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Argentina Petrochemicals

2016



PRE-RELEASE
EDITION



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Dear Readers,

We cordially welcome you to the pre-release of Argentina Petrochemicals and Chemicals 2016, the first book in a series of Industry Explorations between GBR and APLA, and launching at APLA's Annual Meeting in Buenos Aires in November this year.

This pre-release is the outcome of our first steps into interviewing key players from across the petrochemical and chemical industries in Argentina, as well as some of the companies providing key support services, such as distribution, third party and integrated logistics, and emergency response.

The aim of our final investment guide is to highlight the opportunities for investment in Argentina's petrochemical and chemical industries, particularly in light of the new government administration and the country's upstream potential.

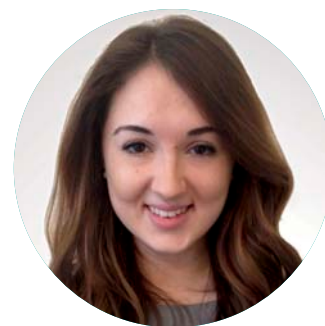
In this pre-release you will find insights from not only the country's biggest petrochemical producers, including YPF and Dow Argentina, but also comparisons between Argentina and its largest competitors in Latin America, such as Mexico and Brazil.

We explore the potential for a shale revolution here akin to recent events in the United States, and discuss our nation's goal of producing enough petrochemicals to satisfy both domestic and regional demand.

We also delve into Argentina's anomalous chemical distribution environment, in which more than 120 companies operate, and the potential for M&A activity now the country has removed international import restrictions. Global EPC providers such as Techint and Odebrecht also provide us with their perspectives on the infrastructure challenges affecting the country's oil and gas pipeline network which, once resolved, could lead to the next world-scale petrochemical plant in Argentina.

Please join us in reviewing the opportunities present in Argentina!

Alice Pascoletti, Senior Project Director
Laura Brangwin, Project Director
Harriet Bailey, Journalist.



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Argentina Petrochemicals 2016

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Photo courtesy of Air Liquide.

Emerging from the Shadows:

An introduction to Argentina and its chemical industry

Argentina in 2016 is a very different place than Argentina in 2015. In what has been dubbed his “Macri-economic shock treatment,” newly elected President Mauricio Macri of the Cambiemos coalition government used his first two months in office since his election on December 10th, 2015 to implement a number of major economic reforms.

These include promising to resume publication of credible economic data, after the previous government was censured by the International Monetary Fund in 2013 for allegedly manipulating the figures to cover its poor record; removing controversial taxes on agricultural exports such as corn and beef; and lowering taxes on soybeans (Argentina is the world’s third largest exporter). Macri’s biggest move was to lift artificial currency controls. With the peso allowed to float, it saw an immediate one-third devaluation, falling into line with its street value of around 13 pesos to the U.S. dollar.

Macri was also the first Argentine President to attend the World Economic Forum in Davos in thirteen years, signaling a new era for Argentina’s international relations and a focus on attracting foreign investment. In his first interview with the foreign press on the eve of his attendance, he stated his plan for the Argentina of the future: “We have to be a predictable and trustworthy country. We have to show investors that their rights will be respected, as well as that we will demand that they obey Argentina’s laws.”

His actions stand in dramatic contrast to his predecessor, Cristina Fernández de Kirchner, who continued the isolationist policies that her late husband, former president Néstor Kirchner, launched in 2003. Macri is also seeking to re-align Argentina with capitalist markets after years of courting authoritarian regimes such as China, Russia, Venezuela and Iran.

A RECIPE FOR SUCCESS

Argentina is deceptively large; the eighth-biggest country in the world, it is almost 3,700 kilometers (km) from north to south, and only around 620 km shorter than mainland United States is wide. Vaca Muerta, located in Neuquén province in the west and the largest shale deposit in the country, covers an area the size of Belgium and, according to the U.S. Energy Information Administration (EIA), holds around 16.2 billion barrels of shale oil and 308 trillion cubic feet (tcf) of shale gas.

Argentina boasts some of the strongest proved hydrocarbon resources in the world, but has until now eschewed foreign investment in favor of developing its own economy. The Kirchners’ left-wing “Front for Victory” party imposed protectionist policies and economic controls, pushing up inflation to around 25% and hampering Argentina’s export industry with its artificially strong peso.

Jose Luis Uriegas

President, APLA



"Regarding Argentina, the country is now at the right stage to focus on foreign investment and therefore should be of interest to U.S., European and Asian investors attending our Annual Meeting."

Could you provide us with a brief overview of APLA, the benefits it provides to members and its work promoting the petrochemical and chemical industries across Latin America?

APLA is an integrated association, connected to more than 100 companies. Our two most important features for our members are the opportunity to network and the relevant information on the industry. Furthermore, our most important event is the Latin American Annual Meeting, at which attendees can meet and interact with different companies from all over the world to develop business and share ideas. Although our Annual Meetings have a focus on Latin America, we also receive attendees from outside of the region, who are looking for opportunities here.

APLA's 2015 Annual Meeting was held in Mexico. Could you provide us with a brief overview of what APLA aims to achieve from its Annual Meetings and what attendees can expect?

We celebrated our 35th Annual Meeting in Cancun, covering conventional and unconventional hydrocarbons, their composition throughout the Latin American region and the sustainability of businesses. We have held previous events in cities such as Rio de Janeiro, Buenos Aires, Mexico City, and Santiago, while our 2016 event is to be held in Buenos Aires. This has been strategic choice; Argentina is in a burgeoning position because of its unconventional resources in areas such as Vaca Muerta. Additionally, the new government is more open to foreign investment and promoting the industry, which will enable the country to take advantage of its huge oil and gas reserves.

A third of participants at the 2015 Annual Meeting were from the United States. What is the general feeling of foreign investors towards the petrochemical and chemical industries in Latin America, and Argentina in particular?

U.S. attendees can use the conference to gain a more direct overview of the opportunities available in countries such as Argentina, Mexico and Brazil, as well as emerging commercial and investment opportunities. Those countries interested in trade with Latin America can gauge the size of the market from our meeting. Regarding Argentina, the country is now at the right stage to focus on foreign investment and therefore should be of interest to U.S., European and Asian investors attending our Annual Meeting.

We are seeing increasing numbers of U.S. companies attend our events; they have experience from the shale gas revolution and several petrochemical plants are set to come on-line before 2020. Attendees from North America are looking for opportunities that could arise from Latin America, both as a potential market for their extra capacity, and as an opportunity for new production projects across the region.

Within Latin America, which countries have a strong potential for the future of their chemical and petrochemical industries and what reasons lie behind this?

Every country has different characteristics. Brazil does not have abundant ethane and struggles to remain competitive in the production of ethane-related products. However, the current low international oil prices we are seeing means Brazil is as competitive as it was four years ago.

In neighboring Argentina, although the domestic market is around one quarter the size of Brazil, it has very competitive unconventional resources. When companies can prove they can produce high volumes of shale gas, this will lead to higher investment volumes. Argentina has the opportunity to become very competitive and will be able to export to different markets within Latin America.

Moving north, Mexico has very competitive plants and raw materials as it is connected to the North American pricing system. The problem is in the short term; all of the country's additional ethane will be dedicated to the new Braskem/IdeSA Ethylene XXI plant. Therefore I do not expect that we will see additional large investment in the short term until this stabilizes. From 2020 onwards we can expect significant additional availability of ethane and this could lead to further foreign investment in new plants.

What are APLA's goals for the next five years and how does APLA expect to play a role in improving the prospects of the Argentine petrochemical industry in future?

In terms of the region as a whole, although emerging countries are not growing at the pace that was predicted a few years ago, we continue to maintain confidence in our markets as they grow. The population and spending power of our people is growing and that will present many opportunities both for investment and as end markets. This region, which is not homogeneous, is increasingly working together through APLA to try to become as competitive as possible.

Yet precluding foreign competition was a boon for some of Argentina's small- and medium-sized enterprises, as a vacuum in services, along with the issuance of credit lines, contributed to business growth in a comparatively hospitable environment.

In addition to having the second largest shale gas reserves and the fourth largest shale oil reserves worldwide according to the EIA, the price of Argentina's oil and gas is vastly different from the global norm. As a result of generous state subsidies imposed by Kirchner, Argentina's hydrocarbons are the most expensive in the world, with natural gas per million British thermal units at more than three times international prices. Oil was initially set at \$72 per barrel in 2013, when global oil prices were trading at more than \$100, meaning Argentinians benefitted from low-cost motor fuel; with the World Bank predicting that global oil prices will stabilize at around \$37 per barrel for the remainder of 2016, Argentina's inflated rates mean motorists now pay around a third more for gasoline than in neighboring Brazil. Macri's administration has started to phase out these subsidies and eliminate the gap with overseas markets, implementing a 10% decrease in the per-barrel price in the first week of 2016. Global players, such as Shell Argentina's president Teófilo Lacroze, believe that, rather than regulating the price of oil and gas, the government should incentivize new production. Although Kirchner's government passed the Hydrocarbons Reform Law in 2014, aimed at reducing both government takings and taxation levels on new explorations, foreign investment was not forthcoming due to regulatory uncertainty and a distinct lack of free-market policies.

The petrochemical sector has not seen an industry-changing investment in almost two



"Investors looking at Latin America will find Vaca Muerta in Argentina much more attractive today than in previous years. The biggest advantage Argentina has today, aside from its feedstock, is its new administration and proposed reforms."

Rina Quijada, Senior Director Latin America, IHS



"The chemical and petrochemical industry in Argentina has a bright future thanks to the quality and size of the country's infrastructure, market, technology, an extensive history in hydrocarbons, and refineries"

Jorge de Zavaleta, Executive Director, Cámara de La Industria Química y Petroquímica (CIQyP)

decades and, despite Macri's reforms, new petrochemical complexes are unlikely to be in the pipeline for another ten years. Although the door has been opened to foreign investors looking for the next shale revolution, much-needed transportation and infrastructure projects failed to win political support in the previous government; such issues will need to be addressed quickly in order to attract the high volumes of foreign capital required.

In 2011, as a result of the last government's interventionist policies, Argentina became a net importer of energy for the first time since

1984. Raw material availability was severely depleted and, as such, petrochemical complexes have not been operating at capacity for more than half a decade. As this import/export trend inverts, Argentina will rapidly be able to absorb an increase in the availability of feedstocks, while simultaneously investing in the expansion and modernization of plants for further growth.

If all of Argentina's estimated unconventional reserves—802 tcf of gas and 28 billion barrels of oil—could be proved as technically recoverable, its oil production horizon would extend more than 100 years and its gas production more than 600, setting it on the path not only to self-sufficiency, but also to being able to supply neighboring countries.

Argentina has all the ingredients required to become an attractive investment destination for multinational petrochemical players: world-scale reserves, a new government bent on normalizing the economy and the capacity for rapid production increases. According to the World Bank's Ease of doing business Index, Argentina was ranked in 121st place out of 189 countries during Kirchner's second term in office. Neighboring Chile ranked 48th, while Mexico, Latin America's success story as far as foreign investment is concerned, ranked 38th. Time will tell whether "Macri-economics" will achieve the desired effect.



Photo courtesy of Bolland y Cía.

Miguel Galuccio

CEO, YPF



"This year we are inaugurating Y-TEC's headquarters, a 13,000 square meter space that will become an icon of innovation to the service of science. With 48 labs and 12 pilot plants, it is the first scientific research center of its kind in the country."

Could you provide us with a brief overview of YPF's operations in Argentina?

YPF is Argentina's leading energy company and is engaged in the exploration and production of oil and natural gas, and the transportation, refining, and marketing of petroleum products. Over the past three years the company has demonstrated solid growth in oil and natural gas production and has assumed a leading role in developing unconventional resources. Today, YPF's products reach every corner of the country and we are proud to be present almost everywhere Argentina needs energy.

As a fully integrated energy company we are also leaders in the petrochemical business, operating three strategically located refineries in La Plata, Buenos Aires; Luján de Cuyo, Mendoza; and Plaza Huincul, Neuquén; we also hold interests in Refinor, located in the province of Salta.

Luján de Cuyo is the refinery with the highest conversion capacity in the country. It can refine over 105,000 barrels of crude oil per day (bpd). It produces practically all the products marketed by YPF in Argentina, such as diesel (premium standard, mining and agricultural), naphtha, propane, butane and propylene. In June 2013, an HDS unit and the HTN II unit were installed, with an investment of \$170 million and \$188 million respectively. Both plants generate diesel fuel and gasoline of the highest quality.

The La Plata Industrial Complex is one of the most important refineries in South America and one of the most dynamic industrial sites in the country. It has a refining capacity of 189,000 bpd. The refinery processes all crude oil types produced in Argentina, obtaining a wide range of products. It includes a facility for the production of lubricants bases, paraffins, aromatics, asphalt and petrochemical products. It has the capacity to produce 860 cubic meters (m³) of finished lubricant bases per day. In 2012, and with an investment of \$269 million, an HTG B unit was installed, and it currently produces 1.8 billion liters of fuels per day. Furthermore, the continuous catalytic reforming unit started operating in June 2013, increasing by over 50% the aromatics production, which is used for generating a higher production of naphthas and petrochemical products. The investment amounted to \$463 million. In order to enhance production, a new \$792 million coker unit is being built with the objective of increasing the refining capacity to 206,000 bpd. We are proud of the outstanding results that this complex showed last year in terms of production. The company

achieved a 31-year record in the production of fuel and petrochemical products.

The third refinery is Plaza Huincul, a low-complexity plant that supplies the Patagonian and Alto Valle regions. It has a refining capacity of 25,000 bpd. Additionally, the complex includes a facility that produces methanol from natural gas, with an annual production of 400,000 tons. Methanol is a key input in the production of biofuels and petrochemical by-products.

What effects will YPF's recently-announced partnership with American Energy Partners have both on YPF's operations in the Vaca Muerta shale play, and on Argentina's upstream and downstream segments overall?

The incorporation of strategic partners responds to the objective of ramping up the unconventional natural gas production to reach energy self-sufficiency and to expand the petrochemical business. Currently, 15% of our gas production comes from tight and shale gas. Our goal is to have 50% of our gas production from these formations by 2020 and, with more gas supplies, we will be able to expand our petrochemical production. There is an important opportunity to create a regional hub for petrochemical production in Argentina led by polyethylene, polypropylene and other polyolefins and derivatives. This will make it possible to replace imports and become a net exporter of petrochemicals.

There is a significant market opportunity not only to supply the country, but also to become a key regional player, due to the competitive advantage based on natural gas.

To what extent does Argentina's infrastructure pose a challenge to the access of resources and the movement of product and material?

Infrastructure development remains crucial for the growth of our company and our country. With a large pipeline and power grids, Argentina is well-connected throughout its vast geography. To support its development, YPF's Foundation works jointly with local governments to upgrade roads, hospitals, schools and training centers at the towns located near our operations. Argentina also has enormous potential to increase the capacity of our petrochemical industry, allowing us, in the mid-term, to become leaders and regional exporters.

As YPF's operations are located outside of the populous Buenos Aires province, how does the company support the growing demands of Argentina's chemicals sector in



Photo courtesy of YPF.

terms of availability of qualified personnel?

In order to accompany the challenges facing the petrochemical business, human resources aims to attract and retain top talent. To this end, YPF has an attractive relocation policy that enables us to reassign professionals around the country. We have also signed agreements with universities around the country to contribute to our professional training needs. Young professionals join the company through specific programs, and we have implemented paid work experience programs and internships in order to increase numbers of engineering students and promote technical education within our communities.

Could you tell us more about Y-TEC, YPF's research and development arm, and some of its recent advances in technology?

Y-TEC was created thinking about what the future holds for this industry. Together with CONICET (National Scientific and Technical Research Council), the company has the objective to research and develop advanced technology to cover the needs of the Argentinean oil and gas industry. As well as our significant technology advances, we are working together with researchers from CONICET and several Argentinian universities. Over the last three-and-a-half years the company has grown exponentially. It started with 80 employees and today it has more than 300 scientists, researchers, technicians, academics and consultants. This year we are inaugurating Y-TEC's headquarters, a 13,000 square meter space that will become an icon of innovation to the service of science. With 48 labs and 12 pilot plants, it is the first scientific research center of its kind in the country.

Regarding the petrochemical segment, we created new polymeric materials that will give us creative solutions to the industry's needs. For example, polymers with oleophilic and hydrophobic characteristics could solve environmental issues. We are also studying new technology to obtain internal olefins to produce surfactants for enhanced oil recovery. Additionally, we have started work on a product that includes a new catalyst to obtain acrylonitrile, a key element for the production of several derivatives of great significance for the industry. Another milestone was the design of the fuel that was used in the Tronador project, which put national satellites in orbit. This research was conducted entirely by Y-TEC, and we are now building a plant to produce this fuel.

With YPF's focus on its shale gas resource, where can we expect to see Argentina's petrochemicals industry in the next ten years?

Today our company is the main producer of petrochemicals in Argentina. The YPF Chemicals business leads the domestic market and also exports its products to international markets such as the United States, Europe, Mercosur and the rest of Latin America.

One of the key points of YPF's strategy is to foster the development of natural gas in order to boost the petrochemical industry. We consider that this sector will generate added value to the gas industry and the possibility of developing deposits that today are less viable. Looking ahead to 2030, Argentina can transform itself into a regional leader in petrochemicals because it provides the products our neighboring countries need, as they do not have access to certain commodities.

Marcos Sabelli

Chemical Executive Manager, YPF



"YPF wants to lead Argentina not only to energy self-sufficiency, but also petrochemical self-sufficiency. After fully supplying the domestic market, YPF wants to lead the Argentine petrochemical industry to becoming an important supplier in South America."

Could you tell us more about YPF's petrochemical clients and the global markets which the company supports?

YPF exports to countries throughout South America, Europe, and the United States. Nevertheless, YPF mainly exports to Brazil. Though commercial travel from Buenos Aires to the north of Brazil is sometimes more expensive than to Rotterdam or Houston, it makes sense to export to Brazil and other Mercosur countries given the common external tariff (and the distance of Argentina from the rest of the world). YPF's petrochemical complexes are strategically located close to competitive supply routes; it therefore makes sense to further integrate with the south of Brazil, with which Argentina can easily exchange goods and raw materials.

YPF's Argentine and Brazilian clients are similar, and include other petrochemical companies that buy YPF's basic and intermediate chemicals as well as transformers that buy the company's specialty products for applications further downstream. Some of YPF's important clients in Argentina include Unilever, Procter & Gamble, Petrobras and Río Tercero, among others.

Why has YPF decided to focus on increasing its aromatics production capacity in recent years?

The investment in increasing YPF's aromatics production capacity reflects the company's strategic focus on vertical forward integration. YPF's investments, whether they relate to acquisitions or to capital expenditures, look to take full advantage of the raw materials the company already produces. Since 2010, Argentina has been short in gasoline and gasoline components. Yet YPF has been in naphtha for many years and was one of the main suppliers of naphtha feedstock to Braskem in Brazil. Given the abundance of naphtha as a feedstock for aromatics, it made sense to invest \$450,000 in a new continuous catalytic reformer unit for the production of aromatics.

How will YPF's downstream segment take advantage of the increased production of unconventional natural gas?

Part of YPF's strategy involves the direct integration of the company's upstream natural gas production with its petrochemical production, without the need for a refinery. As petrochemical companies in the United States have done, YPF hopes to take advantage of the rich gases produced from unconventional gas fields.

Argentina is already rich in gases such as ethane, propane, and butane. Regarding ethane, Dow Argentina and other

companies use much of it as feedstock and the rest is used as fuel; propane, meanwhile, is exported by Argentinian companies. As unconventional natural gas production increases in the short and medium term, Argentina will be increasingly able to supply the country's domestic gas needs and decrease natural gas imports both as LNG and from Bolivia. Now that YPF has further increased its production of aromatics, the company's next strategic goal is to supply Argentina and the region with petrochemical products from competitive natural gas liquids.

What is YPF's vision for the petrochemical industry in Argentina?

YPF is the engine of the petrochemical industry in Argentina, being the first petrochemical producer in Argentina and one of the top three in the South American market. Though Argentina exports or burns some petrochemical feedstock, the country continues to import many specialty petrochemicals. YPF wants to lead Argentina not only to energy self-sufficiency, but also petrochemical self-sufficiency. After fully supplying the domestic market, YPF wants to lead the Argentine petrochemical industry to becoming an important supplier in South America.

Argentina has not seen an industry-changing investment since the late 1990s. Will YPF make the next big investment in Argentina's petrochemical industry?

YPF aims to build a world-scale petrochemical plant. Even if Argentine demand for petrochemicals may not justify the construction of a world-scale plant, future regional demand does. Once Argentina, Brazil, and other countries in the region resume growth, there will be a huge petrochemical market to supply.

The success of YPF and Argentina's petrochemical business rests on four pillars: abundant feedstocks, a strong market, a world-scale plant, and a world-class partner. The development of Argentina's unconventional oil and gas industry will supply the raw materials, and South America will provide the market demand. Yet Argentina still needs a world-scale plant to supply that market and YPF still needs to solidify a world-class partner. YPF would give and take from such a partnership. YPF would take advantage of the partner's expertise in products such as polyethylene, while the partner would take advantage of YPF's proven ability to oversee billion-dollar projects and to run petrochemical plants in Argentina.

Gastón Remy

President, Dow Argentina



"The impact of the shale boom in the United States had a profound impact on its petrochemical industry, but imagine the impact that such a boom would have in Argentina, where the ratio of resources to economic output and population is much larger. Even if Argentina underachieves, the impact could still be massive."

How important are Dow's Argentinian operations to the company's global corporate strategy?

Dow's subsidiary in Argentina is the company's sixth largest in the world, even though Argentina is the world's 24th largest economy. As a result, Dow Argentina is disproportionately represented in terms of Dow's business presence in Argentina. This is because the company operates in two key platforms of the Argentine economy. On the one hand, Dow is the third largest player in the agribusiness; while on the other, Dow is the largest and best-integrated petrochemical player in the hydrocarbon value chain, especially thanks to the company's plastics business. A third platform under development in Argentina relates to infrastructure and mining, for which Dow has both solutions and technologies.

Dow's success in Argentina is the product of the nexus among the country's own competitive advantages in the agribusiness and hydrocarbon industries, the alignment of Dow's core business with these two industries, and Dow's reputation and presence in Argentina.

How important has Dow been to the development of Argentina's petrochemical industry?

Dow has been recognized as the leader of Argentina's petrochemical industry for the last 60 years. Throughout the company's leadership, Dow has often been a first-mover within the industry and is deeply committed to supporting Argentina's development and to the company's sustainable growth in the country.

Counting the direct and indirect employees that contribute to the company's operations, Dow employs 3,800 people. As a key strategic industrial partner, Dow has invested more than \$2 billion during the last 15 years. Its strong performance resulted in sales of more than \$2.4 billion in 2014 and exports that surpassed \$600 million, strengthening Argentina's commercial balance and replacing imports with local production.

What impact would a shale revolution have on Argentina's petrochemical industry?

To understand the impact of a shale boom on Argentina's economy, it would be useful to recall the impact that such a boom had on the petrochemical industry in the United States. From 2007 to 2009, petrochemical facilities were shutting down in the United States and companies were thinking about moving operations to other regions, such as the Middle East. Now, the American petrochemical industry has \$140 billion worth of

investments in more than 100 ongoing projects, has created 700,000 connected jobs, and will move from a trade deficit in petrochemical products to a surplus of \$30 billion by 2018.

When compared to Argentina, the United States has a population that is seven times bigger and an economy that is 32 times larger. And yet, the shale resources of the United States is 82% the size of Argentina's. Moreover, the vast majority of these resources are located in Neuquén, whose advantages include abundant water resources, a century-old hydrocarbon industry, connection with pipelines and, unlike some areas in the United States, relative under-population. The impact of the shale boom in the United States had a profound impact on its petrochemical industry, but imagine the impact that such a boom would have in Argentina, where the ratio of resources to economic output and population is much larger. Even if Argentina underachieves, the impact could still be massive.


What will Dow's leadership look like in Argentina in the years to come?

In 2015, Dow launched seven sustainability goals to help redefine the role of business in society. The first goal is to lead the blueprint by which Dow aims to lead the development of a societal blueprint that integrates public policy solutions, science and technology, and value chain innovation to facilitate the transition to a sustainable planet and society.

Pursuing sustainability means that future generations will be better off as a result of our decisions. Many well-meaning business, government and societal stakeholders around the world are working toward sustainability through individual actions, but we have not yet all come together to define and deliver a coordinated blueprint. On a path to a sustainable society and planet, efforts must be combined into one proactive, comprehensive strategy and implementation blueprint.

Dow is committed to helping lead this transition. As the world leader in combining the power of science and technology to passionately innovate what is essential to human progress, Dow will advance sustainability by collaborating at the intersections of business, government and society – with everyone from customers, suppliers and other industry stakeholders, to governments, non-governmental organizations (NGOs), educational institutions, communities and civil society.

Recalling the abundance of Argentina's unconventional resources and Dow's early participation in their development, I cannot think of a country where Dow is better poised to lead the blueprint.



36 **LATIN AMERICAN PETROCHEMICAL ANNUAL MEETING**

SAVE
the date

19-22 NOV 2016

Buenos Aires Argentina

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APLA

**ASOCIACION
PETROQUIMICA Y QUIMICA
LATINOAMERICANA**

Manuel Diaz

Executive Director, APLA



" We can compare Vaca Muerta to the shale plays in the United States, although our ability to gain immediate foreign investment is dissimilar due to our smaller domestic and regional market. We will not see an overnight revolution here as in North America, but we can immediately increase our production due to the country's unused capacity."

What changes have you seen in Argentina's chemical industry during the last two years and how important are the chemical and petrochemical industries to the country's growth and success?

In my opinion, the main change occurred when YPF started developing Vaca Muerta in partnership with Dow Argentina and other international companies. The petrochemical industry has felt the feedstock deficit the most and therefore any opportunity to increase our production of raw materials and gain investment is positive. We can compare Vaca Muerta to the shale plays in the United States, although our ability to gain immediate foreign investment is dissimilar due to our smaller domestic and regional market. As well as working capital, we also gain expertise from companies with experience working in the United States. We will not see an overnight revolution here as in North America, but we can immediately increase our production due to the country's unused capacity.

Could you explain the reason behind APLA's decision to hold the 2016 Annual Meeting in Buenos Aires?

The main reason is the current economic and political situation in Argentina. It is a good opportunity to showcase Argentina's potential to the 1,000 attendees we expect to host, who are mostly decision-makers and high-level executives looking to invest in the region. The 2015 Annual Meeting was held in Cancun as a result of the new Ethylene XXI plant in Mexico, which was the most important investment in Latin America at that time. The next opportunity now resides in Argentina, as the economic situation has improved with the change in government.

What effect will an increase in production in Argentina have on neighboring countries?

It will impact all of the region because Brazil uses naphtha feedstock as a raw material, while Argentina uses natural gas. We will not only be able to supply the demand in the domestic market, but will also be able to export the over-supply of hydrocarbons to neighboring markets in Chile, Paraguay and Uruguay. Our main product is ethane, which can be produced in abundance using shale gas, and we will also be able to develop a range of petrochemical products for export. The petrochemical industry has a long history in Argentina and the extent of the Vaca Muerta reserves will rejuvenate this. With this feedstock, we can invite foreign investors to allocate capital to Argentina and develop future world-class projects.

What are some of the challenges that could impede growth of the Argentine petrochemical industry?

One of our biggest challenges is infrastructure investment. We currently have high logistics costs due to a lack of investment in the country's infrastructure in recent years, particularly when trading with neighboring markets. The ports in particular require modernization; if we can increase capacity, our competitiveness as a major player in Latin America will greatly improve. APLA also hosts an annual logistics meeting; for 2016 this takes place in Panama, as the expansion of the Canal this year affects the transportation plans of the whole Latin American region. In terms of Argentina's network of gas pipelines, it is good, but not good enough. It is very easy to add new production to our existing infrastructure, but we need to improve the capacity of these pipelines to accommodate the increased production of natural gas that we will see in the country. In this regard, we can learn from the Eagle Ford shale play in Texas, which is of a similar profile to Vaca Muerta.

Does APLA have any initiatives in place to increase the availability of a skilled workforce in the region?

All of Latin America faces a problem in terms of technical education, not just Argentina. It is essential for APLA to work closely with universities and the government to provide people with these skills, and APLA, in association with IPA and the University of San Martin, offers seven scholarships in the petrochemical industry to post-doctoral students from any country in Latin America. In order to ensure the availability of qualified personnel for the future development of the industry, we need to train people now. In terms of a technically trained workforce, Argentina has been working for a long time, through organizations such as Y-TEC and CONICET, to develop new technology. The Ministry of Science, Innovation and Technology is also working hard to develop our scientists and engineers of the future.

Where can we expect to see the petrochemical industry in Argentina in the medium term?

Argentina is laying the foundations to prepare for future investment through opening the market, improving infrastructure and demonstrating Argentina's reputation as a business-friendly country. It is the focus of this government to gain investments in various industries, with the petrochemical sector being a key area for growth. I hope to see important, world-class investment in Argentina over the next decade.



Photo courtesy of AESA (A-Evangelista S.A.).

Falling into place:

Argentina's petrochemical industry

The shale gas revolution in the United States reinvigorated the country's stagnating petrochemical industry, turning around its fortunes in less than half a decade. Looking further south in the American continent, the world's third largest proved shale gas reserves in Vaca Muerta could see the "Dead Cow" reviving to breathe new life into Argentina's flagging industry.

The country boasts the three factors required to develop any petrochemical industry: readily available feedstocks, access to technology, and a receptive domestic market, according to Ignacio Millan, president at Instituto Petroquímica Argentino (IPA). Although the U.S. Energy Information Administration's studies showed Argentina's potential in 2013, estimating its shale oil reserves at 27 billion barrels and shale gas reserves at 802 trillion cubic feet (tcf), the Peronist administration in power had closed the doors to external investors. With the election of business-

mind President Mauricio Macri at the end of 2015, the fourth and final factor appears to be in place to implement a distinctly Hispanic shale revolution.

It was, however, international action which led to the establishment of Argentina's chemical industry, as explained by Enrique Grotz, partner and oil and gas leader at EY: "The military began this industry in 1942 as a result of the war effort, but the Armed Forces only consumed around 4% of the total manufactured chemicals."

As was the case more than half a century ago, when international relations were key to the development of the petrochemical industry in Argentina, the same is true now. With Macri ending the isolationist policies of former president Cristina Kirchner, which led to Argentina becoming a net importer of energy and lacking enough raw materials to feed its crackers, the door to foreign investment has been flung wide open.

This will not, however, lead to the type of transformative activity seen in the United States in recent years, or even to the next Ethylene XXI plant, as in Mexico; more than a decade of damaging government policy and a poor reputation with organizations such as the International Monetary Fund mean Argentina has some way to go before it can attract the huge sums of money required. Although EY's Grotz stated six foreign companies are conducting due diligence into Argentinian companies at present, fellow EY partner Germán Cantalupi has highlighted the need for greater clarity in the economic landscape in order to see more activity: "The uncertainty is related to the pricing of raw materials, which is a political rather than a market issue in Argentina. If the government puts different regulations and taxes on raw materials it will affect prices," he said. "Nobody wants to move first, so a lot of research and investigation is being conducted but nothing concrete is taking place."



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INDUSTRY BEGINS AT HOME

Argentina's national energy company is Yacimientos Petrolíferos Fiscales (YPF), which began its chemical operations in 1944. Government mismanagement of assets created \$6 billion in losses and to the restructuring of the company in the early 1990s, which led to an almost 80% reduction in its workforce. The company then entered private hands for almost two decades from 1993. In 2012, after 13 years of ownership by Spanish energy company Repsol, the Kirchner government re-acquired the company in an attempt to reverse the declines in output which had led to Argentina becoming a net importer of energy a year previously. Miguel Galuccio, an Argentine petroleum engineer who had worked at YPF until the Repsol buy-out in 1999, before taking up international positions with oilfield services provider Schlumberger, was installed by Kirchner as the company's new CEO.

Following the re-nationalisation of the company, YPF re-organized its reporting structure to create a new downstream segment, emphasising the importance of the petrochemical industry to YPF's operations. "The petrochemical sector has enormous potential in Argentina and is a key part of the company's growth strategy in an industry which is competitive on a regional level," explained Marcos Sabelli, YPF's chemical executive manager.

The company owns two petrochemical complexes in Argentina: the La Plata Industrial Complex (CILP) in Ensenada, Buenos Aires province, which has both a refinery and a petrochemical plant, and one in Plaza Huincul, to take advantage of the Vaca Muerta



Fernando Caratti, General Manager, Refinor



Marcio Sanita de Azevedo, General Manager, Braskem Argentina

shale play in Neuquén province. It also owns a 50% stake in Profertil, one of the largest urea and fertilizer plants in the world, located in Argentina's chemical heartland, the port town of Bahía Blanca.

Sabelli stated that YPF's next goal is to increase supply of petrochemical products derived from natural gas liquids in order to reduce the country's dependency on imports from Bolivia. Refinor (Refinería del Norte S.A.), formed in 1992 as part of the YPF privatisation process, is the only downstream company in the Argentine northwest region. Its Campo Duran plant is linked to Bolivia by the Juana de Azurduy pipeline, constructed in 2011, and has been the sole operator of the feedstock Argentina receives from Bolivia since 2012. "The possibility to increase gas imports from Bolivia was a good opportunity for Refinor, considering our strategic loca-

tion," said Fernando Caratti, Refinor's general manager. "Since then, the company has started to process Bolivian gas to make up for the decrease in domestic gas production."

Refinor has seen feedstock availability decline by two-thirds since 2005 and is now operating at one third of its available capacity – a problem facing many of Argentina's petrochemical producers. "The Argentine petrochemical industry experienced four waves of investment, the last of which occurred in the late 1990s and early 2000s," said IPA's Millan. "Since then, the industry's main constraint has been a lack of feedstock."

Despite dwindling supplies of raw materials, companies have attempted to improve yield from the hydrocarbons available. YPF invested more than \$450 million in a new continuous catalytic reformer unit at CILP to double its capacity for producing high-value aromat-



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"In terms of innovation, the chemical service sector is continuously evolving; not only because of the different needs of mature oil fields, which make up the majority of the fields in Argentina, but also due to unconventional fields such as Vaca Muerta."

Adolfo Sánchez Zinny, Commercial Administration Manager, Bolland



"Opening up Argentina to the world in terms of foreign trade may lead to greater productivity in our supply chains. Currently, the ports are only operating at 50% of their capacity, and therefore they will be able to double the volumes they handle without any problems."

Hernán Sanchez, Commercial Director, Celsur Logística

ics, used for generating the petrochemicals benzene, toluene and xylene, from low-value naphtha. According to Rina Quijada, senior director Latin America at consultancy IHS, the Argentine petrochemical industry will be highly dependent on imported aromatics in the short term, as gas-based petrochemicals could increase production capacity for olefins and derivatives. ,

SELF-SUFFICIENCY

As Argentina's national energy company, and the third largest petrochemical producer in South America, YPF wants to lead Argentina to energy self-sufficiency. A ready supply of hydrocarbons would also allow for the country to be self-sufficient in terms of petrochemicals and improve its manufacturing base. YPF's Sabelli recognises the building blocks required to achieve YPF's plan: "The success of YPF and Argentina's petrochemical business rests on four pillars: abundant feedstocks, a strong market, a world-scale plant, and a world-class partner." By developing Argentina's unconventional oil and gas industry, a steady supply of raw materials can be ensured, while the wider South American market has the demand. A world-scale plant has yet to be built but, in order to do so, it seems likely that companies will need to work together. In August 2015, YPF an-

nounced its intention to acquire a 46% stake in Petroquímica Cuyo and 50% of Lyondell-Basell's Petroken for a total of \$122 million. By the end of the year, however, the deal had fallen apart. The Argentine Central Bank's lack of physical dollars meant YPF could not complete the transaction. "YPF's inability to make effective the necessary payments on due time [means the deal] in my opinion is not very likely to be put back to life," commented Jorge R. Sampietro, general manager at Petroquímica Cuyo.

The acquisition would have not only allowed YPF to gain synergies, with Petroquímica Cuyo and Petroken having facilities in close proximity to YPF's plants in Luyan de Cuyo and Ensenada respectively, it could also have paved the way for the world-scale plant YPF wants and Argentina needs. "The economies of scale fostered by such a consolidation could facilitate the development of a project for the construction of a new PP plant that would ensure the supply of domestic demand and generate export availabilities," said Sampietro on the merger's advantages.

YPF does, however, have several partners in the energy sphere already. As well as U.S.-based Chevron and Malaysia's national energy company Petronas, with whom it is already working on oil and gas projects in the Neuquen

Basin, YPF's latest collaborator is American Energy Partners. The two companies signed a \$500 million, 50/50 agreement at the start of 2016 to conduct exploration and development projects in Vaca Muerta. Such partnerships should ensure an ample increase in production to supply not only YPF's partnership with Dow Chemical, in which the former supplies the latter's gas demands, but also other petrochemical operations across the country.

SPECULATE TO ACCUMULATE

Dow's presence on the Argentine petrochemical scene is, at around six decades, almost as long and prolific as YPF's. Despite recent feedstock challenges, the country remains disproportionately represented within Dow's global strategy. "Dow's subsidiary in Argentina is the country's sixth largest in the world, even though Argentina is the world's 24th largest economy," said Gaston Remy, president at Dow Argentina. "Dow has been recognized as the leader of Argentina's petrochemical industry for the last 60 years."

Dow's main production site is its 120-hectare petrochemical complex in Bahia Blanca, in which it invested 450 million pesos for expansion in November 2014. In a shock move upstream, Dow signed a \$350 million joint venture agreement with YPF to explore the El Orejano gas field in Neuquen eighteen months previously. "[Its] advantages include abundant water resources, a century-old hydrocarbon industry, connection with pipelines and, unlike some areas in the United States, relative under-population," explained Remy of the decision to invest in exploration. "Dow has often been a first-mover within the industry and is deeply committed to supporting Argentina's development and to the company's sustainable growth in the country."

Dow and YPF reaffirmed their commitment to Argentina in late 2015, adding a further \$500 million to their exploration fund for the El Orejano site. Estimates suggest production could reach an average of two million cubic meters per day by the end of 2016 - three times current levels. IPA's Millan believes Argentina's petrochemical industry is worth the investment: "Investors should recall the first mover advantage. Those that take the risk in heavily investing in an opportunity before others are those that later reap significant profit."

EVERYBODY NEEDS GOOD NEIGHBOURS

As well as the benefits for Argentina from companies joining forces, IPA also considers Argentina working more closely with neigh-

boring Brazil on bi-national projects as bringing certain advantages. This would increase Argentina's domestic market - an attractive prospect for potential investors. "A greater agreement between Brazil and Argentina, in terms of export, shared trade and manufacture, would be very convenient for both countries in future due to their close proximity," suggested Alfredo G. Friedlander, IPA's executive director.

With a population of more than 200 million compared to Argentina's 43 million, Brazil has the largest domestic market in Latin America. All the countries in the Southern Cone are net importers of polymers and other petrochemicals, reflecting a strong regional demand that could be satisfied with increased local production.

Brazil's Braskem, which claims to be the largest polypropylene producer in the Americas and the largest polyethylene (PE) producer in Latin America, maintains a presence in Argentina to both serve its clients across the Southern Cone, and as a lucrative end-market for its products. "Argentine demand for PP exceeds domestic production capacity, so the industry needs PP imports from Braskem to continue to

run smoothly. At the same time, Argentina has a trade deficit in high-density PE," explained Marcio Sanita de Azevedo, general manager at Braskem Argentina.

While Braskem's PP production capacity reaches almost two million tons per year (tpy), its Argentine competitors Petroquimica Cuyo and Petroken produce a combined total of only 310,00 tpy. With the Brazilian economy slowing down at the same time as Argentina's is opening up, Brazil could face an oversupply of PP, leading Braskem to increase its exports to its southern neighbour. In turn, Petroquimica Cuyo and Petroken could initially struggle to remain competitive until they are able to up their production, which will require additional steady supplies of raw materials.

Braskem's bet on the future of Argentina's abundant unconventional hydrocarbon resources also led Braskem to make a play for Solvay Indupa, the corporation's Argentine producer of PVC and soda; the purchase was however vetoed by Brazil's competition authority in November 2014. Despite this, de Azevedo considers Argentina an important market for Braskem into the future and the company's



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strategy in this regard is to act as a local player, recognising the mutual benefits in cross-country trade: “Braskem imports naphtha from Argentina and exports back polymers. For Brazil, Argentina is a natural market and Braskem tries to see Argentina as an internal market,” said de Azevedo.

A FUTURE INVESTMENT

Awareness among foreign companies of the potential in Argentina’s unconventional hydrocarbons, combined with the new ad-

ministration’s focus on promoting growth within the petrochemical industry, suggests it is only a matter of time before Argentina achieves the investment required to kick-start new developments along the entire energy stream. However, Argentina’s growth could be hamstrung by a lack of qualified personnel to staff new sites, and the human resource is described by IPA’s Millan as one of the major challenges for Argentina’s petrochemical industry. “The petrochemical industry employs more than 100,000 people,

and most of them have qualifications for their role. Around 30% are engineers or other skilled operators,” said Millan.

Argentina’s current output of students with an engineering degree is around 6,000 to 8,000 per year; a new petrochemical complex would require around 10,000 to 15,000 new engineers, of a total of around 50,000 new technically skilled employees. Over the seven-year timeframe it would take to construct a new petrochemical complex, around 20% of those graduates would need to assume one of those roles on an annual basis. “A new petrochemical complex and the resulting downstream industry would present an additional high demand for qualified personnel. Thus, the petrochemical industry would be competing in a highly competitive environment in order to recruit the best talent,” he continued. “New capacity in the United States is expected to increase plastics industry employment by more than 20%, while each of those jobs generates a further 6.3 new employee roles in the rest of the economy.”

The problem is, however, not unique to Argentina and the Association of Petrochemicals and Chemicals in Latin America (APLA) has established a distance postgraduate learning program for students from across the region. “It is essential for APLA to work closely with universities and the government to provide people with these skills and APLA, in association with IPA and the National University of San Martin, offers seven scholarships in the petrochemical industry to post-doctoral students from any country in Latin America,” explained Manuel Diaz, APLA’s executive director.

The two-year course is taken by around 30 students per year, around half of whom come



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Rodolfo Perez Wertheim,
Director General, Meranol

from Argentina. It is aimed at replicating the technical knowledge found in other leading petrochemical industries worldwide, as students are required to have a degree in a STEM subject before starting the course. “The program is designed to help higher education professionals with their general knowledge of the petrochemical industry, providing conceptual categories, decision parameters and patterns of action that allow them to improve their professional performance,” commented IPA’s Friedlander.

YPF too has taken steps to attract and retain the necessary professionals to accompany its growth, not least by providing assistance with relocating personnel to its various sites across the country. The company has also signed agreements with Argentine universities to develop and train its workforce of the future. “Young professionals join the company through specific programs, and we have implemented paid work experience programs and internships in order to increase numbers of engineering students and promote technical education within our communities,” explained YPF’s CEO, Miguel Galuccio.

The need to ensure Argentina keeps pace with global technology in the energy sphere is being advanced by Y-TEC, a research and development (R&D) organization established by YPF and the National Scientific and Technical Research Council (CONICET) in 2013. Its aim is to reduce costs across Argentina’s energy stream by developing home-grown technologies, rather than importing them from abroad. “For example, polymers with oleophilic and hydrophobic characteristics could solve environmental issues. We are also studying new technology to obtain internal olefins to produce surfactants for enhanced oil recovery. Additionally, we have started work on a product that includes a new catalyst to obtain acrylonitrile, a key element for the production of several derivatives of great significance for the industry,” continued Galuccio.

Two years after its inauguration and YPF’s original R&D team of 75 people has been bolstered to around 350 researchers based at a new, 495 million peso Science and Technology Center within YPF’s La Plata complex. The space has around 60 dedicated laboratories, focusing on the four areas of upstream, downstream, renewable energy and materials engineering. CONICET’s 10,000 researchers and capabilities nationwide are also available to work on Y-TEC projects.

POLITICALLY ADVANTAGED

Determined local players, interest from across Latin America and an awareness of the requirement for a trained workforce have been in place in Argentina for a couple of years; the complementary factor is a supportive government, which is set to change the fortunes of the petrochemical industry. “Investors looking at Latin America will find Vaca Muerta in Argentina much more attractive today than in previous years,” said IHS’s Quijada. “The biggest advantage Argentina has today, aside

from its feedstock, is its new administration and proposed reforms.”

The government now needs to create a political environment conducive to foreign investment by promoting freedom for chemical companies to operate and improving links between Argentina and other economies worldwide. According to Rodolfo Perez Wertheim, director general at chemical manufacturer Meranol, there is no time like the present for the government and the energy industry to come up with a strategy for future

Focus on APLA

The Latin American Petrochemical and Chemical Association, headquartered in Buenos Aires, represents companies involved in the aforementioned industries across the region. Active member companies operate in Latin America, while associated members provide services to the petrochemical or chemical industries or directly manufacture chemicals but operate outside of the region.

The association has seven objectives, including the production of reports and research studies on the industry, training and developing the workforce required for the industry and promoting a spirit of mutual cooperation between its member companies and other industry associations and relevant organizations. “Our two most important features for our members are the opportunity to network and the relevant information on the industry. Furthermore, our most important event is the Latin American Annual Meeting, at which attendees can meet and interact with different companies from all over the world to develop business and share ideas,” explained Jose Luis Uriegas, APLA’s president.

APLA celebrated its 35th anniversary in 2015 and held its annual meeting in Cancun, attended by around 1,000 decision-makers and high-level executives from the Latin American region and beyond. A third of participants were from the United States, highlighting the importance of countries such as Mexico, Brazil and Argentina to foreign investors. “Attendees from North America are looking for opportunities that could arise from Latin America both as a potential market for their extra capacity, and as an opportunity for new production projects across the region,” he continued.

The fact that the 36th annual meeting takes place in Buenos Aires between 20th and 23rd November this year was no accident, as Uriegas explains: “This has been a strategic choice; Argentina is in a burgeoning position because of its unconventional resources in areas such as Vaca Muerta. Additionally, the new government is more open to foreign investment and promoting the industry, which will enable the country to take advantage of its huge oil and gas reserves.”

Global consulting firm IHS holds a one-day Latin American Petrochemical and Plastics Conference annually, which always takes place the day before APLA’s Annual Meeting. The main event for IHS, which provides solutions for oil-related and petrochemical derivative industries, is its annual World Petrochemical Conference (WPC), which takes place in Houston prior to the AFPM’s American Fuel and Petrochemical Manufacturers event in March 2016. According to IHS’s senior director Latin America Rina Quijada, the WPC also includes a specific, one-day Latin American Petrochemical Summit.

The mood of Latin American experts, then, is optimistic. Mexico’s joint petrochemical venture between Braskem and Idesa is in start-up mode and the country is undergoing energy reforms which will make it easier for natural gas from the United States to enter the country. Further south, Argentina could be the next big player: “Argentina is laying the foundations to prepare for future investment through opening the market, improving infrastructure and demonstrating Argentina’s reputation as a business-friendly country. It is the focus of this government to gain investments in various industries, with the petrochemical sector being a key area for growth. I hope to see important, world-class investment in Argentina over the next decade,” said Manuel Diaz, APLA’s executive director.



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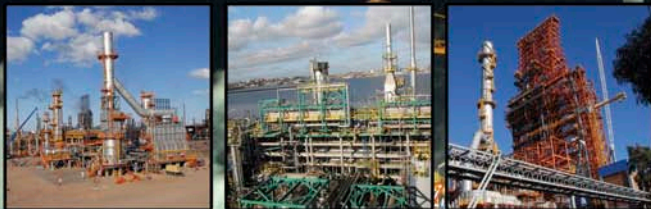
growth: "The chemical industry depends on oil and gas and, at present, Argentina has a deficit in this matter. If the government agrees to supply energy to the whole industry, it will encourage the chemical industry to invest in different products. We believe that this is going to happen, therefore we think that the right moment to invest in the market is now." Not all of Argentina's petrochemical plants are currently operating at full capacity and, at peak periods, some are unable to operate because of the lack of feedstock. It was reported Dow was forced to cease operations at two of its PE plants in October 2015 while, during winter, households and petrochemical complexes compete for available raw materials. "The winters of 2012 and 2013 were particularly challenging as household demand for natural gas was particularly high and the government prioritized supplying households with natural gas," said Javier B. Sato, commercial manager downstream at Petrobras. Argentina therefore already has the capacity available to increase production without the need for significant investment, before investing in moderate expansion works over the next three years. This will allow time for the

various upstream projects to get underway and for commodity prices to rise, stabilising the market in Argentina and demonstrating to those companies currently sitting on the fence to commit to profitable joint ventures for the future. EY's Grotz takes a long-term view on the petrochemical's current situation: "In around ten years we will see Argentina become self-sufficient in terms of hydrocarbons, which will positively impact the petrochemical industry. We then need to focus on exporting - Argentina currently only exports around 0.8 million tons of product per year - but this does not make economic sense today." With all of YPF's activity on the exploration and production side, as well as in R&D, combined with its partnerships over the last few years, the company's aspiration is clear. "The incorporation of strategic partners responds to the objective of ramping up the unconventional natural gas production to reach energy self-sufficiency and to expand the petrochemical business," commented Galuccio. "We're getting closer to realizing our objective of energy self-sufficiency by putting into production the resources that can change the energy future of our country."

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Photo courtesy of Henry Hirschen.

A unique situation:

Distribution, logistics and service providers

Argentina's chemical distribution market is highly diversified; around 100 companies operate in the market, with multinationals competing for business alongside generations-old family-owned firms. More than a decade of Argentina's closed economy prevented full-scale competition from taking place and smaller companies had the opportunity to develop specializations and embed themselves in regional markets.

According to integrated logistics provider Mecusan, a family-owned company founded in the 1960s as a general transportation business and which has since specialized in the chemicals space, small-scale distribution firms with fewer than ten trucks comprise 85% of Argentina's logistics services: "The transportation market is very fragmented in Argentina. Low barriers to entry are largely what have caused this fragmentation. National Law 24449 regulates road traffic and safety, and a chapter in an annex to that law regulates the transport of dangerous goods," explained general manager Andres Gerschenson. "The provisions contained in that law are not very demanding."

This has led to a situation in which a distribution company can transport a truck-load of hazardous chemicals one day, and innocuous consumer goods the next. The situation was able to continue largely unabated during

the 12-year Kirchner administration, with the aim being to promote Argentine companies over their international rivals. Logistica Milo, a Buenos Aires-based company that has been around since 1905, also first established itself as a general transportation provider. It only started to specialize in chemical distribution over the last decade and now offers catered transportation, warehousing and tanking services. "Under the previous government, Logistica Milo had a lot of support, particularly in terms of the awarding of credit lines which allowed us to upgrade our fleet," explained general manager Victor Blanco.

The company was able to capitalize on the artificial trading conditions created by the previous government to position itself as a leader in the market, serving clients such as BASF, Sherwin Williams and Carbochlor. With 90% of its operations now focused on the chemical industry and having invested in its infrastructure on a yearly basis, the company is in a premier position as Argentina's prospects for increased international trade open up. "Logistica Milo has invested in its fleet and facilities over the last decade in preparation for this scenario and is now ready to support new products from global chemical companies," he continued.

International players, however, experienced the previous government's restrictions and

promotion of local companies somewhat differently. Brazil's M.Cassab, for example, which opened its Argentina office in 2007, experienced stalled growth and was forced to put some projects on standby. Brenntag, a global leader in full-line chemical distribution, believes the Argentine market is now in a state of transition: "Until December 2015, the chemical distribution market was significantly restricted. Rather than using our full capabilities, we were forced to conduct operations on an ad-hoc basis and couldn't move forward," said Martin de la Roza, general manager at Brenntag Argentina. "We will see more openness in terms of commercial interchange and international commerce, but will also see an increase in competition as distributors will be eager to take advantage of the ability to import goods."

Internationally, the number of chemical distribution providers is much more concentrated and, even in neighbouring Latin American countries, the situation is vastly different. The new direction in which Argentina's economy is heading should align it with the rest of the countries in the Southern Cone and make for much more predictable operations. "Typically, Brenntag and up to five other companies make up 70% to 80% of market volume, while smaller companies survive by taking

niche markets,” continued de la Roza. “If [Argentina’s openness] continues, the chemical distribution market is likely to see some consolidation.”

LOCAL LEANING

Local players have been able to tailor their product offering to the idiosyncrasies of the Argentine market. The services they provide will be difficult for multinational distributors, with their various levels of management, to replicate. Having been locked out of global exchange markets, producers have struggled to access the capital they require and independent transportation providers such as Henry Hirschen (HH) have been able to plug the gap. “The difficulties that Argentine companies have faced in accessing international financing has made HH’s financing services all the more important,” said the company’s director, Tomas Hirschen.

Grupo Simpa, a raw materials distributor for plastics converters established in 1978, has been able to leverage Argentina’s financial instability to become the largest petrochemical distributor in the country, with a 55% share of the plastics distribution market. As petrochemical companies such as Petroken and Petrobras were unwilling to supply product on credit, and seeing that its clients were struggling to obtain favourable financing from banks, Grupo Simpa came up with a solution. “Dow Argentina grants its customers up to seven days to pay after receiving an invoice and our competitors allow between 30 and 60 days,” said president Adrián Gabriel Schwartz. “Grupo Simpa allows between 90 and 180 days and, as a result, our financing



Tomas Hirschen, Director,
Henry Hirschen (HH)



Gabriel Rubacha, Commercial Director,
Techint Engineering and Construction

options have enabled us to become the largest petrochemical distributor in Argentina.” Lack of financing options for end-users has also made petrochemical companies more cautious in terms of selling their products. Distributors have therefore taken on intermediary roles, with companies such as Grupo Simpa buying raw materials directly from vendors. “The world average for distribution sales as a percentage of total plastics sales is about 20%; in Argentina, it is about 40%,” continued Schwartz.

International distributors however, still maintain the advantage in terms of a recognized brand name and trusted working practices. The Kirchner administration’s failure to focus on the chemical segment’s role in the economy means international players have not learnt to trust the industry’s regulations as sufficiently protective.

“The multinationals that operate in Argentina and Latin America often demand standards that are higher than national ones,” said Mescusan’s Gerschenson.

Those local players which have been able to prove themselves in this regard should not see any difficulties as Argentina’s new commercial stance attracts the attentions of global chemical companies; however, newcomers to the market may also choose to use trusted global names from their existing jurisdictions. “Multinationals are now looking for distributors that can supply a product with the same quality and assistance throughout the entire region,” claimed Martin Font, general manager at MCassab Argentina. “Clients that operate in both Brazil and Argentina are happy to have a single company supplying them in both countries with the same degree of product quality and assistance.”

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RESTORING BALANCE

One way in which multinationals might better trust Argentina's regulations is in the overhaul of its customs requirements. Under the previous government, the country was ranked fourth in the world for having the most restrictive measures in place regarding international trade. One of these restrictions was the Advanced Affidavit for Imports (DJAI), implemented in 2012. Companies were required to submit affidavits for imported goods before completing transactions and before the goods could leave their port of origin, severely restricting the freedoms of Argentina-based firms to do business. "In the first six months after the government first implemented the DJAIs, the supply of certain imported chemicals fell and prices naturally rose," explained Hirschen.

As well as impacting on the supply of chemicals, EPC providers were in some cases unable to bring in technical equipment from abroad. The Federal Public Revenue Administration (AFIP) required companies to justify why they wanted to ship in equipment from overseas, with lack of availability in Argentina being an oft-cited reason. Argentine-Italian EPC firm Techint Engineering and Construction believes more should be done to manufacture such goods in Argentina: "In the last few years it has been difficult to import equipment or materials into Argentina," said commercial director southern cone Gabriel Rubacha. "For this reason, and in order to foster local industries, we are working to incentivize local companies to improve their technologies and provide alternatives to equipment manufactured abroad." DJAI was the subject of a number of complaints from the United States, the European Union and Japan, amongst others, and was subsequently found to be in violation of World Trade Organization rules on international trade. With Argentina only having until the end of December 2015 to resolve this issue, it was one of President Macri's first tasks on taking office on December 10th. "Our new government made these amendments on 23 December 2015, replacing DJAI with SIMI, a new Integral System for Monitoring Exports, which grants automatic licences for all imported products," outlined Sebastian Aversa, country manager for BDP International.

BDP International is a third-party logistics firm headquartered in the United States and with operations in 270 cities worldwide. Around 80% of its operations in Argentina are focused on the chemical industry and, like many companies, it has relied on imports for the majority



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of its business since 2011. “In our Buenos Aires office, 80% of the business covers imports to Argentina, which is the main business of foreign trade today as the export market across the country has dropped off,” said Aversa. “Imports decreased by 45% during the period of DJAI and we hope that we can regain these losses during 2016.”

With the replacement of DJAI and the opening up of the market, it is hoped that Argentina’s import/export balance will normalize. Producers will be able to export abroad rather than simply supplying the domestic market and, with the opportunity to increase the amount and type of imported goods, supply chains need to be optimized.

PORTS AND PIPELINES

According to APLA executive director Manuel Diaz, one of Argentina’s biggest challenges is infrastructure investment. The association holds a logistics meeting annually to discuss how the region can improve and interlink its transportation and infrastructure requirements, which is this year being held in Panama. The long-awaited expansion of the canal, in order to increase capacity for the new generation of super tankers, has seen modernization plans given the green light along the U.S. Gulf Coast; Argentina, meanwhile, has delayed new investment into its ports due to economic uncertainty and a weak oil and gas industry.

Argentina boasts the second-longest river in South America after the Amazon; at 4,880 km, the Paraná River connects the chemical-producing ports of Zárate and Campana with the Atlantic Ocean, but is so far an under-utilised resource. Carboclor, the main isopro-



Photo courtesy of Odebrecht.

pyl alcohol manufacturer in Latin America, is located on the shores of the Paraná and has a 300 meter dock port to receive offshore vessels. “Carboclor’s proximity to a deep river like the Paraná River would allow the company to transport more volumes at lower costs,” said general manager Alfredo Fernandez. “The increase of waterway transportation would also significantly reduce freight costs.”

Rio de la Plata, the river which forms the border between Argentina and Uruguay, hosts the former’s most important ports: those of La Plata, where YPF’s petrochemical complex is located; Dock Sud, the site of Shell’s 110,000 bbl/d Buenos Aires refinery; and the port of Buenos Aires itself. Shell Argentina’s president,

Teófilo Lacroze, stated the company was committed to long-term operations in Argentina: “For the last five years, Shell has invested in the company’s downstream business despite adverse business conditions. In particular, Shell has invested in the Buenos Aires refinery, one of the largest in-country assets.”

It is not just port infrastructure that is lacking. According to EPC firm Odebrecht, its discussions with the Chamber of Construction and other development organizations indicate the previous government built up a \$6 billion backlog in infrastructure investment. As well as spending money on modernizing the ports, the nation’s domestic and industrial gas pipeline network could also do with an update. “It

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is good, but not good enough. It is very easy to add new production to our existing infrastructure,” said APLA’s Diaz, “but we need to improve the capacity of these pipelines to accommodate the increased production of natural gas that we will see in this country.” Odebrecht is confirmed for a \$200 million project from the province of Cordoba to expand its pipeline system, but is awaiting a further \$300m in contracts across the country. Rival firm Techint is currently working on one section of the north eastern natural gas pipeline, but says further expansion of the network into Misiones province, on the border with Brazil, is likely to be suspended. In terms of industrial gas pipelines, the firm looks to the upstream sector to provide answers: “We are analyzing perspectives on how much gas is going to be available in order to evaluate what sort of capacity needs to be,” said Rubacha. “If the Bahia Blanca petrochemical complex sees expansion, there may be a need to have an additional pipeline to transport gas from Neuquén to Bahía Blanca.”

CHICKEN AND THE EGG

Another area which will also have to be addressed is safety on the roads, with 90% of internal chemical distribution carried out by truck. Restec, part of the Suatrans group of safety providers located across Latin America, is one of only three companies providing chemical safety services for chemical companies in Argentina. This is due to the fact that there is no obligation for manufacturers or distributors to have an emergency response team as part of their operations – unlike in neighbouring Chile and Brazil. “Around 75% of the chemical companies in Argentina use Restec’s services; companies such as BASF, Dow, Chemours and Petroquímica Cuyo are among our 87 clients,” explained president Eduardo Rosa. “The remaining 25% of the market has less to do with competition and more to do with a lack of investment in safety by small- and medium-sized companies. Safety was not a priority during the last 12 years of government.”

Infrastructure questions then will be addressed only if the need is there. Despite the need for more raw materials in Argentina, a lack of foreign investment and limited dollars in the bank have kept plans for new refineries and petrochemical plants off the table. Low international oil prices have also stifled appetite for growth, with Odebrecht taking the view that oil prices need to rise to a break-even point with the government’s subsidies:

“In terms of building a new petrochemical plant in Argentina, the starting point will be the normalization of international oil prices. For local shale production, the break-even point is around \$50 to \$60 per barrel,” commented business development director Pablo Brottier. “The earliest we could see a new world-class plant come online in Argentina – if the oil prices start to recover this year – would be 2023.”

Techint, however, takes a different view: “I believe a key component for future projects is

the international price of oil, although it is not the unique factor that will affect investments,” said Rubacha. “Companies will look at the big picture and make decisions based on their long-term strategies. We will probably see some activity in this regard in late 2016.”

Despite the uncertainty surrounding the issue, Argentina’s EPC firms are adamant that they are ready for the next wave of expansions and new builds, using the experience they have built up in other sectors and jurisdictions over the past decade.

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