GBR
Global Business Reports

APLA

Mexico Petrochemicals & Chemicals 2018

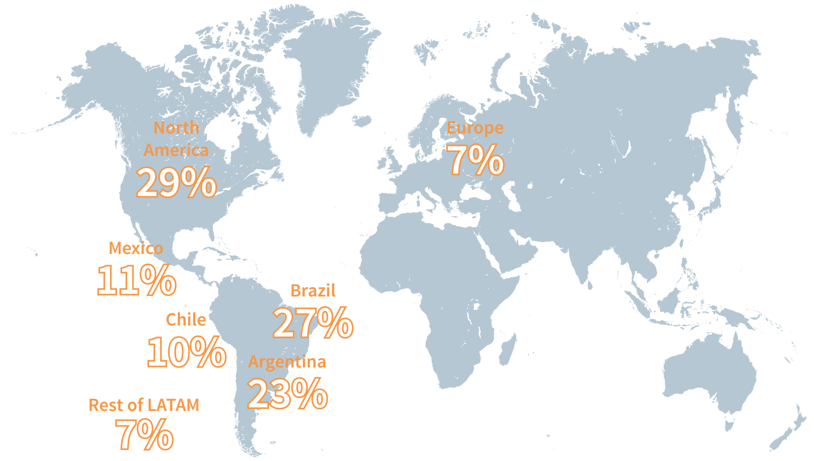
SPECIAL APLA 2018
PRE-RELEASE
EDITION

APLA

Overview of APLA

"Facilitate the sustainable business development of the Latin American Petrochemical and Chemical industry."

APLA, is a non-profit association, founded in 1980. It is integrated by the main companies of the petrochemical and chemical sector of Latin America. It has 126 member companies, which with their subsidiaries amount to more than 330 companies, becoming the ideal platform for the development and consolidation of business in the industry.



Objectives

- Promote meeting spaces among companies in the sector, encouraging professional relations among their representatives.
- Provide information, statistical data and update on the latest trends.
- Promote the training and development of young professionals.
- Represent the Latin American Petrochemical and Chemical Industry in front of similar associations from other regions of the world.

"Promote meeting spaces among companies in the sector, encouraging professional relations among their representatives."

Latin American Petrochemical Annual Meeting

It is the meeting point for the leaders and decision-makers of the Petrochemical and Chemical Industry of the region. It is the perfect environment to develop and consolidate business, exchange knowledge and generate valuable contacts, in addition to knowing trends, challenges and market solutions.

Latin American Logistic Meeting

It is the ideal environment to be updated in terms of process improvements, technologies and trends, the exchange of best practices and generate new business opportunities.

"Provide information, statistical data and update on the latest trends."

Latin American Petrochemical Yearbook

Statistical data on more than 80 petrochemical and chemical products from Latin America.

Webinars

Periodic seminars through which different specialists of the sector provide their vision and training on topical issues.

APLA

Overview of APLA

"Promote the training and development of young professionals."

Seminars "The Future of Petrochemical Industry is you"

Aimed at university students in Latin America, the seminar seeks to bring future professionals closer to companies, providing insight into the needs, current problems, trends and challenges they face today.

Student scholarships

APLA has an annual scholarship program, aimed at recent graduates or young professionals from Latin America, for a postgraduate specialization in the Petrochemical Industry. The program has a distance modality through an academic cooperation agreement between the National University of San Martin and the Argentine Petrochemical Institute (IPA).

""Associations and Chambers from all over the world, are part of a strategic alliance with APLA in order to strengthen the Latin American Petrochemical and Chemical Industry"

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Next Events & Contact

reunionanual@reunionesapla.com.ar
reunionlogistica@reunionesapla.com.ar
info@apla.com.ar

Reuniones APLA

(+54 011) 4325-1422

www.apla.com.ar

Latin American Petrochemicals

Decision making time

ECONOMIC GLITTER IN THE ROUGH

It is no secret that Latin American economies have struggled over the last three years, in line with the end of the commodity super-cycle which has wreaked havoc in many commodity-dependent countries globally. The recession in the region's giant, Brazil, was the most visible sign of the economic chill affecting Latin America, as its economy plunged by -3.8% in 2015 and a further -3.6% in 2016.

Mexico has fared better with its economy chalking up an average of 2.5% annual GDP growth over the last two years. President Peña Nieto's ambitious energy reform, with significant implications for the regional petrochemicals picture, was launched just as oil prices started to slide dramatically. However, with oil prices now at their best level in three years, his government's push to open up oil and gas exploration and production to private investment is finally bearing fruit.

Elsewhere in the region, depressed copper prices have contributed to the weakness of the Chilean economy but this is expected to expand at a faster clip in 2018 as copper prices rebound. Colombia meanwhile is crawling out of recession as it holds its first presidential elections since the peace agreement with FARC.

Argentina is catching investors' eyes with 2.8% growth in 2017, recovering from a recession in 2016, after President Macri launched investor-friendly reforms which included austerity measures. Argentina tops the region's prospects, with economists polled by FocusEconomics predicting robust expansion of 3% in 2018.

"The entire region has gone through difficult times in the last ten years but from Mexico down to Patagonia, the next few years will present a better business environment for investors. We believe that the time is right for Mercosur to develop its infrastructure and work on its regulatory framework to attract significant foreign direct investment," commented Rina Quijada, director business development Latin America, IHS Markit.

LACK OF BIG PROJECTS BUT ARGENTINA HOLDS HOPE

The economic backdrop and the intertwining depressed oil prices have been consequential for Latin America's petrochemical industries. The recession was so deep in Brazil that there was not enough demand for its polyethylene production for which exports rose. The oil price had lost over 70% of its value from its June 2014 level, until it started to rise again in January 2016. Not only did this hit oil and gas producing countries in the region, it also meant there was less incentive to invest in their petrochemical industries which in turn has meant a dearth of new projects.

In Mexico, Braskem Idesa's momentous Ethylene XXI project, with a production capacity of 1.05 mt/y polyethylene, has given the country and the region hope that new grand petrochemical projects are possible. However, Mexico suffers from a lack of feedstock. "Braskem Idesa made a huge investment but now there is not enough ethane for other petrochemical companies to produce ethylene," remarked Abraham Klip Moshinsky, general director, Unigel Mexico.

As with its economy, Argentina shows most promise and, unlike Mexico, it is taking advantage of its shale potential in Vaca Muerta. YPF is developing the largest oilfield from shale oil and the largest shale gas field outside the United States. The Argentine energy giant is seeking to build a world-scale petrochemical plant, with the cracker having a capacity of at least one million mt/y, to meet regional demand.

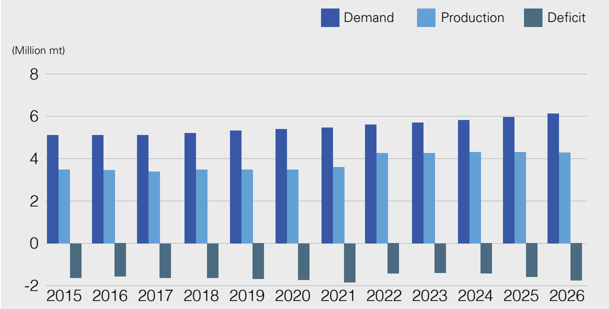
Brazil's industry is hopeful that sizeable offshore pre-salt reserves will improve the feedstock situation there but this is unlikely to herald new capacity anytime soon. "Vaca Muerta and pre-salt will provide additional feedstock for expansion at cracking facilities. Nevertheless, it is unlikely there will be a greenfield facility of over one million tons of ethylene and derivatives in Brazil or Argentina by 2022," remarked Quijada. "Meanwhile, expansions and unconventional raw material supply is expected to increase in Mercosur."

In an age where the United States, due to its shale boom, is expected to add 10 million to 12 million mt/y of ethylene by 2020, with much of that destined for export, investors and governments in Latin America need to decide how serious they are about enhancing their petrochemical industries. "In the late 2000s, the government showed a firm commitment to develop the petrochemical industry with the private sector and to reduce the trade deficit in petrochemicals," commented Stefan Lepecki, CEO, Braskem Idesa.

Petrochemical industries in Latin America will be hoping for a similar level of commitment going forward. •

CENTRAL/SOUTH AMERICA PE BALANCE FORECAST

Source: S&P Global Platts, figures from 2016



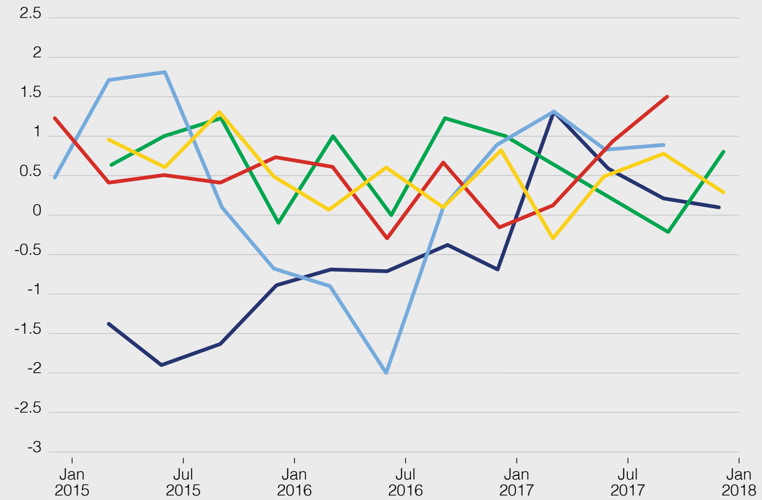
PA CAPACITIES: LATIN AMERICA

Source: S&P Global Platts, figures from 2016

Producer	Country	Capacity (mt)
Braskem	Brazil	3,200,000
Braskem-Idesa	Mexico	1,050,000
Ecopetrol	Colombia	60,000
Dow	Argentina	650,000
Pemex TRI	Mexioc	815,000
Pequiven	Venezuela	430,000

GDP GROWTH RATE

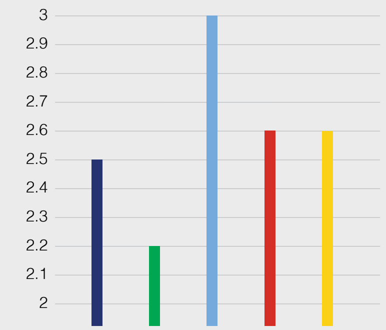
Sources: Instituto Brasilero de Geografia e Estatística, Nacional de Estadística y Censos, Banco Central de Chile, DANE



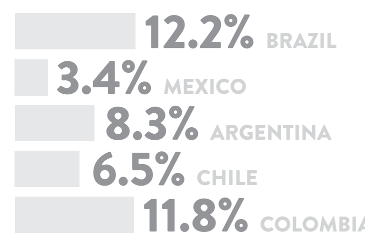
KEY COLORS

GDP FORECAST 2018

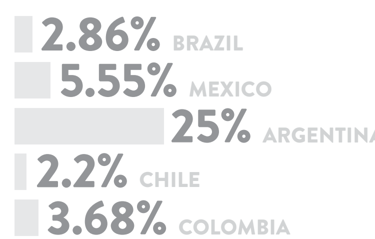
Source: FocusEconomics



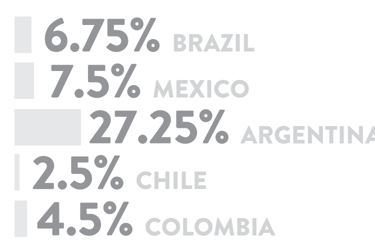
UNEMPLOYMENT RATE



INFLATION RATE



INTEREST RATE



Sources: Instituto Brasilero de Geografia e Estatística, Nacional de Estadística y Censos, Banco Central de Chile, DANE

INTERVIEW

Manuel Díaz

Executive Director, APLA

Many of APLA's delegates are from outside the region. How do you think international investors view the competitiveness of the Latin American petrochemical market?

Latin America produces a lot of raw materials such as crude oil and natural gas liquids but on the whole does not produce so much of fuels and petrochemicals and indeed is short of these. Given there is a lot of feedstock available in the region and a big market, there is much potential for world-scale developments. Around the world there are different combinations of market size and feedstock; the United States has both a big market and much feedstock, whilst the Middle East has a smaller marker but much feedstock. In Latin America we have both a big market and a lot of feedstock.

How does APLA support Latin America's petrochemical industry?

APLA was formed in the 1980s with the aim of facilitating the sustainable business development of the Latin American petrochemical and chemical industry. Since then, APLA has promoted meetings between companies in the sector, encouraging professional relations between their representatives. With that purpose the association organizes two annual meetings focused on business and logistics issues, respectively. These events bring together more than 900 leaders of the main companies of the sector.

Also, APLA provides relevant information and statistical data on products of the Latin American petrochemical and chemical industry through its petrochemical yearbook, that is available for its members. APLA promotes the education and development of professionals, through seminars and an annual scholarship program aimed at recent graduates and young professionals from Latin America with a postgraduate specialization in the petrochemical industry.

How do you choose the themes that are discussed in the events at APLA?

In general terms, we focus on an overview of the economic, political and financial situation in Latin America and in particular we address topics such as raw materials, sustainability and innovation. At the same time, although most countries speak Spanish or Portuguese, there are significant differences from country to country so we like to pay attention to these. •

Mexico Macro Picture

Solid demand factors but political risk rising

A SPECTRE HAUNTS MEXICO

'It was the best of times, it was the worst of times'. Looking back at the current period, it might be tempting to refer to Mexico's economy and wider macro picture by using Charles Dickens' famous epithet. On the one hand, compared to its major Latin American peers, Mexico's economy has performed reasonably well in recent years, given that Brazil is crawling out of its worst ever recession, while Mexico has chalked up an average of 2.5% annual GDP growth over the last two years. Mexico has also amassed real manufacturing prowess: it is now the fourth largest vehicle exporter in the world, for example.

On the other hand, there is an encroaching sense of uneasiness among business leaders. True, the economy is doing reasonably well, but GDP growth slipped from 2.9% in 2016 to 2.1% in 2017, a significant slowdown. In fact, industrial production fell in nine of the 12 months leading up to October 2017. Furthermore, the United States is driving a hard bargain in the NAFTA negotiations which has unsettled some investors. More significantly, Mexico is due to hold presidential elections on July 1st 2018, and the current frontrunner, Andrés Manuel López Obrador, has threatened to scrap investor friendly policies such as the landmark 2013 energy reform.

Other factors dampening the mood are that 2017 was the most violent year on record and the government has been carrying out a fiscal consolidation program which has led to a curtailing of its infrastructure spending that has acted as a drag on the economy. Investors are generally more worried about the prospect of Obrador's left-wing populism than they are about NAFTA. Underscoring this, Focus Economics' consensus forecast of economists predict Mexico's GDP growth will be 2.2% in 2018, which is lower than forecasts for all other Latin American countries except Ecuador and Venezuela.

"The elections next year are more worrying than the NAFTA renegotiations. There are some dark clouds forming around NAFTA but this is unlikely to affect the chemicals industry greatly," remarked José M. Berges, CEO of leading Latin American distributor GTM, speaking in 2017.

MEXICO REVS UP ITS ENGINE

Mexico's consumption of chemicals rose by over a fifth from 2012 to 2016. Two key factors mean that demand for petrochemicals and chemicals in Mexico are strong and will remain so going forward. First is a rising middle class:

according to Euromonitor International, 47% of households were in this category by 2015, equivalent to 14.6 million households, and this number is set to rise to 18 million by 2030, equivalent to all the households in Spain. Such households devote almost half of their budget to discretionary goods and services, like food and alcoholic beverages and personal care, as well as having more money to spend on household goods; all products with a high demand for thermoplastic resins, as well as specialty chemicals.

There is also an increasing demand for chemicals from food and feed which points to growing food demand and agricultural market in Mexico. “Food and feed, water treatment, household and personal care are some of the key high growth industries for us… A growing middle class with more disposable income as well as the growing global requirement for food and clean water are some of the main growth drivers behind this,” explained Gerardo Manzano Alba, executive director of fast-growing Latin American distributors Pochteca.

There is still a large gap between middle class incomes and those of the highest earners, with the middle class being closer to the poor in income level. Despite Mexico’s leading position in the production of cars and home appliances, less than half of middle income households own a car and dishwashers are a rare luxury. Therefore, domestic demand is not necessarily driving industrial production. This situation points to another important demand driver for chemicals in Mexico, namely export growth. Exports grew by 13.2% in the first ten months of 2017, with consumer goods rising by the most (18%) and automotive exports rising by 12.1%. Aerospace is another important driver, with the value of exports rising from US$3 billion in 2008 to around US$7.5 billion in 2016.

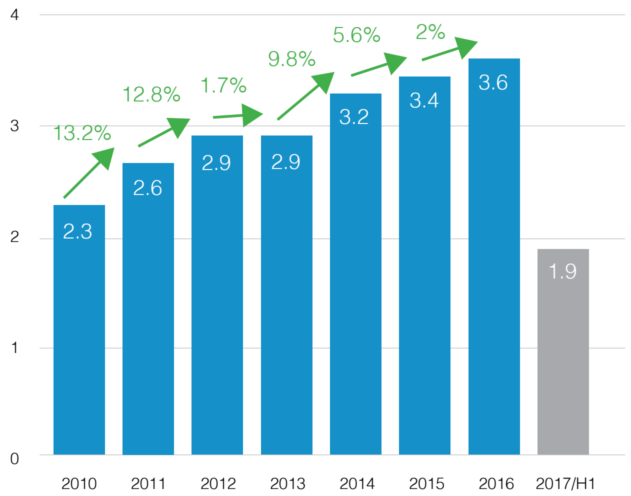
These industries demand chemicals such as lubricants and paints and coatings, which is good news for the chemical industry. “We also have dedicated teams to serve basic industries like automotive and general manufacturing, where there is a large demand for lubricants, metalworking fluids and other chemicals. Mexico exports more manufactured goods than the rest of Latin America combined,” continued Manzano.

RECOVERING EXTRACTIVE INDUSTRIES

Any analyst of the extractives industries knows that the oil and gas and mining industries go through dramatic cycles, and Mexico is no exception. The country’s main mineral commodities are gold, silver (Mexico is the world’s largest producer), copper and zinc which took a hit during the end of the commodity super-cycle since 2014 but have recovered more strongly than other minerals. The gold price, for instance, had its best year since 2010 in 2017. Buoyed by these trends, Mexico experienced a 50% year-on-year increase in mining investment in 2017.

A stronger gold and silver market has been welcome news for the chemical sector given that sodium cyanide is used to extract the minerals. Evonik and Grupo Idesa have reaped the benefits through their joint-venture to produce sodium cyanide in Mexico

TOTAL AUTOMOTIVE PRODUCTION (MILLION UNITS)



Source: Ministry of Economy, Mexico

and GTM recently signed a partnership agreement with Chemours to distribute the compound. “If gold and silver production in the country and Mexico continue to develop positively there will be the opportunity to expand our business to support our customers. Mexico is the most important market in terms of sodium cyanide in the world given that it is a leading producer of gold and silver. We have trust the Mexican market and want to be close to our customers who are expanding capacity and looking at new projects in the future,” commented Martin Toscano, president of Evonik Industries de Mexico.

Mexico’s oil and gas industry was completely dominated by Pemex, the state-owned company, until President Peña Nieto’s 2013 landmark energy reform. Most analysts hailed the move given Pemex had become increasingly inefficient and production levels had dropped. Players in the petrochemical industry believe the reform will lead to oil and gas production rising again as private players enter into the market. This is gradually filtering through to more demand for chemicals. “Unfortunately, sales for oil and gas have suffered over the last few years as the industry has declined dramatically. We see signs of recovery and have placed some first orders for the end of the year,” remarks Berges.

There are of course risks on the horizon, but deep structural factors such as Mexico’s diversified economy, buoyant industrial production and growing middle class should keep demand for petrochemicals strong in the coming years. “Our expectation for the Mexican petrochemical industry is for gradual growth supported by imported raw material. Three basic industries continue to grow in Mexico: automotive, agriculture and aerospace. These industries support additional petrochemical demand growth,” says Rina Quijada, director business development Latin America at IHS Markit. •

The Energy Reform

Petrochemical industry hopeful for positive effects

A BRAVE NEW WORLD

“We are facing a historical opportunity to change what has been preventing the country to move forward,” proclaimed President Enrique Peña Nieto as he presented his government’s ambitious energy reform to Mexico’s congress in December 2013. The energy reform promised to prize open Mexico’s oil and gas markets, as well as the production of basic petrochemicals, to private competition after nearly 80 years of them being dominated by state-owned company Pemex. Shortly after Peña Nieto’s speech, Mexico’s congress approved amendments to the constitution to allow the reform to be implemented.

Due to a stifling tax burden levied on it, years of underinvestment and an overly powerful oil union, Pemex’s competitiveness has steadily decreased in the last few decades and its reliability as a feedstock partner has suffered. This helps explain why Mexico’s petrochemical industry has been in decline since the 1990s, when it was the world’s seventh largest producer. Plummeting oil prices since 2014 has compounded the problem, which has shifted Pemex’s focus away from petrochemicals. Mexico is severely lacking in petrochemical refining capacity. As Ricardo Diogo, director of business development at tank storage company Oiltanking México, commented: “Refineries need upgrades which Pemex does not have the money to complete and refining capacity is actually decreasing compared to a growing yearly demand of 2% to 3%.”

However, the energy reform will open up Mexican oil and gas exploration and production as well as imports from abroad to private players. Immediately following its announcement, there was cautious optimism among petrochemical players that feedstock supplies would become more competitive due to increased competition driving efficiency in Mexican production. Four years on, refining capacity has not improved, but cautious optimism about the competitiveness of feedstock has given way to bullish predictions. Bidding rounds have generally been successful and some companies are now working in joint-ventures with international players to produce crude oil and gas. “This is positive for the petrochemical industry and in four to seven years the impact on feedstock will really be noticed,” predicts José Luis Uriegas, CEO of diversified petrochemical player Grupo Idesa. Idesa was awarded the Onshore Development Block 24 (Tecolutla Block) in Veracruz and has established a joint-venture with Canadian company International Frontier Resources to exploit its reserves. “We have already been approached by a private company selling ethane for next year, which represents a situation where for the first time companies other than Pemex are supplying ethane in Mexico,” continued Uriegas.

MANY OPPORTUNITIES IN THE PIPELINE

It is not just domestic oil and gas production that is due to receive a boost. Imports of oil and gas from the United States are expected to increase as the importation market is opened up beyond Pemex. Since December 2015, the Los Ramones (Phase 1) pipeline has added 2.1 billion cubic feet per day (bcfpd) of natural gas import capacity from Texas. In fact, according to the US Energy Information Administration (EIA), US gas exports to Mexico have doubled since 2013 to more than 4 bcfpd. “Mexico’s proximity to the United States allows it to be part of the US system in a low-cost way via short marine imports of feedstock. Secondly, Mexico will be able to receive gas coming from the United States via pipeline,” remarked Ralf van der Ven, commercial & business development director at Vopak Americas, the tank storage company.

A major impediment for Mexico’s manufacturing industry, including its chemical industry, is poor access to natural gas, and large parts of the country rely on more costly fuel-oil generation. Therefore, Mexican industry pays more for electricity than in the United States. With increased imports from the US market, the situation should be more balanced. This will have positive effects for the whole chemical value-chain as it will not only lower costs for chemical producers but will be a boon to other manufacturers, such as automotive producers, that are key sources of demand for chemicals in Mexico.

Increased Reserves but Potential Political Spoiler

The first concrete results in terms of increased reserves stemming from the energy reform were realized in July 2017. A consortium of Houston-based Talos Energy, local Mexican company Sierra Oil & Gas, and Premier Oil of the UK have made a discovery at their field which indicates a massive 1.4 billion to 2 billion barrels of shallow-water oil. Meanwhile, Italian oil major ENI announced in July 2017 that it has discovered more oil at its Amoca field, which it now says holds at least 1.3 billion barrels of oil equivalent (BOE), about 90% of which is crude oil.

Putting this into context, according to Mexico’s National Hydrocarbons Commission, the country’s total proven and probable reserves are at 12.8 billion barrels. Mexico’s crackers are all ethane-based and therefore rely on ethane which is refined from natural gas, so oil is not as valuable to the industry but nevertheless, according to Sierra Oil & Gas CEO Ivan Sandrea, 20 billion BOE are still to be discovered on and offshore Mexico.

However, going forward, the gains look fragile given the upcoming elections and the frontrunner Andrés Manuel López Obrador’s threat to cancel the energy reform. Mexico’s chemical industry will be desperately hoping this does not happen. As Diogo summarizes: “Mexico would lose if it went back on the energy reform given the country is producing 55% to 60% of what it was producing some twelve 12 years ago and Pemex is still heavily indebted… Going back on the reform would harm Mexico.”•

Performance of the Petrochemical Industry

Production declining despite mega project

BRASKEM IDESA PUTS MEXICO ON THE MAP

Before the energy reform in 2013, the production of basic petrochemicals was reserved to the Mexican state through Pemex. Mexico's petrochemical production had been in decline for decades after Pemex decided to invest less in the industry after Mexico joined the General Agreement on Tariffs and Trade (GATT) in the early 1990s and then NAFTA in 1994, which meant its market became flooded with petrochemical products from abroad. This not only meant Pemex produced less basic petrochemicals but also that the private sector in Mexico invested less in downstream capacity.

Therefore, the move by Braskem Idesa in June 2016 to open a new 1.05 mt/y integrated polyethylene complex in the state of Veracruz, the outcome of a US$5.2 billion investment, was a cathartic moment for the industry. The project, named Ethylene XXI, is the result of a joint-venture between Brazilian petrochemical producer Braskem, the largest petrochemical company in the Americas, and Grupo Idesa, one of Mexico's largest petrochemical companies. One of the primary reasons for the complex's construction was to help plug Mexico's gaping trade deficit in polyethylene, replacing US$1.5 to US$2 billion of polyethylene imports. The scale of the project is immense. As Stefan Lepecki, CEO, Braskem Idesa, puts it: "The project is the most significant project ever in Latin America and even in North America there has not been a project like it for twenty or thirty years."

So far the results of Ethylene XXI have been positive. According to José Luis Uriegas, CEO of Grupo Idesa, the rate of operation was above 90% in 2017 and on average Braskem Idesa sells around 80,000 mt per month. As of November 2017, the company had already sold 1.2 million mt/y of polyethylene and it now has a 43% market share of high and low density polyethylene in Mexico. There have been some hiccups as run rates fell slightly in Q3 and Q4 of 2017 due to supply issues with Pemex but Braskem Idesa is confident these issues will not cause problems going forward. "In the oil and gas market it is important to maintain a good level of investment to sustain production rates. This will therefore be important for Pemex going forward. We work very closely with Pemex and are very confident in their ability," remarked Lepecki.

Ethylene XXI is also significant because it has showed what Mexico is capable of and put it on the map in terms of petrochemicals production. In the early 2000s, the government decided it wanted to develop the industry again and reduce the trade deficit. This, along with the efforts of Braskem and Idesa and financing by development banks such as the IFC, was crucial to the development of Ethylene XXI. There are hopes that the project will now spur more development further down the supply chain. "The investment is very important because it sets a precedent that, as an industry, we have not had for the last 25 years. It has precipitated the opening of new projects and generated the conditions for long-term contracts in the industry," commented Miguel Benedetto Alexanderson, general director, National Association of the Chemical Industry (ANIQ).

STILL NOT ENOUGH

Despite the success of Braskem Idesa, Mexican chemical production has continued to decline in recent years, even after Ethylene XXI began operating. According to ANIQ, the volume of petrochemical production fell from around 9.67 million mt/y in 2015 to 8.47 mt/y in 2016, whilst imports grew by 7.8% and exports decreased by 11.9% in the same period. Regarding polyethylene, the commodity Braskem Idesa produces, high density polyethylene production decreased by 28% from 2015 to 2016 and low density polyethylene decreased by 12.6%. To help fill the gap, imports of polyethylene increased by almost 30% in the first ten months of 2017, compared with the same period in 2016.

Moreover, according to ANIQ, production declined from 2015 to 2016 for all major categories of petrochemicals, namely derivatives of methane, derivatives of ethane, aromatics and derivatives, propylene and derivatives, and ethylene. Interestingly, despite the scale of the Braskem Idesa project, private production of petrochemicals actually declined from 2.41 million mt/y to 2.34 million mt/y in the same period. Unsurprisingly, Mexico had a sizeable trade deficit in petrochemicals of US$5.4 billion in 2016, and trade with the United States accounted for US$3.45 of that total.

A large part of the problem lies in Pemex's decreasing production rates of basic petrochemicals and declining refining capacity. Its total production of basic petrochemicals declined a whopping 17.6% in 2016, and its ethylene production by almost 12% in 2013 to 2015, according to ANIQ. All of Mexico's crackers are ethane based but Pemex decided when the oil price was high to invest in oil rather than gas, meaning its production and refining capacity of gas has been severely limited. In fact, since 2010, Mexico's natural gas production has decreased from about 84 billion cubic feet per day (bcfpd) to 70 bcfpd in 2016. This is impacting Mexico's entire chemical supply chain. "Unfortunately Pemex's refineries are not operating efficiently and probably only at 30% capacity, so there is not enough propylene available. Indeed, Mexico imports 70% of its gasoline needs. Therefore, we stopped our partnership with Pemex and now import methyl methacrylate (MMA) from Brazil," said Abraham Klip Moshinsky, general director of Unigel Mexico, which used to produce MMA in Mexico.

Furthermore, companies that rely on ethylene oxide have suffered as a result of Pemex's reduced output, volumes of which fell by 8% from 2013 to 2015. "Some companies are operating at 50% capacity because there is not enough ethylene oxide," continued Moshinsky.

Downstream, speciality chemical producers are holding off investment due to the lack of certain petrochemicals products. Evonik, for example, lists availability of raw material as a constraint on expanding its manufacturing footprint in Mexico. "We will see what happens with the implementation of the energy reform but in the short term there are certain derivatives from petrochemicals which there are not enough of or the supply is not consistent or competitive in Mexico," said Martin Toscano, president of Evonik Industries de Mexico.

Nor has Mexico seriously sought to develop its shale gas potential, even though Mexico shares the Eagle Ford basin with Texas where there have been prolific results. "Mexico used to produce 3.5 million barrels per day (mbpd) of oil but now it is below 2 mbpd, and less gas is being produced. The country has not invested in shale gas even though it has the same shale formation as in Texas; the government needs to incentivize exploitation of this," lamented Moshinsky.

THE REVOLUTION WILL BE HERE SHORTLY

With Pemex stumbling, it is in this context that the Peña Nieto administration launched the ambitious energy reform in 2013. Whilst the energy reform has great potential to improve Mexico's supply of feedstock, change will happen slowly. In the most significant auction since the reform, in January 2018 Royal Dutch Shell won nine of the 29 deepwater Gulf of Mexico blocks available. Malaysia's state oil firm Petronas also won six of the winning bids and Qatar Petroleum won five bids. Ironically, Shell produced more than 60% of Mexico's oil production before all foreign assets were expropriated in 1938 and Pemex was formed. Now, Mexico's Secretariat of Energy believes the latest auction could bring US$93 billion of investment into Mexico and has the potential to add 1.5 mbpd of crude oil and 5 bcfpd of gas by 2032.

Previous auctions have also resulted in promises of US$61 billion from the winning companies. However, the government estimates $600 billion is needed to bring Mexico back to record production levels reached in 2004, meaning Mexico is still a long way from this goal. According to Moshinsky: "Once there is more oil and gas production, private players will be willing to invest in refurbishment of refineries."

That will take a while to materialize, however, given that first production at the most recent auctioned blocs is not expected before 2028. Whilst some production will come sooner, it will not be enough to change the dynamics of domestically produced feedstock in Mexico.

To plug the void in refining capacity, in a symbolic move Pemex, for the first time, started importing ethane from abroad in January 2018. It imported 4,200 mt from Texas at spot prices and another shipment is due in February 2018, with analysts saying Pemex may opt for a medium to long term contract if things go well. This is especially important for Pemex given it has a 20 year supply contract to supply Braskem with ethane at 68,000 bpd and it also has to supply its two ethylene plants at the Cangrejera and Morelos complexes on the Gulf of Mexico. Until oil and gas production increases in Mexico, Pemex's spot imports are likely to portend the next few years.•

INTERVIEW

Stefan Lepecki

CEO

Braskem Idesa

Braskem Idesa (Etileno XXI Project) has performed well since becoming operational in April 2016. What are the reasons for this?

We are very happy with the results so far and we will close the year with almost 43% market share of high density and low density polyethylene in Mexico. The project's success is due to the strong support of its two sponsors, Braskem and Idesa. Both believed from the start it was the right project with the right fundamentals behind it, such as access to competitive feedstock and a large market. Braskem is a global Brazilian petrochemical company which is very active on the global scene and Idesa is a very strong petrochemical company in Mexico.

This is important because the project is the most significant project ever in Latin America and even in North America there has not been a project like it for twenty or thirty years. This meant there were a lot of challenges such as local financing and technical issues when we started. Furthermore, Etileno XXI has succeeded because it has been an important initiative of Mexico as a whole. In the late 2000s the government showed a firm commitment to develop the petrochemical industry with the private sector and to reduce the trade deficit in petrochemicals. The base of the project is an ethane contract awarded to Braskem and Idesa in an auction process by Pemex. Mexico has demonstrated to the international community it can handle a project of this size.

How cutting edge is the technology used in Etileno XXI?

Our intention since the beginning has been to use the most up-to-date technologies. We used Technip's technology for the cracker and Inneos and LyondellBasell's for the polyethylene plants. These are very well proven but also state-of-the-art. The construction phase was a tremendous challenge because of the high volumes of materials involved, such as concrete, steel structures, piping, equipment and so on. Technically speaking, the most critical aspect of the construction phase was the logistics in terms of transporting equipment from countries all around the world to Coatzacoalcos where the project is based. The use of local companies and labor is testament to the capabilities present in Mexico.

Run rates fell slightly in Q3 and Q4 2017 partly due to supply issues with Pemex. How confident are you this issue will not occur again?

In the oil and gas market it is important to maintain a good level of investment to sustain production rates. This will therefore be important for Pemex going forward. We work very closely with Pemex and are very confident in their ability. Mexico is going through an important transition from a monopoly in its oil and gas market to an opening up of the market to private companies. The energy reform is not an easy task but it has huge potential. The challenge is to maintain levels of investment whilst opening up the market. Our intention is to run at 100% capacity. So far market penetration and the market's reaction has been very good both domestically and internationally as we our exporting to more than 40 countries.

Where has demand been particularly strong internationally and does Braskem Idesa still plan to sell the majority of its products domestically?

When we first began production our focus was on volume and exporting some volume to Asia but gradually we are changing this strategy to focus on North America, Europe and Central America, taking advantage of our synergies with Braskem. We are very happy with the speed of our market penetration and the relationships we have developed with our clients. Around 65% of our production is dedicated to the domestic market which is a great result. Our intention is to gradually increase this level so as to maintain the quality of our service to clients and our relevance in the country.

There is much volatility in the market so we have to carefully manage where we sell to. We are focused on our client´s processes and competitiveness and any other external factors are out of our control. We want to be close to clients and help make the whole Mexican petrochemical value chain more competitive.

The United States will add 12 million Mt of ethylene capacity by 2022. How will Braskem Idesa compete against such competition?

The global polyethylene market is vast. Global demand will continue to grow, including from China, so there is space for new capacity. Also, complex projects due to come on stream are facing delays, therefore new capacity will be spread out. These two factors mean the impact will not be so great. Nevertheless, we in Mexico have to be ready by being as competitive as possible in production, quality, transportation, logistics and developing products and solutions together with our clients. This will help us mitigate any external events.

How confident are you about Mexico's economy, especially in light of NAFTA renegotiations?

Being in the polyethylene business, we serve many different sectors. When we talk with our clients we see a positive outlook. Of course there are some difficulties but the main fundamentals are good. The Mexican economy is very strong and together with Brazil it is the most important in Latin America. It will continue to grow consistently. ANIQ is leading the negotiations for the chemical and petrochemical sector and is progressing in a good direction. Unlike other sectors, in the chemical industries there is a common understanding among the three countries. The market potential is tremendous in Mexico due to the likely effects of the energy reforms on feedstock and because Mexico is very well located to send products to key markets globally. •

Trade Agreements

Strength in diversity

NAFTA: OPPORTUNITY OUT OF CRISIS

When President Trump was sworn in as the 45th President of the United States, there was a mood of unease, even fear, among Mexican businesses given Trump had threatened to scrap the North American Free Trade Agreement (NAFTA). Trump's position rested on the negative effects of the United States' over 64 billion in 2016 trade deficit with Mexico and that claimed that America was losing manufacturing jobs to Mexico. In the firing line was Mexico's automotive production; a key plank of US' demands is that the content requirement for autos produced in North America increases and that half of all content be produced in the United States.

NAFTA has been hugely important in the growth of Mexico's manufacturing industries as it has provided tariff free access to the world's largest market and enticed many American OEMs to move manufacturing down to Mexico to take advantage of lower labor costs. In terms of the chemicals industry, since NAFTA came into effect trade in chemicals between NAFTA countries has more than tripled from US$20 billion in 1994 to US$63 billion in 2014, according to ANIQ and its equivalent associations in the US and Canada.

As of February 2018, six negotiating rounds have been completed and, although there has been some progress, thorny issues such as rules of origin in the automotive sector, the sunset clause and the export of crops to align with the seasonality of produce in the United States are still proving intractable. One would be forgiven for thinking the Mexican, US and Canadian chemical industries would be fretting about the potential negative implications on their businesses should the talks break down or their countries get a bad deal.

However, this certainly does not appear to be the mood among chemical industry players in Mexico. The Mexican Chemical Industry National Association (ANIQ) is leading negotiations for the chemical sector and rules of origin for all the industrial and agricultural sectors in Mexico. According to its general director, Miguel Benedetto Alexanderson: "The chemical industries in the three countries are broadly in alignment."

In fact, some major players see the negotiations as an opportunity to update NAFTA's provisions on energy and the chemical sector for the better.

When NAFTA was founded in 1994, Mexico's energy and basic petrochemicals industries were completely dominated by Pemex. Due to Pemex being a state owned company, Mexico exempted itself from most of NAFTA's chapters on investment on energy and basic petrochemicals in order to forbid any private investment into its energy industry. However, since the 2013 energy reform, Mexico's energy industry has been opened up to competition, both foreign and domestic. Therefore Mexico now has the opportunity, if the agreement stands, to more actively engage in NAFTA's provisions on energy and petrochemicals. "We expect some modernization of NAFTA given it was signed twenty years ago and there was no chapter on energy; including this would protect the investments of Americans and Canadians," remarks José Luis Uriegas, CEO of Grupo Idesa.

In a joint statement made by the Chemistry Industry Association of Canada (CIAC), the ANIQ, and the American Chemistry Council (ACC), the chemical industries of the three countries call for "strong protections for cross border data flows, which is an essential element of global value chains. An updated NAFTA should also set key standards, such as on the competitive practices of State Owned Enterprises (SOEs). It should also close inefficiencies on trade disciplines that are already codified in the agreement, including rules of origin and duty drawback." The associations will also advocate for enhanced regulatory cooperation commitments from

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all three jurisdictions but which also promotes innovation, growth and jobs whilst safeguarding health and safety. Time will tell if all these goals will be met or if, as Martin Toscano, president, Evonik Industries de Mexico, predicts "the outcome will be similar to what is in place now but we will probably miss the chance to upgrade the agreement."

Another reason that the Mexican chemical industry is relatively sanguine is that the United States' trade with Mexico is actually an example of American exporting strength. In 2016, the value of US energy exports to Mexico was US$20.2 billion, more than twice the value of energy imports from Mexico which were US$8.7 billion. "There are some dark clouds forming around NAFTA but this is unlikely to affect the chemicals industry greatly," comments José M. Berges, CEO, GTM.

TRADING PLACES

Along with putting significant resources into the NAFTA renegotiations, the Mexican government has also been pursuing a strategy of trade diversification in order to broaden free trade opportunities for Mexico's companies. This follows a trend of successive Mexican governments being open to free trade and it already has 44 free trade agreements with countries around the world, which brings tangible benefits to its petrochemicals industry. According to Uriegas, it is a key advantage: "It means producers benefit from lower duties and the absence of non-tariff barriers. For example, we have a trade agreement with Israel which has allowed us to gain 65% stake in the ethanolamines market in that country."

There are several negotiations ongoing and some nearing completion that promise to positively impact Mexico's chemical industry. Mexico and the European Union are about to upgrade the EU-Mexico global agreement which includes economic as well as political issues. "If we do not get an agreement the conditions will be the same as now, which will mean no great impact. Nevertheless, we believe we will have an agreement as we have been liaising with our equivalent the European Chemical Industry Council and through this have agreed with the 27 EU countries on rules of origin," said Benedetto.

Furthermore, in 2018 Mexico and Brazil are due to conclude a comprehensive free trade agreement where the chemical industry will make up 75% of the total agreement, according to ANIQ. The Mercosur trade bloc of South American nations is also prioritizing improved trade ties with Mexico and Mexico and Argentina are discussing a free trade agreement. Additionally, on March 8th 2018, the Trans Pacific Partnership will be signed, without the United States, which will be very important for access to Asian markets for the Mexican chemical industry. Such moves could end up proving especially popular with the Mexican chemical industry if NAFTA talks were to collapse. "Regarding NAFTA, if we have to start paying taxes on imports from the United States, we will just look for more Chinese, Indian or European products where there is no duty," said Johnny Silva, managing director of distributors Disan Mexico. •

Chemical Distribution and Logistics

A bright spot in mexico's petrochemical industry

WELCOME TO THE PARTY

If the situation for Mexico's petrochemical industry is not exactly rosy, the same cannot be said for the chemical distribution market. Although Mexican production of petrochemicals is declining, consumption of chemicals is relatively buoyant and has increased in volume terms by over 20% from 2012 to 2016; from about 33.6 million mt/y in 2012 to 41 million mt/y in 2016, according to the Mexican Chemical Industry National Association (ANIQ). Miguel Benedetto Alexanderson, general director of ANIQ, said: "For the last 15 years the chemical distribution market has been growing at twice the rate of GDP, so around 5% per year... We expect growth of twice GDP in the next ten years."

However, the comparison between volume and value of sales of chemicals is revealing as the value of sales actually fell slightly from US$35.7 billion in 2012 to US$35.5 billion in 2016. Nevertheless this picture may now be changing, as the market is becoming tighter. As Johnny Silva, managing director of distributers Disan Mexico, explained: "Over the last decade, chemical prices went down and it was a buyer's market. However, over the last nine months, the whole chemical market changed and now it is the other way around. Now strategic buyers want to talk with us about availability and security of supply."

Mirroring a trend happening across Latin America, another major transformation currently underway is that of consolidation as Mexico's chemical distribution market attracts the attention of international players. Some notable examples include Texas-based Nexeo Solutions' acquisition of local player Ultra Chem in 2017, GTM's entering into the market with its purchase of High Chem Specialties México in 2016, and Brenntag's acquisition of Amco International in 2012. "The participation of distributors is less in Mexico compared with the United States or Europe so we have been trying to encourage more distributors to enter the market," continued Benedetto, suggesting there is more room for consolidation.

It is not just international players that have been driving consolidation. Pochteca has become one of the leading chemical distributors in Latin America as a result of acquisitions, including a string in Mexico, such as Shell's lubricants assets in 2010, inorganics specialist Mardupol in 2013 and specialty distributor Conjunto Lar in 2017. "Distribution in Latin America represents an incredible opportunity, with growth of 8% to 10% and consolidation will continue. We will be in this business for the long term and will continue to invest. We are in the right region, in the right industry and in the most dynamic part of the value chain; it is a bright future," remarked Eugenio Gerardo Manzano Alba, executive director, Pochteca.

Photo courtesy of Pocteca

OPEN TO THE WORLD

Predictably, given declining petrochemical production in Mexico, much of the lifeblood of distributers is imports. This means ample opportunities for players from outside Mexico, as well as storage companies, and well beyond the borders of NAFTA. Petrochem Middle East, a distribution, logistics and trading company headquartered in Dubai, is eyeing opportunity in Mexico. "It is not able to import as much as it would like from the US market due to the tariffs and taxes. Therefore, Mexico imports a lot from Asia and Europe and soon the Middle East will become a key import partner given that is now manufactures many more petrochemical products than before," said Rohan Y. Mehta, business development director, Petrochem Middle East.

As Mexico imports more chemicals, demands for storage are increasing, meaning good news for logistics companies. At the same time, the energy reform has transformed the importation market for oil and gas as previously only PMI Comercio Internacional, Pemex's international trading company, was allowed to import products like gasoline and diesel. Oiltanking México is taking advantage of this trend and will operate two terminals and a pipeline for the storage and transportation of diesels and gasolines. According to Richard Ricardo Diogo, director business development, Oiltanking México, "The demand for fuels and gas has meant more attention generally on the wider market and this has pushed up more foreign investment into chemicals."

The demand for fuels has taken away some capacity for chemical storage and driven up demand for services in this area, just as imports of chemicals are expected to rise. "For the short and medium term, we foresee more imports coming into Mexico from both the oil and chemical sides," said Ralf van der Ven, commercial and business development director, Vopak Americas.

KEEPING UP TO SPEED

In fact, the increasing imports come at a time when Mexico's infrastructure in general is struggling to keep up. In the first half of 2017 there was major congestion at some of Mexico's ports, in particular the Port of Veracruz, a significant port for importing chemicals. Martin Sack, director general of freight forwarder Leschaco, which specializes in logistics for the chemical industry, believes that the infrastructure is not good enough: "Too much cargo is being moved by truck and rail infrastructure, whilst getting better, needs to be greatly improved. Highways also need to be upgraded, especially those connecting ports with Mexico's hinterland. Next year we expect major growth of capacity at ports, such as a new terminal at the Port of Veracruz and additional capacity at the Port of Manzanillo."

Security is also a key concern for Leschaco as trucking and rail companies are attacked daily. "Whole trains in Veracruz and around Mexico City are being assaulted by organized crime," according to Sack.

Leschaco provides private custody services for specific cargo, only moves some cargo at particular hours and changes routes frequently. "There are no specific measures that 100% mitigate the risk and the problem in Mexico is getting worse," he said.

As Mexico's economy continues to mature and as long as it continues to pursue a highly proactive free-trade policy, logistics companies will continue to grow. Silva sums up the positive sentiment: "Mexico is the biggest opportunity in Latin America. From here you can import chemicals from everywhere as Mexico has free trade agreements with many countries. There are very few import taxes on chemicals…"•

Conclusion

Growth supported by imports for now

A WAVE IS COMING FROM THE NORTH

As Mexico waits for the energy reform to take effect on its oil and gas production, its giant neighbor to the north is undergoing an energy and petrochemical revolution due to its exploitation of shale gas. The United States is expected to add 10 million mt/y to 12 million mt/y of ethylene capacity by 2022, and this will have huge ramifications for petrochemical industries across the world, let alone Mexico or even Latin America. "It will become more difficult to find alternatives to US materials in Latin America, as there is such an expected flood coming out from the US market," said Frédéric de Joybert, regional manager, of polymer trading and distribution company Emeraude Polymers.

Looking at Mexico's growth trajectory, from a demand perspective, Mexico looks like a promising market due to its growing middle class and booming manufacturing industries. It is now much easier to import basic petrochemicals like ethylene, propylene, resins and intermediates from the United States. NAFTA is unlikely to harm US exports much given that the US has a large trade surplus with Mexico in petrochemicals and President Trump's key goal is to reduce the US' deficit. According to Rina Quijada, director business development Latin America at IHS Markit: "The United States and Mexico are closely linked via rail roads. 20 years ago, the infrastructure to trade with an efficient and competitive railway system was not significant. Today, there is an efficient and competitive railroad system to load hopper cars in Texas and deliver with no major issues in Mexico. Mexico's demand for finished goods continues to grow and this will be met via imported raw materials and parts from the US."

THE FUTURE MAY BE KINDER TO MEXICO'S PRODUCERS

On the other hand, in terms of production, the situation looks less promising for now, although things could change in the future. With oil prices at a three year high it would be logical for Pemex to focus more on oil exploration and production rather than petrochemicals and, until there is more private investment, production is unlikely to increase again. At the same time, private investment in the petrochemical industry is dependent on there being enough feedstock and refining capacity. An insight into specialty chemical company Croda's planning for the future is perhaps indicative of how the chemical market in Mexico sees things developing: "We believe through the energy reform the country is trying to get back on track with regards to increased oil and gas production but this will take some time. If Mexico continues on the right path it will take five to 10 years to be at a level where international investors are ready to invest more in the petrochemical industry," remarks Rafael Méndez, regional director, Latin America Northern Tier, at Croda Mexico. In terms of refining, private investors, who are likely to refurbish refineries faster than Pemex can, are expected to wait for increased production before committing investment.

The hope for Mexico's petrochemical producers is that Braskem Idesa's groundbreaking Ethylene XXI project will set the precedent for more investments in the future and, whilst exports from the US market will have their impact on Mexico, there is still room for more domestic production. However, there are no expectations in the market of another project of this scale at least through to 2025. For its part, Braskem Idesa believes it will continue to be competitive in the face of US imports. "The global polyethylene market is vast. Global demand will continue to grow, including from China, so there is space for new capacity. Also, complex projects due to come on stream are facing delays, therefore new capacity will be spread out," said Stefan Lepecki, CEO, Braskem Idesa.

Mexico will have to wait until it climbs up the rankings again of petrochemical producers. The government's bold move to shake up Mexico's energy market and the coming online of Ethylene XXI has set the potential for a revival but it will take time. More competitive feedstock will complement the excellent potential in terms of domestic demand and will prove José Luis Uriegas, CEO, Grupo Idesa right when he says: "If a country has good access to feedstocks and markets, the prospects are good. Mexico will have both when the energy reforms properly take effect."•

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If you wish to be interviewed for the report, please contact Alice Pascoletti (apascoletti@gbreports.com)

www.gbreports.com

Project Coordinator: Sorina Dumitru
Reporter: Matthias Lomas
Operations Director: Miguel Pérez-Solero
Executive Editor: Mungo Smith
Graphic Designers: İnanç Duman, Özgür & Deniz
General Manager: Alice Pascoletti

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