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ADRIENNE ARSHT  
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# The New Argentina

**Time to Double  
Down on the  
Energy Sector?**

By Cristian Folgar





# Atlantic Council

## ADRIENNE ARSHT LATIN AMERICA CENTER

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— Peter Schechter, Director, Adrienne Arsht Latin America Center and Jason Marczak, Director, Latin America Economic Growth Initiative

# **The New Argentina**

**Time to Double Down  
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# The Macri Administration: A New Beginning

**A**n unfavorable business climate—rather than insufficient energy resources—has led to a number of setbacks in Argentina’s energy sector over the last several years. The result: a drop in production even while energy demand has continued to increase. This has led to energy supply problems that restrict economic growth as well as an inability to attract investments critical for economic recovery.



**President Mauricio Macri’s election in 2015 represented a clear political and economic shift for Argentina.**

The inauguration of President Mauricio Macri in December 2015 could represent a turning point for the energy sector and private business as a whole. The new administration’s first actions focused on recreating a friendly environment for local and foreign private investments. The new government eliminated most of the restrictions in the local foreign exchange markets and announced its intention to reduce annual inflation from its current level of 25-30 percent to 5 percent in four years.

But the Argentine government cannot afford to go it alone in the energy sector. Efforts to increase upstream spending, largely through the 2012 expropriation of the state-run oil and gas company Yacimientos Petrolíferos Fiscales (YPF), have not sufficiently increased production to meet domestic demand, much less restore Argentina’s role as an energy exporter. If Argentina wants to maximize

hydrocarbons production and reinvigorate the energy sector, it must attract foreign investment.

The US Energy Information Administration (EIA) ranked Argentina second of forty-six countries in terms of its undiscovered shale gas resource potential and fourth in terms of its undiscovered shale oil resource potential.<sup>1</sup> However, under the current low international energy price environment, Argentina’s investment framework and its history of tax and other expropriation will make it difficult to increase investment to the level necessary to meet domestic demand and significantly increase energy production. The new administration must concentrate on establishing a regulatory environment that promotes investor confidence and maximizes the industry’s potential.

# Building from a Solid Base but with Missed Opportunities

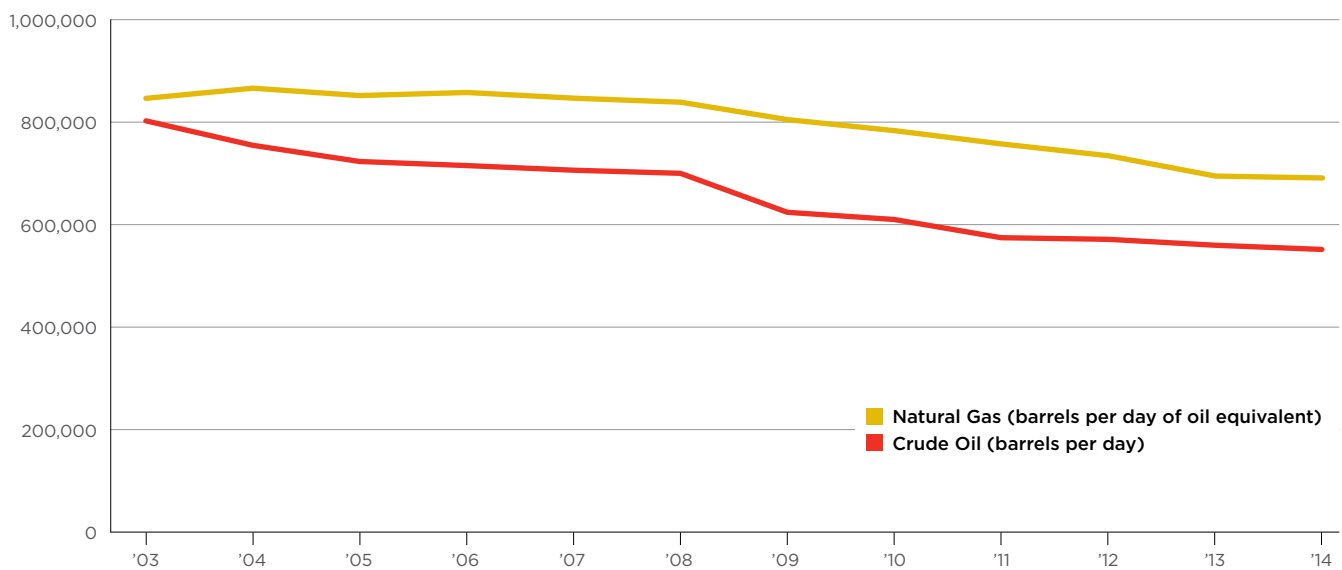
**A**rgentina's primary energy matrix relies heavily on hydrocarbons, which represent around 85 percent of the energy mix, and particularly on natural gas, which makes up more than 50 percent of the total. Hydro represents less than 5 percent. The federal government has introduced biofuels into the automotive fuel market and has launched programs to promote the use of renewable energies such as solar and wind.<sup>2</sup> But even in a scenario where the government can expand alternative and renewable energy resources, a heavy reliance on hydrocarbons is inevitable. At the moment, thermal power energy represents more than 60 percent of the total electricity supply. Argentina needs to set a regulatory and economic framework capable of attracting investment in the upstream hydrocarbon industry.

In the current legal framework for hydrocarbons, the provinces—but in some cases, such as offshore, the federal government—own the rights

to the hydrocarbons resources below ground. The federal government sets the rules for the industry while either the provinces or the federal government exercise power over concessionary companies. Private or state-owned companies can obtain exploration permits and exploitation concessions from the owner of the resources. The concessionaire has the right to market its production but has to pay royalties to the resource owner. Royalties are calculated as a percentage of the wellhead price of the hydrocarbons production. Some provinces mandate the formation of a joint venture between the provincial state-owned company and potential investors.

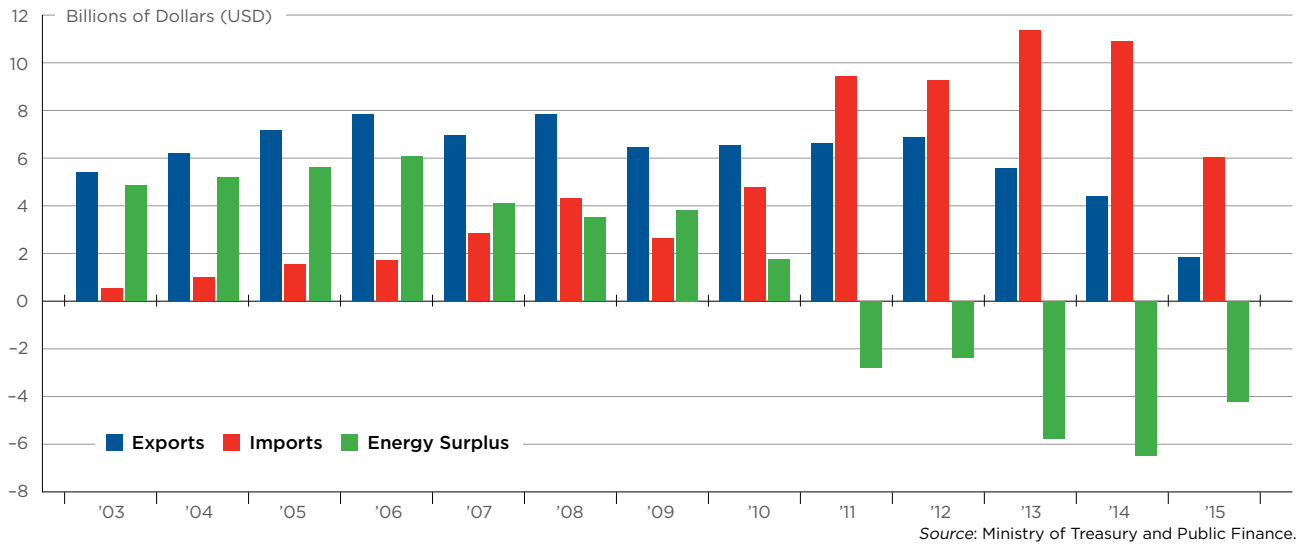
The country has a long way to go to move a more positive framework forward. The price/tariff regime enacted by former President Néstor Kirchner's administration (2003–07) produced an unsound regulatory system and resulted in underinvestment in the energy industry.<sup>3</sup> In essence the Kirchner administration capped profits and natural

**FIGURE 1. Annual Crude Oil and Natural Gas Production**



Source: Ministry of Treasury and Public Finance.

**FIGURE 2. Argentina’s Energy Trade Balance (in Billions of US Dollars)**



gas prices, making it unprofitable to produce gas at high prices and forcing producers to rely on uncertain government funding for reimbursement.

From 2003 to 2014, hydrocarbons production declined by 25 percent due to the Kirchner government’s policies (see figure 1, p. 2). This was not due to a lack of resources or market opportunities, but rather a lack of investment stemming from unsustainably low prices for both natural gas and crude oil. While international crude oil prices were above \$100 per barrel, Argentina capped it at \$85 per barrel. While regional natural gas prices were above \$10 per million British Thermal Units (MMBTU), Argentina capped it on average at less than half that price for local producers.

Throughout this era, government-set wellhead prices for both natural gas and crude oil were well below international prices. In 2004, the government planned to nearly quadruple natural gas prices, from an average of \$0.50 to approximately \$1.80 per MMBTU by 2006. But by 2007 the weighted average price for natural gas had only doubled.

After 2007 the government froze almost all prices and tariffs paid by end users along the entire energy chain. Subsidies covered the difference between the cost recognized by regulators and the price/tariffs paid by the end users. In 2011 energy subsidies reached almost 3 percent of Argentina’s GDP.

For political reasons, and in an effort to boost production, by June 2012 the federal government had expropriated 51 percent of YPF shares, which

produces 40 percent of the country’s hydrocarbons.

Following the expropriation, the rate of production decline diminished, but it is still in a downward trend. Since June 2012 the federal government has focused on strengthening YPF’s cash flow, authorizing adjustments in retail prices for gasoline and diesel oil to stay above the inflation index, and subsidizing the wellhead price of natural gas. To compensate for the falling prices of crude oil in the international market, the government set at the end of 2014 an internal price of \$75 per barrel. After the expropriation of YPF the federal government set a wellhead price for natural gas of \$7.50 per MMBTU for new production. This program is still in place and is called “Plan Gas.” The federal government covers the difference between the internal price and the target price through subsidies. These subsidies go directly to producers who demonstrate an increment of production (based on each company’s specific agreement with the government) above a theoretical production curve. But even these late attempts to boost hydrocarbons production failed because the former administration could not generate the necessary confidence from private investors.

As a result of the growth in energy consumption and fall in hydrocarbons production, Argentina lost its energy trade surplus. The Argentine energy balance shifted from a positive \$4.87 billion in 2003 to a negative \$6.49 billion in 2014 (see figure 2). The trend continues primarily due to falling international energy prices.

# The New YPF and Implications for Argentina's Provinces

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**T**he government's expropriation of 51 percent of YPF shares has changed the upstream dynamic. Before expropriation, the company maximized opportunities to distribute dividends to its shareholders, weakening its capacity to invest locally. Afterward, YPF significantly reduced its dividends and distributions and applied all of its cash flow to investments in Argentina. Still, these efforts have not increased production enough to meet growing demand.

YPF develops more hydrocarbon resources than any other Argentine energy company. However, YPF's efforts are not enough for Argentina to recover its self-sufficiency status and maximize hydrocarbons production. YPF lacks the capital and workforce to handle Argentina's vast shale potential, and in any event, the company would be dependent on outside companies' resources (technology and funds) to efficiently develop the resource. It needs the combined efforts of YPF and all other companies working in the upstream segment of the industry, plus the addition of new players.

YPF has launched, among other initiatives, investments in fields to develop unconventional hydrocarbons, including shale resources. Two of the most important agreements signed with the private sector to do so include a deal with Chevron in Loma Campana and another with Dow in El Orejano.<sup>4</sup> Under these agreements YPF's partners

committed investments to develop the areas involved in each accord.

YPF's financial resources limit its efforts to increase production. Funding comes from its commercial activities, financial markets, and from agreements with other companies. Its ability to increase cash flow depends on the prices set by the government for hydrocarbons and fuels. YPF's market capitalization and Argentina's overall country risk, among other factors, limit the amount of funds YPF can seek in financial markets.

YPF's ability to attract potential partnerships is critical. It depends on both the conditions established by the company and the opportunities that potential partners foresee in the Argentine energy market. The low international energy prices are of course a drag on potential investment.

That is why YPF must redouble efforts to reach agreements with new partners to increase the pace of its investments.

The expropriation also changed the relationship between the federal government (now in control of YPF) and the provinces, which own the natural resources and are where the production of hydrocarbons takes place. The provinces' objective is to extract value from these resources as soon as possible. It does not matter if they achieve this goal via YPF, the provincial state-owned energy company (if one exists), or another local or international company.<sup>5</sup> But since expropriation, the federal

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**YPF must redouble efforts to reach agreements with new partners to increase the pace of its investments.**

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government has had a financial imperative to boost YPF licenses.

In Neuquén province, where the most promising opportunities to develop unconventional hydrocarbons have been identified, several companies, especially YPF, hold significant licensing concessions. However, the acreage in these locations by far exceeds their investment capability. This acreage was probably reasonable to develop conventional hydrocarbons but with unconventional hydrocarbons' special dynamics, these arrangements require review.

Unlike conventional hydrocarbons, the exploitation of unconventional hydrocarbons requires a large investment for relatively small areas. For example, YPF holds exploitation concessions in Neuquén with a potential for unconventional hydrocarbons production reaching a total surface area of around 4 million acres.

Currently YPF has plans to develop less than 10 percent of this total, with no short- or medium-term prospects to develop the full area.<sup>6</sup> Governments typically place a time limit on how long an operator can hold a lease before it is obliged to relinquish it. Acreage is also usually sized to ensure there is competition among bidders. Too large a block restricts a government to deal with a few very large companies. A variety of blocks allows for more operators and more technological innovation.

Provinces like Neuquén want to maximize their upstream production and YPF, like other companies, wants to preserve the exploitation concessions it has already obtained. The question is whether Argentina can balance these simultaneous interests for the benefit of the energy sector.



MAURI CLOSS/FLICKR

**YPF is Argentina's largest energy company but it lacks the capacity to harness the country's energy potential.**

# Unconventional Hydrocarbons: More to Be Done

**A**rgentina has one of the world's largest potential markets to produce unconventional hydrocarbons—both crude oil and natural gas. In its September 2015 World Shale Resource Assessments, the EIA ranked Argentina second of forty-six countries for its estimated shale gas resources and fourth for its estimated shale oil resources.<sup>7</sup> Shale is a largely untapped opportunity.

Most of Argentina's unconventional hydrocarbons are located in the Neuquén basin, which extends through the provinces of Neuquén, Mendoza, and Río Negro. This basin not only holds a significant amount of hydrocarbon resources, but it also has the local infrastructure necessary to extract and process them.

Unlike places that are wary of unconventional hydrocarbons for fear of environmental impact, Neuquén's society is accustomed to the industry. It is the largest productive basin in the country with the greatest unconventional formations—Vaca Muerta and Los Molles. Though the province will require high environmental standards for exploration and production, it will welcome new investment given the economy's dependence on energy production.

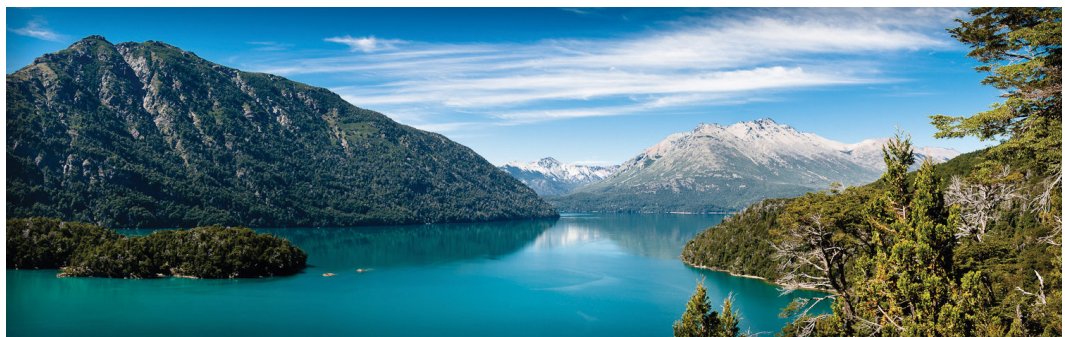
Figure 3 (p. 7) shows the source of unconventional hydrocarbons and how potential resources are distributed through the basin. From left to right, the first area indicates

the presence of dry natural gas, the second area indicates the presence of natural gas with a good amount of liquids, and the third indicates the presence of crude oil.

The simple visual comparison between the surface area covered by shale wells and the remaining open acreage shows that many opportunities exist not only for the incumbent companies that already have permissions or concessions to extract hydrocarbons, but also for new investors.

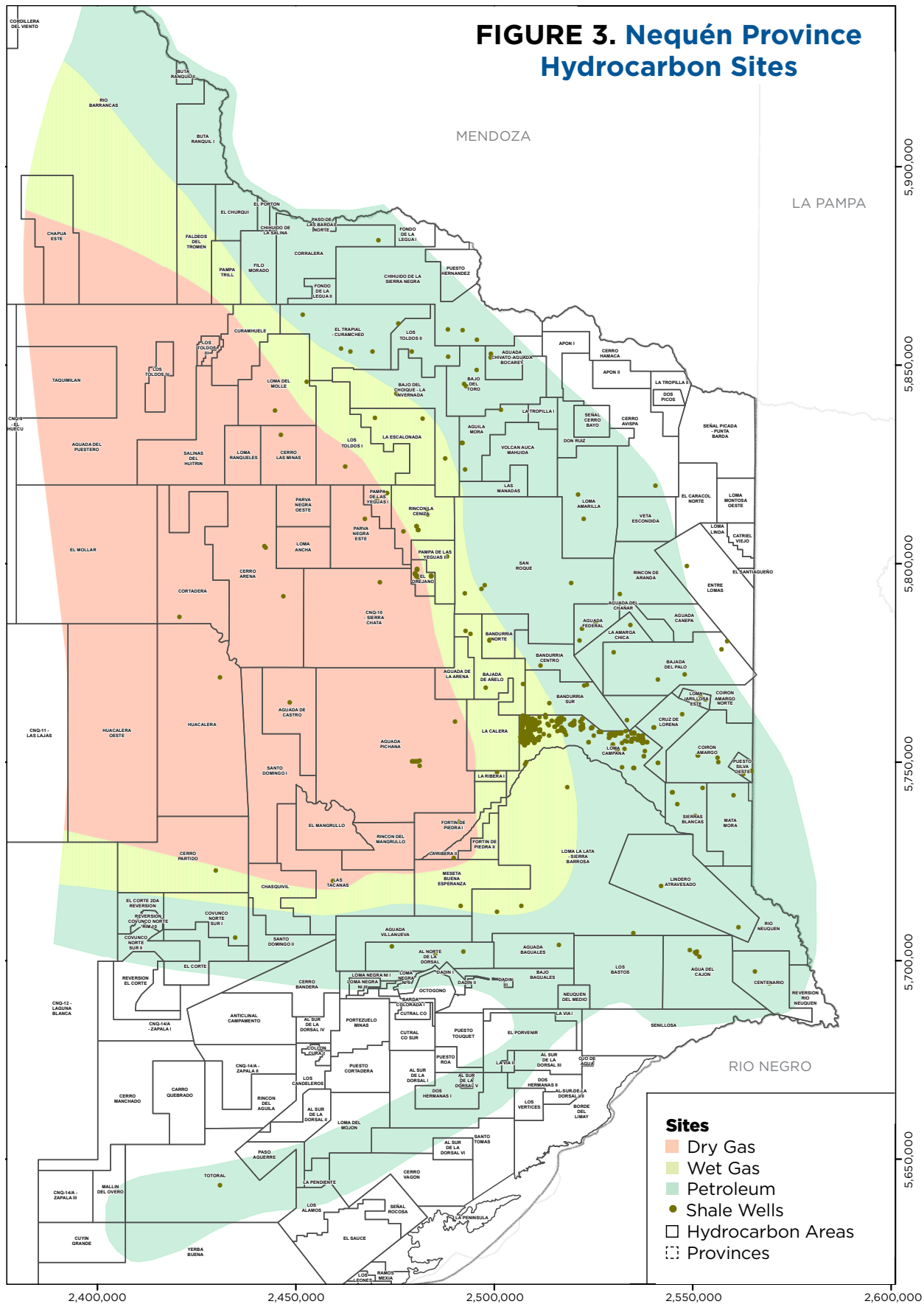
New investors are necessary to take advantage of all the area has to offer. Given the level of investment necessary for unconventional hydrocarbons, the combined efforts of all the current companies with permissions or concessions would not be enough to generate the potential large-scale development.

The challenge is that the country's current regulatory framework is designed for conventional hydrocarbons. The acreage assigned to any concession might have been reasonable for the development of conventional resources but the cost of developing unconventional hydrocarbons is prohibitive to the current concessionaries.



**Unconventional resources, such as those near Río Negro and Lago Bascardi, represent new energy opportunities.**

MIKEL/FLICKR



## The 2014 Hydrocarbons Law: A Game Changer?

In light of the needs and challenges faced by the sector's upstream segment, the former government passed a law in 2014 to increase incentives for investors to participate in the country's production of unconventional hydrocarbons. Though this new piece of legislation did not fully reignite the sector, it set the regulatory basis for further improvements, and it could set the stage for greater private investment.

Change was necessary to respond to the divide between the interests of provincial developers and YPF and to the challenge of developing unconventional hydrocarbons. In October 2014, Law No. 27.007 modified the hydrocarbons law (Law No. 17,319) with a new hydrocarbons regulatory framework. It included the following provisions:<sup>8</sup>

- Extended time periods for exploration permits plus the extension of exploitation concessions for offshore activities or when unconventional hydrocarbons are involved.
- The provinces and the Secretary of Energy may establish a common type of "concession contract" to standardize the conditions for investors in each province. (This model has not yet been agreed upon.) Current concession contracts set the right for operators to own the resources produced and to sell the production under the general conditions set by the federal government. They also include the obligation to develop the resources in place and to pay a royalty to the owner of the resource (federal or state government according the location of the concession) based upon the wellhead price of the hydrocarbons produced.
- A common criterion for the royalties that provinces can apply for each type of concession and for the extension periods. The standard royalty is set at 12 percent, and provinces can apply an additional 3 percent for any period added to the original, with a cap of 18 percent.

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**Though the new hydrocarbons law did not fully reignite the sector, it set the regulatory basis for further improvements.**

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- The provinces cannot assign new areas for development to their provincial state-owned companies. All areas unassigned when the law passed should be leased through public bids to third parties. This is meant to increase other companies' ability, especially YPF's, to obtain new concessions without the need to negotiate with provincial state-owned companies. Provinces resisted implementation because they wanted to increase the business opportunities for their state-owned companies.
- Provincial state-owned companies are limited in their capability to enter in carry and earning agreements, which are vehicles for high-risk investments in exploration.<sup>9</sup> This was one of the most controversial components of the new law. The carry and earning regime is limited for provincial state-owned companies but not for

other types of companies, including YPF. This arrangement creates a disparity between the types of financing that state-owned companies can pursue.

- If a project involves an investment higher than \$250 million and is approved by a special

commission formed by the federal government, the investors have the right to export 20 percent of onshore production and 60 percent of offshore production. In both cases, investors have the right to decide what to do with the revenue generated in these sales and do not need to liquidate them in Argentina.

This last provision is particularly controversial. Companies that make investments below \$250 million or over the threshold but that are not approved by the special commission did not have access to this regime.

The provinces have announced that they want to revisit the law to expand the benefits established in it to all potential investors, eliminate the limits on provincial state-owned companies, and reduce the federal government's ability to discriminate between similar-type investments.<sup>10</sup>

# The 2015–2019 Outlook: Change on the Horizon

**N**ewly inaugurated President Mauricio Macri began his term by showing the importance his administration will place on the energy sector. Historically, the energy department had a lower rank than minister level. Macri created the elevated Ministry of Energy and Mining and appointed Juan José Aranguren, former CEO for Shell in Argentina, as Minister.

The other authorities appointed in the ministry are professionals with credentials in the energy sector, mostly from the private sector. The new authorities have been generally well received by energy companies operating in the country, and have renewed hope that the government will recreate a sound and sustainable business environment for the industry at all levels.

## The New Administration's First Announcements

**T**he new authorities reached an agreement in January with crude oil producers to temporarily set an internal price at \$67.50 per barrel for the lightest crude oil produced in the country. The government reduced the internal price from \$75 per barrel (set in the 2014 agreement) to mitigate the impact of the recent currency devaluation from 9.6 to 14 Argentine pesos per US dollar.<sup>11</sup>

The new domestic price for crude oil is far above the international value, which is currently near \$30 per barrel. That means that the new administration recognizes the need to preserve a high price for crude oil to foster domestic production. Additionally the new administration has recently agreed to subsidize crude oil exports to the tune of \$10 per barrel to preserve employment levels, particularly in Chubut province.

However, this short-term arrangement has the same problem as previous piecemeal adjustments. It is not a medium- or long-term price signal and only as reliable as the government's willingness and ability to pay. But as the new government's officials establish the administration's policies, it is expected that they will soon set a regime that will enable investors to evaluate medium- and long-term investments.



NESTOR GALINA/FLICKR

The new Ministry of Energy aims to encourage greater oil and gas investment.



**President Macri has made initial overtures to international investors to stimulate interest in Argentina.**

For natural gas, the new authorities have implied that they will try in the short run to level the weighted average price at wellhead collected by producers in the range of \$5 to \$6 per MMBTU to give more incentives to increase production levels. Currently YPF's weighted average price at wellhead for natural gas is in the range of \$4 to \$5 per MMBTU.

The new administration has also recently announced a program to start reducing subsidies for the electricity sector, directing them instead to low-income households. It is expected that it will do the same for subsidies in the natural gas sector.

The Minister of Energy and Mining announced the ministry's intention in the long run to align internal prices (particularly for crude oil) with international values. But it cannot align them in the short or medium term without serious political repercussions. Resource-owning provinces would face a reduction in royalties and serious job losses.

### **Headwinds and Tailwinds for the Energy Sector**

**T**he Macri administration inherits an energy sector that is underinvested at almost all levels. Argentina is importing natural gas when it has enough resources to supply local demand. In addition, it sometimes has to import crude oil and/or fuels when it has the capability to produce or to substitute them with biofuels such as bioethanol or biodiesel.

Natural gas transportation and distribution lines are unable to meet peak demand. During the winter, industries must use liquid fuels because the electric grid is also incapable of meeting peak demand. Power plants, even in the summer, are forced to use liquid fuels, increasing the cost of electricity, which has been mainly covered with subsidies (now reduced by one-third) from the federal government. This has severe implications for the public sector budget. In total, the energy sector receives between 3-4 percent of GDP in subsidies at a time that the federal government shows a fiscal deficit of around 7 percent of GDP.

The generation segment of the electricity sector is working at almost full capacity. During peak demand, Argentina must sometimes import electricity from Brazil, Uruguay, or both. To meet peak demand using domestic energy, inefficient power plants must be used in which diesel oil generates energy. The transmission segment of the electricity sector probably has the fewest problems and, alternatively, the electricity distribution sector arguably has the worst quality of service. Local electricity distribution companies barely cover their operating and maintenance costs with the tariffs collected from end users. These companies can invest in infrastructure improvements only if they receive government subsidies.

The new administration has a number of priorities. For one, it has to substitute some subsidies with tariff increases to recover macroeconomic health. But it also has to increase energy prices and/or tariffs to recompose the cash flows of the different businesses in the industry. Some energy public utilities, such as local electricity distribution companies, can barely cover their operation expenses, with the quality of service suffering as a result. The government needs to increase the utilities' cash flow to spur investments and improvements in the quality of service.

While a huge challenge, attracting direct investments from private companies is also a significant opportunity. New investment would increase the reliability of energy service and also improve the performance of the stagnated Argentine economy.

# Recommendations to Promote Private Foreign Investment

**D**espite the massive potential for energy production, Argentina's economy does not have enough internal financial resources to take advantage of the potential opportunities afforded by the hydrocarbons industry. As a consequence, the Macri administration should design a regulatory regime that will attract both private local and foreign investment. Attaining a sustainable macroeconomic regime is a precondition for attracting private investment inflows, and the new administration has taken initial steps to achieve it.

The fastest way for Argentina to both recover

its energy self-sufficiency and maximize overall energy production opportunities is by reducing entry barriers for small, medium, and large international energy players. It is important that, when looking for investors, Argentina does not create an environment suitable for only a few large international players with big pockets, but also for small and medium-sized energy companies.

The current global low price cycle has reduced the flow of upstream funding. But opportunities still exist. The new administration could help bring in more investment by taking the following steps:



NASA/FLICKR

**New exploration and production, with impact in cities like Bahía Blanca, will require changes to regulations.**



**Extend the benefits already established under the 2014 hydrocarbons law to all investments in the sector.**

The \$250 million investment threshold should be eliminated to enable any company to invest upstream and help increase current production levels, especially in idle areas. Removing the threshold would entice small and medium-sized companies to increase the size of their investment or to simply begin investing in Argentina's hydrocarbons market. This move could be critical to promoting production without favoring any particular company. Some provinces, especially Neuquén, have called for amending the law, but the federal government has yet to act.



**Reach a political agreement between YPF, the provinces (owners of the resources), and eventually the provincial state-owned companies.**

It is in Argentina's best interest to muster the necessary political will to coordinate the activities of the provinces with producing companies. This will help to attract new investors to the hydrocarbons market. YPF and provincial state-owned companies should cooperate rather than compete to open up idle acreage to new investors that can enter the market with or without agreements with state owned companies.



**Open up idle concessions acreage to potential investors.**

This would be done through the incumbent company that already holds the rights to the land or through the provinces. A predictable regulatory mechanism should be established by which the rights to acreage that is not slated to be developed in the short run can be reassigned by the province.

Applying existing rules, the regulator has two options in terms of what it can require exploitation concession holders to do. First, the company can fully develop all the acreage already assigned. That can be done directly by the incumbent company or by entering into a new partnership with an investor. Or the company can relinquish acreage that is not going to be developed back to the province. If only a few companies hold large areas of idle concessions, it will reduce Argentina's ability to attract

investors and hinder the ability of companies looking to make investments.



**Establish a sustainable price range for natural gas.**

Estimates indicate Argentina's shale gas resources have much more potential than its shale oil resources. Under the current scenario of low international prices for crude oil, a sustainable price for natural gas could drive new investment. At the moment, Argentina is importing natural gas from Bolivia. A price range of \$5-\$6 per MMBTU for natural gas would make domestic production attractive for companies and investors.



**Signal a medium-term crude oil price to indicate Argentina's commitment to development down the road.**

The Macri administration has decided to preserve an internal wellhead crude oil price well above the international price. Internal crude oil prices range today from \$54.50 to \$67.50 per barrel (prices vary by crude oil quality). These prices are high enough to make investment attractive in the short term. Without a medium-term price signal, producing companies will collect the internal price but will evaluate new investments at the international price. The Argentine market pays prices higher than the international price, but companies are holding investment plans in the absence of medium-term price signals. The economy at present pays the cost but receives little benefit.

The first set of the new administration's economic and political decisions lays the foundation to jumpstart the Argentine economy. In the short run these announcements will begin to make Argentina more attractive to energy investors, if only through the indication that President Macri takes private investment more seriously than his predecessor. But the new government's long-term success relies on its ability to attract investors to a sound regulatory framework in the energy sector.





## Endnotes

- 1 “World Shale Resource Assessments,” US Energy Information Administration, <http://www.eia.gov/analysis/studies/worldshalegas/>.
- 2 E12 in Gasolines (12 percent of Bioethanol), D10 in Diesel Oil (10 percent of Biodiesel). Law 27191 establishes a target of 8 percent of electricity demand covered with renewable sources by December 31, 2017, and a target of 20 percent of electricity demand covered with renewable sources by December 31, 2025.
- 3 Nestor Kirchner’s presidential term started on May 25, 2003, and ended on December 9, 2007. Cristina Fernández de Kirchner’s first term began on December 10, 2007, and ended on December 9, 2011. Her second term started on December 10, 2011, and ended on December 9, 2015.
- 4 “Se Completa la Inversión del Acuerdo,” YPF, December 10, 2013, <http://www.ypf.com/YPFHoy/YPFSalaPrensa/Paginas/Noticias/Acuerdo-para-desarrollar-Vaca-Muerta-Chevron-inversion.aspx> and “Chevron Decidió Continuar con la Etapa de Desarrollo Masivo en Vaca Muerta,” YPF, April 10, 2014, [http://www.ypf.com/YPFHoy/YPFSalaPrensa/Paginas/Noticias/Chevron\\_decidio\\_continuar\\_con\\_la\\_etapa\\_de\\_desarrollo\\_masivo\\_en\\_Vaca-Muerta.aspx](http://www.ypf.com/YPFHoy/YPFSalaPrensa/Paginas/Noticias/Chevron_decidio_continuar_con_la_etapa_de_desarrollo_masivo_en_Vaca-Muerta.aspx); “Concretamos un Acuerdo para la Producción de Shale Gas en Vaca Muerta,” YPF, September 24, 2013, [http://www.ypf.com/YPFHoy/YPFSalaPrensa/Paginas/Noticias/240913\\_firma\\_DOW.aspx](http://www.ypf.com/YPFHoy/YPFSalaPrensa/Paginas/Noticias/240913_firma_DOW.aspx) and “Ambas Empresas Comprometen una Inversión Adicional de 500 Millones de Dólares para Explotar Shale Gas en Vaca Muerta,” YPF, December 15, 2015, <http://www.ypf.com/YPFHoy/YPFSalaPrensa/Paginas/Noticias/YPF-y-Dow-comprometen-una-inversion-adicional-de-500-millones-de-dolares-para-explotar-shale-gas-en-Vaca-Muerta.aspx>.
- 5 Neuquén has its own provincial state-owned company, Gas & Petróleo de Neuquén (G&P).
- 6 Reimagining Argentina: An Unconventional Look Towards 2035, Accenture, 2014, [https://www.accenture.com/\\_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Digital\\_3/Accenture-Reimagining-Argentina-An-Unconventional-Look-towards-2035.pdf](https://www.accenture.com/_acnmedia/Accenture/Conversion-Assets/DotCom/Documents/Global/PDF/Digital_3/Accenture-Reimagining-Argentina-An-Unconventional-Look-towards-2035.pdf) and Gas y Petróleo de Neuquén (G&P).
- 7 “World Shale Resource Assessments,” US Energy Information Administration, op. cit.
- 8 Full versions of both laws can be downloaded from InfoLEG, Ministerio de Economía y Finanzas Públicas, [www.infoleg.gob.ar](http://www.infoleg.gob.ar).
- 9 “Carry and earning” is a common type of agreement used in the industry. In such an agreement, “Company A” (typically a private investor) finances 100 percent of the first investment in an area, which may cover exploration or development expenses. If this initial stage is successful, “Company B” (typically the owner of the resource or a state-owned company) returns the cash financed by “Company A” plus an interest with the production generated. If the original investment is not successful, “Company B” does not have an obligation to return anything to “Company A.”
- 10 Senator Guillermo Pereyra from Neuquén declared that the province wants to revisit the last changes introduced in the hydrocarbons law. See “Pereyra Anunció que Va por Macri y Pidió una Nueva Ley de Hidrocarburos,” *San Martín a Diario*, <http://www.sanmartinadiario.com/actualidad/11454-pereyra-anuncio-que-va-por-macri-y-pidio-una-nueva-ley-de-hidrocarburos.html> and “Pereyra Considera Necesario Crear una Nueva Ley de Hidrocarburos,” *El Patagónico*, November 5, 2015, <http://www.elpatagonico.com/pereyra-considera-necesario-crear-una-nueva-ley-hidrocarburos-11451583>.
- 11 Roberto Bellato, “Satisfacción entre las Provincias Petroleras por los Precios del Crudo Fijados por el Gobierno,” *ElinversorOnline.com*, <http://elinversoronline.com/2016/01/satisfaccion-entre-las-provincias-petroleras-por-los-precios-del-crudo-fijados-por-el-gobierno/>.



## About the Author

**Cristian Folgar** was Argentina's Undersecretary of Fuels at the federal level from March to December 2001 and from June 2003 to December 2007. He has held different positions in the energy sector on the private and the public sides of the industry. He is now Professor of Microeconomics and Macroeconomics at the University of Buenos Aires; Professor of History of Economic Thoughts at the University of Business and Social Sciences; and Professor of Public Administration, Public Policy, and National Accounts & Public Budget at the University of San Martin. He is also a consultant for public utilities and energy companies. Mr. Folgar holds a degree in economics from the University of Buenos Aires.



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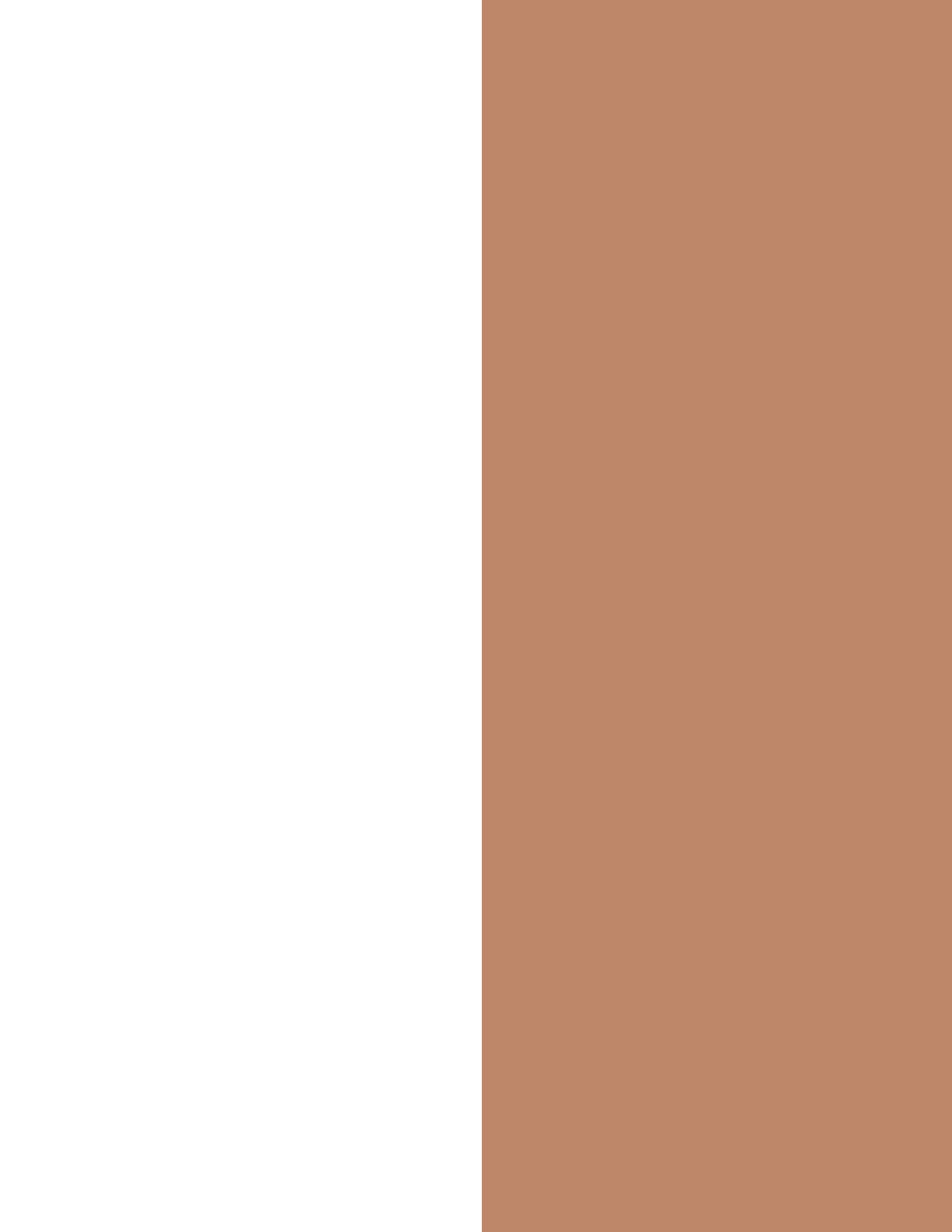
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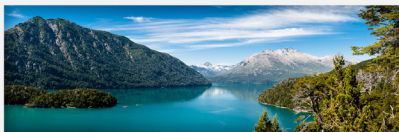




**CREDIT** Mariana Sapriza-gv/ Nahuel Padrevecchi-gv GCBA/Flickr  
**CAPTION INFO** Mauricio Macri en Conferencia de Prensa por la muerte del Fiscal Alberto Nisman Buenos Aires, 19 de Enero de 2015. El jefe de Gobierno de la Ciudad de Buenos Aires, Mauricio Macri, ofreció hoy una conferencia de prensa en el Salón Blanco del Palacio comunal ante los últimos acontecimientos a nivel nacional derivados de la muerte del fiscal encargado de la investigación del atentado a la sede de la AMIA, Alberto Nisman.



**CREDIT** Francisco Schmidt/Flickr  
**CAPTION INFO** YPF. Taken on March 15, 2008.



**CREDIT** Mikel/Flickr  
**CAPTION INFO** Lago Mascaradi - Río Negro, Argentina. Taken on February 27, 2011.



**CREDIT** BASF/Flickr  
**CAPTION INFO** Wintershall Argentina. World record in drilling for oil. With the CN-1 well off the coast of Tierra del Fuego BASF's subsidiary Wintershall held the world record for the longest extended-reach well for about one year. From the shore, a horizontal reach of 10,585 meters and a total measured depth of 11,184 meters were overcome in order to produce oil. Wintershall has more than 70 years' experience in the exploration and production of oil and gas. The subsidiary is the largest German producer of crude oil and natural gas and is active worldwide. Thereby, Wintershall focuses on promising core regions in Europe, North Africa, South America and Russia, as well as the Caspian region in the future. Print free of charge. Copyright by BASF.



**CREDIT** Guillermo Viana y Nahuel Padrevecchi-gv/GCBA/Flickr  
**CAPTION INFO** Mauricio Macri inaugura las sesiones ordinarias en la Legislatura porteña. Baires. Marzo 1 de 2015. El Jefe de Gobierno porteño, Mauricio Macri, inaugura en la mañana de hoy, las sesiones ordinarias de la Legislatura de esta Ciudad.



**CREDIT** Nestor Galina/Flickr  
**CAPTION INFO** Taladro-H104 Oil Driller. Taken on May 15, 2006 in Puelen, La Pampa Province, Argentina.



**CREDIT** Jesús Dehesa/Flickr

**CAPTION INFO** Patagonia - Río Negro - Bariloche - Lago Gutierrez.  
Cabalgatas entre lagos por Bariloche.



ISS014E05615

NASA's Marshall Space Flight Center Follow  
Bahia Blanca, Buenos Aires Province, Argentina (NASA, International Space Station Science,  
10/14/06)

Editor's Note: This is an archive image from 2006.

Bahia Blanca, Buenos Aires Province, Argentina is featured in this image photographed by an Expedition 14 crewmember on the International Space Station. The port city of Bahia Blanca lies almost 600 kilometers southwest of Buenos Aires on the southern rim of the Argentine economic heartland. This small city of 275,000 people is captured in one frame which shows its position near the mouth of the Arroyo Naposta. The salt flats (gray) and wetlands bordering this estuary, characterized by twisting, light colored tidal channels and dark swamps, lie mainly on the south side of the river. The yellow tinge to the water surfaces arises from the partial sunglint reflection on this particular day. The name Bahia Blanca (White Bay) derives from the white color of the salt and was applied to the major bay--noted by Magellan as he probed the coast of South America for a passage to the Pacific Ocean in 1520--and then to the city at the head of this bay. Highways, airline routes and pipelines from oil and gas fields to the west and south all converge on Bahia Blanca. The city is a major cultural center and historically has acted as a gateway for immigration. Higher ground on the north side of the estuary affords stable ground for the growth of the city and for intensive agriculture, a mainstay of the Argentine economy. The city is set back from the waterfront where an industrial park, a petrochemical center, and dockyards (white ellipse) are located.

Image credit: NASA