's oil and gas sector. Current investments cannot be taken as indications that the shale boom is beginning in the country. Government policy is presently favourable for investment, but lacks credibility. The lack of credibility of any government policy in Argentina, no matter the government, contributes to an evolving governance structure that pushes investors to focus on operations that can produce the highest returns in the shortest period. The signing of an agreement is no guarantee that it will be developed to its full potential. Argentine federal and provincial governments have developed tools to seize investments that do not perform to their expectations and they have used them against private companies as well as against other nations' NOCs. Even while attempting to attract investment to the shale basins, and while the new hydrocarbon legislation was being negotiated with the provincial governments, the CFK government still thought it was reasonable to threaten

Shell over its alleged engagement in a 'conspiracy' against the Argentine peso. The government's call for provinces to investigate Shell's licences – for not investing sufficiently in developing those resources – illustrates its willingness to strike out in whatever way possible against those who do not follow government preferences.

In the short term, it seems that the drivers of investment will be the speed with which returns can be achieved, rather than the long-term promises of government. Since shale well life-cycles produce high returns up front and decline rapidly, we can expect to see some investment in non-conventionals, but less in conventionals and offshore. The upside for the industry could be that the non-commercially stimulated investments of today can reveal more of the country's shale potential. Once the hydrocarbon reforms are implemented, that knowledge could help stimulate greater interest in Argentine shale.

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Although this government strategy can stimulate drilling and reveal information about reserves in the short term, its very success reinforces the perceptions of both Argentine politicians and the public that government can be successful in setting the terms and demanding high rent appropriation. The traditional Argentine model of unilateral government control has produced booms in the recent past, but they were unsustainable both economically and politically. Thus, although companies may be waiting for the presidential election in 2015 in hopes of more market-friendly policies, whoever wins is unlikely to alter the country's dependence on unilateral public policy that adjusts easily to the ever-changing winds of Argentine politics.

