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Latin America's Chemical Industry

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THE INDUSTRY REBOUNDS

Demand for chemicals in Latin America has risen despite ongoing challenges

The devastation caused by Covid-19 has arguably been felt more acutely in Latin America than in any other region. While global GDP fell by 3% in 2020, Latam and the Caribbean contracted by 6.8%, the worst of any region tracked by the IMF. Strict lockdowns in many Latin American countries failed to prevent high levels of contagion, a situation enflamed by the legacies of deep-rooted inequality, such as large informal workforces. As a result, in 2020 debt to GDP ratio rose over 60% in Mexico, and over 90% in Brazil and Argentina.

However, despite the unprecedented challenges faced since the start of the pandemic, the region has rebounded well in 2021, aided by high commodity prices and pent up demand. In July, the United Nations Economic Commission for Latin America and the Caribbean (ECLAC, or CEPAL in Spanish and Portuguese) raised its average growth estimate for the region in 2021 to 5.2%.

The chemical and petrochemical industries have been key components of this rebound, having managed to weather the storm better than the majority of sectors in 2020, driven by the extraordinary global demand for hygiene-related products.

"Polyethylene (PE) and polypropylene (PP) products used for production of non-durable goods benefitted from people buying individually packaged products and increasing online buying," explained Rina Quijada, VP business development – Research Latin America at IHS Markit, a trend that has continued in 2021. "Even markets which experienced lower demand in early 2020, such as polystyrene and PVC, have now rebounded thanks to housing and construction," added Quijada.

As markets have bounced back, increased demand has coincided with severe supply chain disruptions, including weather issues, unplanned plant shutdowns and limited supply of critical parts and products like microchips.

The unbalanced supply and demand paradigm has, in turn, caused prices to rise substantially. Simone de Faria, head of Latin America at Townsend Solutions, a market research and consulting company specialized in resins, discussed the remarkable upward trend in 2021: "I have been working in the petrochemical market for 27 years and have never seen prices rise as sharply as they have in recent months," she reflected, noting that there is a huge difference between Asian and US prices due to the lack of materials.

Expanding on the issue, de Faria added: "Demand in the US has increased significantly over the past year and supply has not been able to keep pace due to a series of factors that affected production in the country, such as hurricanes last year and winter storm Uri. Until a balance is achieved, we will continue to see inflated prices."

While a surging US economy has provided Latin America's chemical export market with opportunities for growth, domestic demand has also been robust. Edison Terra, VP olefins and polyolefins – South America at Braskem, Latin America's largest petrochemical producer, explained that Braskem's excess capacity in both South America and North America is designed to complement the demand the company has in Europe. "However, due to increased demand in many of the Latam regions we have production assets in, we have decreased international flows and exports to serve the domestic markets," said Terra, commenting that excess flows in South America are still going to markets within the region.

Analyzing why demand for petrochemical products remained resilient, Ana Paiva, regional commercial lead – polyethylene Latin America at ExxonMobil Chemical, observed that the pandemic resulted in people consuming food in a different way, such as buying from supermarkets where more packaging is needed, rather than going to restaurants which buy ingredients in bulk. "Film applications were boosted by food packaging, which grew above expected targets. Positive growth trends were also observed on industrial applications, such as stretch & shrink, as well as agriculture."

Manuel Díaz, Executive Director, Latin American Petrochemical and Chemical Association (APLA)

Ana Paiva, Regional Commercial Lead – Polyethylene Latin America, ExxonMobil Chemical

CAN GROWTH BE SUSTAINED IN 2022?

The question now, as government subsidies come to an end, is whether growth rates are sustainable in 2022. Many Latin Americans previously part of the middle class are now low income population because of the pandemic, and for the region to achieve tangible progress in the years to come, rejuvenating this large section of society is of paramount importance.

Alberto Laveran, senior vice president Latam region for Vantage Specialty Chemicals, observed that although economies have been recovering, the recovery is extremely uneven. "Products that are export driven are growing by double digits, but local consumption is not growing at the same pace in some markets," he said, giving the example of Argentina's chemical market growing 5% year on year, but 90% of this growth is coming from exports.

One of the factors that has constrained growth in Latin America's petrochemical and chemical industries in recent years is a lack of raw material feedstock, a situation exacerbated but the sharp rise in logistics costs which has caused the price of imports to increase significantly. "Increasing the added value of Latin America's natural resources is a priority for the whole industry," stated Manuel Díaz, executive director of APLA, giving the example the development of the Vaca Muerta gas reserves in Argentina as a source of feedstock.

Brazil, Latam's largest market, has the potential to increase its supply. The development of the country's pre-salt reserves, in addition to Vaca Muerta, offers a roadmap to less reliance on imports for the region. In the meantime, investment into infrastructure and the use of technology to overcome logistics bottlenecks is necessary to receive imports at a more competitive price. Díaz observed that logistics issues and weather disruptions have highlighted the importance of strengthening Latam supply chains, before adding: "We must prepare for future crises."

For Latin America, the hope is that a combination of a young and growing population, abundant natural resources, and significant upside potential for middle-class development will drive sustainable growth as normality resumes in a post-pandemic landscape. "Irrespective of economic uncertainties, in the non-OECD countries energy use will rise along with population growth, increasing access to modern energy and improving living standards," concluded Ana Paiva, noting that this economic growth also drives petrochemical demand which tends to rise and fall at multiples of GDP.

A NEW WAVE OF M&A

On August 16th, 2021, it was announced that Thailand-based group Indorama will acquire Oxiteno from Ultrapar in a deal worth US$1.3 billion. The transaction follows Indorama's acquisition of Huntsman's ethylene oxide, propylene oxide, surfactants and ethanolamines business In January 2020, a sign of the company's intent in the region. "The acquisition of Oxiteno complements this business and creates a strong combination for Indorama in the surfactants business in the Americas," stated João Parolin, Oxiteno's CEO.

Speaking before the Oxiteno deal was announced, Rina Quijada stated she believes Latam will see increased activity in M&A in the coming years as changes in the region will make it attractive to invest in certain countries and businesses. She gave the example of the new gas laws in Brazil approved in April 2021, Brazilian state-giant Petrobras looking to sell several of its refineries, and the potential to adjust refineries to produce more petrochemicals in the long term.

In June 2019, LyondellBasell ended talks with Odebrecht to acquire Braskem in a proposed US$11 billion deal. In the two years since, the revenues made by Braskem and many of its peers in the industry indicate a healthy market that should be ripe for M&A activity. Quijada weighed in on the current climate: "Today, I believe both buyers and sellers are more closely aligned and as a result we should see transactions ready to close: there is an appetite for M&A in a thriving market."

Gustavo Perez, regional director Latin America for LyondellBasell, spoke of future plans for the region: "LyondellBasell already has six plants in Latin America, but has the aim to expand its coverage and footprint in Latin America in the coming years, both organically and inorganically."

The most attractive acquisition targets will likely be companies that can demonstrate growth independent of external factors. Latin American companies have become accustomed to socioeconomic and political volatility, and those that find their niche and can adapt in such a dynamic landscape offer exciting opportunities for investors. ■

OPPORTUNITIES & CHALLENGES

The potential for monetizing Latin America's natural resources

Rising domestic demand for chemicals in Latin America and a booming export market offer plenty of opportunities for producers and distributors in the region. However, a reliance on imported feedstock, principally from the US, has hindered Latam's competitiveness for years. Frustratingly, this is not due to a lack of natural resources to produce the necessary raw materials, but a failure to develop them at a pace equivalent to the chemical hubs of North America, Europe and Asia.

The two standout resources that have the potential to transform the region are Brazil's pre-salt oil reserves and Argentina's Vaca Muerta gas reservoir – a 300 trillion cubic feet (Tcf) gas resource located in the Neuquén Basin. Martina Azcurra, executive manager for chemicals at YPF QUÍMICA, stated that Vaca Muerta's resources are enough to cover the domestic demand for gas in Argentina for many decades (with LNG imports and alternative fuels utilized for winter peaks), as well as the potential for gas monetization by supplying regional markets: "Chile in the short term, because of the existing infrastructure; import substitution in Bolivia in the midterm; and in the long term, the optionality of swaps for Brazil through Bolivia or exports that require big infrastructure."

Azcurra emphasized the significance of the project: "Achieving efficient gas monetization for both the domestic market and for export projects is the main strategic challenge that the industry is currently facing. In collaboration with the government, regulations and new infrastructure projects need to be developed with upstream and midstream capex-intensive projects in mind."

Gustavo Cienfuegos, managing director Latin America at Haldor Topsoe, also spoke of the potential for Vaca Muerta to export, particularly to Brazil, and underlined the need for the development of Latin America's natural resources in general to be done in a way that accompanies the green agenda. "This means that the technologies to be applied need to consider the capture or in situ re-processing of the CO2," he added.

Edison Terra, VP Olefins and Polyolefins – South America, Braskem

German Torres, Regional President, Brenntag Essentials Latin America

Emphasizing the need for dialogue between industry and government so that they are aware which issues need to be addressed, Cienfuegos noted: "One of the main requests from industry to government has been to set clear goals and targets that continue regardless of changes in government," underlining the importance of stable rules and regulations to attract the level of investment required to develop such large resources.

When asked about the potential for Latin America to develop its domestic sources of feedstock, Rina Quijada, VP business development and research Latin America at IHS Markit, responded: "This is a very complex question. If you had asked me between 2015 and 2019, I would probably have given a different answer, but today investors want to also spend money on renewables. Five years ago there was a spending spree on fracking, but now carbon capture storage and renewables are attracting more attention."

Quijada affirmed that a significant amount of oil and gas will still be needed until 2040, but perhaps the dollar amount dedicated to Latam will have to be shared among renewable energies.

Edison Terra, VP olefins and polyolefins South America at Braskem, believes the development of projects such as Brazil's pre-salt reserves are still feasible in a world where investment in renewables is also an option: "The sources of feedstock being developed in Brazil and Argentina are expected to be very competitive and will become a reality at the right time from an economical perspective… It might happen that investment into traditional feedstock may reduce due to this interest into renewables and recycling, but there is still an investment market for the development of traditional raw materials."

DEMAND FOR GAS GOES THROUGH THE ROOF

By October 2021, natural gas prices had doubled year on year, a trend expected to continue as the northern hemisphere approaches winter with volatile weather conditions expected. Furthermore, as natural gas has become the fuel of choice for clean energy transmission, demand has skyrocketed and storage levels remain far below historic norms.

The use of natural gas as a raw material for hydrogen production has increased costs for some industrial gas providers, putting pressure on margins. However, after a challenging 2020, revitalized industrial demand has the gas sector thriving.

Looking back to 2020, industrial gas demand in Latin America was decimated by strict lockdowns and economic contractions across the region, but there was an unprecedented surge in demand for medical gases. Marcus Silva, Air Products' general manager for Argentina and Brazil, revealed that some hospitals experienced an increase of demand between 500% and 1,300% during the height of the pandemic, and this impacted industrial supply.

Silva detailed the scenario during Argentina's second wave of Covid-19, which began in April 2021: "The Argentinian government issued a temporary regulation to restrict the supply of gases for industrial demand so medical gas demand could be supplied. This impacted the industrial supply chain, which mainly utilizes oxygen for combustion activities to increase the efficiency of burning."

Since then, a rebound has occurred in Latam's industrial gas market. To foster faster economic recovery both the Argentinian and Brazilian governments enacted a series of incentives to the housing and construction industries, such as low tax loans.

"Subsequently, we have seen an increase of over 200% in the demand from this industry year on year. With greater emphasis on sustainability, the building

Marcus Silva, General Manager – Argentina & Brazil, Air Products

and construction industry is also moving towards more liquid nitrogen being applied to expedite the process of bonding different chemical molecules in concrete," said Silva, adding that there has also been a demand increase of approximately 70% year on year for fabricated metal products and repairs, and a 45% increase in oxygen demand for water treatment.

Etienne Lepoutre, Air Liquide's president of the Latin America region, remarked that it is good news that demand for medical gas has passed its peak, however, levels are still very high and will reOpportunities & CHallenges2021. "We believe that we are going to see continuous demand growth as countries such as Brazil and Argentina start to recover from even pre-pandemic economic recessions. Mexico, another key market, is currently benefiting from the US recovery, and we have seen a lot of activity there so far this year."

Looking at the direction the industry is heading, Marcus Silva pointed to renewable energy as a key growth area. He gave the example of Brazil's potential for green hydrogen generation and established positioning in the renewables market: "Brazil already has a very large base of renewables, with approximately 64% of the country's green energy coming from hydroelectric power plants. The ethanol industry and the pulp industry are also working on projects that use biomass to generate power." ■

SUSTAINABILITY

The green agenda is superseding government policy

The issue of sustainability and environmental, social governance (ESG) is not new in Latin America. As a region whose vast natural resources are matched by historic inequality, political discord and social turbulence, the themes of sustainable project development, for both the environment and surrounding communities, have been a long-term focus for the chemical industry.

However, two fundamental changes have taken place in recent years. First of all, the green agenda has been firmly thrust into the mainstream, with North American and European governments aligned with international corporations setting clear targets and ambitious goals with respect to eliminating carbon emissions. In turn, the investment community has taken note. A report from Morningstar released in April revealed that sustainability-focused funds attracted record inflows during the first quarter of 2021, pushing global assets under management in ESG funds to nearly US$2 trillion.

Secondly, the Covid-19 pandemic has thrown fuel onto the fire of long-standing and deep-rooted social inequality, particularly prevalent in Latin America. Protests have broken out across the region, even in more stable nations such as Chile, with a clear message that populations expect more from their government and industrial elites.

Undoubtedly the most common theme from over 50 interviews conducted for this report has been a heightened emphasis on sustainability. Rina Quijada, PhD, VP business development and research Latin America for IHS Markit, explained: "If we look at Latam in a global context we can see investment opportunities to develop an industry that is much more in line with environmental sustainable goals. There is a significant socio-political change taking place globally for a much more diverse and equitable society."

Quijada highlighted the changing attitude towards renewable energy, sustainability and commitment to net zero carbon

Rina Quijada, VP Business Development – Research Latin America, IHS Markit

emissions as windows of opportunity for investments giving more options to energy investors. "Countries that are not fully committed to this agenda will realize that change will be necessary if companies want to sell products abroad, and pressures from the financial community will increase as customers demand a higher level of compliance," she stated, adding: "The energy transition train has already left the station. We believe Latin America will embrace it, perhaps not as quickly as Europe, USA or China, but change has already started."

Richard Rehg, VP commercial for Pilot Chemical Company, the Ohio-based specialty chemicals organization and parent company of Mexico-based Órgano Síntesis, stated that sustainability has become a pre-requisite in business. Expanding on his company's focus, he said: "Pilot Chemical Company has been active in this space before sustainability was a trend, both through our focus on continual improvement driving efficiencies in our operations and supply chains, and through supporting the evolution of product stewardship activities within the chemical industry."

The service sector has also adapted to the trend, with environmental firms experiencing remarkable growth in recent years. Jatyr Drudi Junior, VP Nalco Water Heavy & Downstream Latin America at Ecolab, spoke of the issue of access to freshwater in Latin America where 16 of the region's largest cities are facing water-related issues, including Mexico City, Lima and São Paulo: "The water-intensive chemical industry must actively innovate and implement technologies and processes that minimize water consumption."

Dennys Spencer, COO of Ambipar, a Brazilian environmental services and consultancy group with global operations, mentioned the serious investments the company has made into research and development to improve waste management processes that turn residues into useful products: "Specifically, we have been doing a great deal of R&D to transform and make use of waste so that it can be reintroduced into the industrial processes as a raw material in various sectors."

Jorge Buckup, President – Latin America, Univar Solutions

Adriana Nobre, Managing Director for Latin America, Croda

Spencer gave the example of the pulp and paper industry, which is known for producing considerable amounts of organic and inorganic waste, for which Ambipar is working on a project to make compost out of organic waste to be used as a fertilizer: "In terms of inorganic waste that was previously disposed of, Ambipar recycles it to produce construction materials. We also work with oil and gas industrial waste. There have been considerable investments in our energy efficiency, namely, solar panels, the usage of natural gas instead of diesel and rainwater harvesting."

DIVERSITY AND INCLUSION

The topic of sustainability should also been seen from a business perspective. For an industry to remain competitive and attract the best talent, it should be able to draw from the largest talent pool possible. New industries such as tech, from start-ups to the "Big 4" US tech giants, have been successful in hiring a new breed of executives from diverse backgrounds. On the other hand, more traditional primary industries, such as mining, oil and gas and chemicals, have struggled to capture the imagination of the modern workforce. However, this is changing as companies and associations prioritize the future of their workforce.

Edison Terra, VP olefins and polyolefins South America at Braskem, Latin America's largest petrochemical producer, gave his thoughts on the subject: "We believe that you need diversity in order to solve complex problems by approaching scenarios in different ways and leveraging from the knowledge and slice of genius that different people have to bring to the table."

Gustavo Perez, LyondellBasell's regional director of advanced polymer solutions for Latin America, echoed the sentiment of Braskem's Terra, and pointed to the appointment of a Chief Talent and Diversity, Equity and Inclusion (DEI) Officer at LyondellBasell, as well as a DEI Leadership Council made up of employees, as examples of initiatives to foster a workforce representative of the company's global presence.

The participation of women in a traditionally male-dominated industry, particularly at the C-suite level, is one of the areas Latin America's chemical industry has been focusing on. Looking at the profile of the 50 interviewees for this report, there is still work to be done, but gradual progress is apparent. Adriana Nobre, Croda's managing director for Latin America, elaborated on the company's commitment to diversity and inclusion: "We recognize that the success of our innovation and business come when our colleagues feel fully able to collaborate and harness each person's different experiences and diversity of thought."

Nobre mentioned that Croda's target is to achieve a gender balance across the leadership roles in its organization by 2030, and she believes we are witnessing a change in the gender dynamics of the industry across Latam: "We are headed in the right direction and I am very optimistic that the chemical industry will drive important contribution fostering a more diverse workforce in the region." ■

BRAZIL

Chemical demand increases while political tensions heighten

On September 7th 2021, Brazil's independence day, a pro-government crowed marched on Congress in support of President Bolsonaro, an increasingly divisive figure whose approval ratings have slumped to an all-time low. Many Brazilians blame the government for its haphazard handling of the pandemic and poor stewardship of the Amazon, and the fires of discontent have been stoked by rhetoric such as Bolsonaro's statement to Evangelical leaders in August: "I have three alternatives for my future: being arrested, killed or victory."

Brazil's right-wing populist leader is currently trailing its former left-wing President, Luiz Inácio Lula da Silva, in the polls, and considering the public sentiment towards both candidates – arguably the two most polarizing figures of modern Brazilian history – the 2022 general election promises to be a turbulent affair.

In spite of these political headwinds, Brazil's chemical industry has performed well throughout the pandemic, experiencing an 11% increase in chemical demand in 2020, and a 9% increase in the first half of 2021, according to Ciro Marino, CEO of the Brazilian Chemical Industry Association (ABIQUIM). Furthermore, from the 50 interviews conducted for this report, it is clear that Latin America's biggest economy holds the continents' highest untapped potential for chemical producers and distributors.

Although Brazil's chemical demand statistics are impressive, particularly in the context of the pandemic, Marino suggested there is plenty of room for improvement. "The main issue is competitiveness," he said, noting that domestic chemical production grew by only 2.2% in 2020 and 3% in 2021 (as of July), while demand increased by double digits in the same period. "Imports are winning, and today account for 47% of chemical products in the country," added Marino, giving the example of Brazil's world-renowned agroindustry, which still imports 90% of its fertilizers.

Marino believes that more should be done to stimulate domestic supply chains and the Brazilian authorities should consider the chemical sector as part of the country's infrastructure, given its significance as the country's third biggest sector from a GDP perspective.

Indeed, Brazilian producers with installed capacity and available sources of domestic feedstock have flourished as the cost of importing competing products from abroad has gone through the roof. "Until 2020 we had been facing some serious competition from Asia. Then the pandemic started, and the situation has really moved the pieces on the chess board," remarked Fabiano Bianchi, executive director of Petrom Petroquímica Mogi das Cruzes S.A. (Petrom).

Petrom is the largest producer of phthalic anhydride in Latin America, a chemical widely used as an intermediary for plasticizers, polyesters resins, alkyd resins and polyester polyols for polyurethanes. "Covid-19 has really underlined the importance of all companies prioritizing working with local suppliers, chemicals included, due the risk of broken logistic options worldwide which remain under pressure," stated Bianchi, reflecting that while globalization has its benefits, it has also led to companies becoming oblivious of the importance of having strong local feedstock suppliers and sustainable regional value chains. Bianchi added that Petrom's reliable source of feedstock

Ciro Marino, CEO, Brazilian Chemical Industry Association (ABIQUIM) from Braskem meant it could deliver orders in full and on time throughout the pandemic, strengthening its position in the Latam market and allowing for continuous growth.

International players have also been adding capacity in Brazil to meet increasing demand. Arkema, the French specialty chemicals corporation, now has over 600 employees, seven production sites, three laboratories, 11 distribution centers and three commercial subsidiaries in Brazil. Eric Schmitt, CEO of Arkema Brazil, explained how M&A activity has helped the company evolve in the region and enter new markets: "In 2019, the company announced the purchase of ArrMaz, a global manufacturer of special surfactants, which has locations in Minas Gerais and Rio de Janeiro. This helped us enter Brazil's large agribusiness, where there is great demand for additives for fertilizers," related Schmitt, adding that the 2021 acquisition of Poliplás by Arkema's subsidiary Bostik (previously acquired in 2015) has strengthened the company's position in the hybrid adhesives and sealants market.

João Parolin, CEO of Oxiteno, also highlighted Brazil's agribusiness as an area of great potential due to its connection to megatrends such as the rise in food consumption as the world population increase and the move towards biofuels such as ethanol aligned with the energy transition. "Brazil is privileged as it still has a great amount of land available for agricultural development without having to touch the rainforest," he said, observing that an increased demand for crop solutions, home care and personal care products throughout the pandemic, as well as a rebound in the brake fluids, paints and coatings markets, contributed to Oxiteno announcing record results in Q2 2021.

BRAZIL'S 'NEW GAS MARKET' OPENS UP

In March 2021, Brazil's lower house approved a new regulatory framework for its natural gas sector, as the so-called 'New Gas Market' became a reality. The legislation aims to break the monopoly of Petrobras, opening up avenues for private investment in a country that consumes more gas than any other in Latin America. Potential business opportunities are not the only benefit, as increased competition is expected to rebuild production chains and create a new distribution network which should lower the cost of natural gas for Brazilians, who currently pay over 300% more than customers in the US, according to ABIQUIM's Ciro Marino.

"For the market to truly consolidate and stabilize to reap its reward, it will be approximately two to three years before we see significant benefits," commented Elder Martini, CEO of Brazilian chemical producer, Elekeiroz, noting that in the meantime, Brazilian companies will continue to pay more for raw materials than their competitors in the US and Europe.

One of the main advantages the new gas market should bring for chemical producers is a greater availability of feedstock, an issue that continues to hinder the Latin American chemical industry. "The imbalance between supply and demand for raw materials, in addition to logistical issues globally, is an issue for Latin American producers that has no short-term solution. To navigate this challenge we are trying to focus on alternative products that are not dependent on imports," revealed Martini.

An example of the positive impact of private investment is evident when examining the case of Porto do Açu, the industrial port complex in Rio de Janeiro state that began operations in 2014. In contrast to many ports in the region, which have suffered in 2021 due to lack of space, freight availability and old infrastructure, Porto do Açu recently announced record results from its T-Mult multi-cargo terminal, moving more cargo in the first six months of 2021 than in the whole of 2019.

José Firmo, Porto do Açu's CEO, suggested that Brazil's new gas market will transform industry by improving price competitiveness and transparency, and outlined the Port's plans to prepare for this change: "Porto do Açu has connected itself to the gas grid and expanded its logistics and storage capabilities. The second phase of changes we are implementing includes inserting mixers for fertilizers, which will lower costs, followed by the production of fertilizers using gas."

These investments are being made by Gás Natural Açu (GNA), a joint venture between Prumo (Porto do Açu's parent company), SPIC, BP and Siemens, which is building Latin America's largest natural gas-fired thermal power compound at the Açu Complex. "The GNA I plant is at the end of commissioning, with GNA II to follow in 2023," revealed Firmo, noting that even after all the infrastructure has been developed, only 25% of the Açu area will have been used: "There is plenty of room to industrialize the complex moving forward." ■

ARGENTINA

Inflation soars but Vaca Muerta offers a path to a brighter future

Argentina's economy was already in turmoil before Covid-19 had wreaked its havoc. From February 2017 to February 2020, the Argentine Peso (ARS) devalued from 15 ARS to 1 USD to over 60 to 1. Less than two years later, the exchange rate is approaching 100 to 1. On July 15th, a report from the country's official INDEC statistics agency revealed that prices rose 25.3% in the first half of 2021 and were up 50.2% versus a year earlier.

Jorge de Zavaleta, executive director of the Chemical and Petrochemical Industry Chamber (CIQyP), explained that a verbal agreement with the Argentinian Government meant that companies should sell to the local markets as much as possible to reduce imports, but strict policies on trade management were imposed, which slowed down the importation process. This context has impacted Argentine chemical players. For instance, Gastón Cini, director of Copsa Combustibles, Químicos y Especialidades S.A. (Copsa), pointed to the shortage of raw materials and the increase in freight costs from Asia as the main challenges to business development. "Given the shortage of products and the significant increase in local demand, prices rose exponentially. The value of some commodities doubled," he said, adding: "However, the demand level then plateaued and has been falling gradually, so we hope that the prices of raw materials goes back to what they were two years ago."

Luciano A. Milito, CEO of Logística Milo, suggested that the most adequate way the government could improve the business climate is to provide companies access to loans to update their facilities and equipment, build more infrastructure and invest more in research and development.

From a logistics standpoint, Milito elaborated: "A great solution would be to integrate truck and railway transportation to optimize costs as regards logistics. Therefore, one company can be in charge of loading the merchandise at the production plant, taking it to the railway logistics center, and then to the port and vice versa."

Martina Azcurra, Executive Manager – Chemicals, YPF QUÍMICA

For the largest, vertically integrated companies that do not rely on imports there were opportunities to capitalize on the rebound of domestic consumption. "In Q4 2020, as governments were paving the road to recovery and restrictions were lifted, both demand and prices recovered to even pre-pandemic levels by early 2021," related Martina Azcurra, executive manager chemicals at YPF QUÍMICA, the chemical arm of state-owned energy giant, YPF.

On September 3rd, 2021, an Argentine central bank poll forecast that economic growth would rise to 7.2% in 2021, an increase on the 6.8% previously forecast, offering a ray of hope as the vaccine rollout gathers pace.

Jorge de Zavaleta, Executive Director, Argentine Chemical and Petrochemical Industry Chamber (CIQyP)

HOW TO CAPITALIZE ON VACA MUERTA'S VAST POTENTIAL

The pandemic has highlighted the importance of domestic and regional supply chains that can produce their own raw materials. "The Chamber has made recommendations as to what Argentina can do to make progress in terms of petrochemicals as we do not believe petrochemistry should grow based on raw materials produced in refineries, and oil producers are concerned since they have to redesign their business due to decarbonization," outlined Jorge de Zavaleta.

So, what alternatives are there? "As gas prices are competitive and can be kept at US$3.50, and analyzing the existing trade balance, there are opportunities to mon-

Photo courtesy of YPF QUÍMICA.

etize the Vaca Muerta gas," he said, noting that considering Brazil is the world's biggest urea importer and Argentina has a world-class urea plant, there is a possibility to double its production facilities.

Federico Veller, General Manager, Profertil

Ethane content in non-conventional gas is two times higher compared to conventional gas, and de Zavaleta pointed out that this presents an opportunity to monetize ethane to produce ethylene derivatives such as PE. LPG is commonly used in Argentina, which means more propane and butane could be produced, and the excess of propane could be used in a dehydrogenation plant to produce polypropylene (PP). "The content of LPG in non-conventional gas is also significantly higher compared to conventional gas," he said, adding that Argentina always has an excess of LPG that is exported during the year, and more available LPG could generate an extra flow of propane to produce PP.

Martina Azcurra spoke of the evolution of Vaca Muerta in recent years, remarking how the field has become a rich tapestry of different companies producing more than 70,000 barrels of oil per day (bpd) and 50 million cubic meters (cbm) of natural gas per day. "Development of this world-class resource and of derivatives will enable the expansion of the petrochemical industry not only in Argentina, but on a regional and global scale, in a similar way to that which has occurred in the USA from the production of unconventional hydrocarbons."

Gabriel Rodríguez Garrido, executive director of the Argentine Petrochemical Institute (IPA), weighed in on the subject: "Analyzing the current needs of the petrochemical industry, the circular economy (the plastics industry) and the importance of blue hydrogen, the added value of Vaca Muerta is evident. As of today, the chemical and petrochemical industry represents between 16% and 18% of Argentina's exports, and Vaca Muerta has the potential to boost these numbers in order to generate more foreign currency influx for the country."

ARGENTINA'S BOOMING AGRO-INDUSTRY

One segment of Argentina's economy that has been performing well throughout the pandemic is the agribusiness. Jorge de Zavaleta highlighted that the best performing chemical products in this period have been agrochemicals, nitrogen and phosphorus fertilizers, due to higher international prices of agricultural commodities, record planting and reap of corn and wheat.

In 2021, Profertil, the 50/50 joint venture between YPF and the Canadian fertilizer company Nutrien, celebrated its 20th anniversary since production started. Profertil produces 1.3 million metric tons per annum (mt/y) of urea, and, according to general manager Federico Veller, the company has developed a project to double its urea production capacity. "The drivers behind the decision to increase production are the Latin American fertilizer market which is growing incrementally, especially in Brazil and Argentina, and the availability of competitively priced raw material and natural gas in Argentina," elaborated Veller.

To illustrate how domestic demand has increased, Veller mentioned that when Profertil started production in 2001, the 1.1 million mt/y it produced at the time supplied approximately 90% of Argentina's urea demand and nearly 50% of production was exported. "Today we can only supply between 55% and 60% of the urea demand in Argentina, which reached 2.2 million my/y in 2020," he related, and Argentina is thus required to import approximately 1 million mt/y of urea. "If the fertilizer market continues to grow at a rate of 3% per year, even our increased production capacity will not be enough to meet the demand," he added, clarifying that Profertil aims to soon supply at least 80% of the Argentinian demand, with any excess going to the Brazilian market.

As well as investment into added capacity, catering to the evolving demand of growing populations also requires innovation. Federico Alonso-Hidalgo, general manager of Gleba, mentioned that the agro sector in Argentina is a leader in adopting new technologies: "Adopting new technologies is extremely important for a country that relies on agro exports. Many of the technologies being adopted are related to big data and data analysis, as an example." ■

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MEXICO

Exports thrive but domestic issues surrounding Pemex remain

The Mexico economy fell by 8.2% in 2020, its sharpest annual contraction since the Great Depression in 1932. However, the rebound of Latin America's second biggest economy has gained steam in 2021, driven first by exports to a booming USA, and bolstered by robust domestic demand. According to figures from the national statistics institute, in Q2 2021 Mexican GDP rose 19.6% compared to the same period in 2020, with analysts in a Citibanamex survey predicting over 6% for the year. "In 2021 Mexico's chemical sector is experiencing a significant recovery, especially due to extreme growth in the US, which is our main export market," commented Miguel Benedetto, director general of Mexico's Chemical Association, ANIQ.

Benedetto pointed to adhesives and sealants for the packaging industry, fertilizers and construction as standout sectors, noting that although 2019 production levels had not yet been reached, ANIQ expects they will be by Q1 2022.

While Mexico's export market thrives, the issue of a lack of domestic feedstock from Pemex has persisted and stands in the way of the country's chemical sector reaching its full potential. The mid to long-term solution to a structural issue that has caused tension between the AMLO government and the private sector is for Pemex to ramp up production.

Miguel Benedetto, Director General, ANIQ (Chemical Industry Association of Mexico)

In the meantime, ANIQ has highlighted that Pemex is not using all of its infrastructure, proposing that Pemex's facilities could be used to import ethane, propylene and ammonia. "This would benefit everyone as Pemex would receive payment for the use of its facilities, the availability of raw material within the country would increase, which will contribute to the development of the industry and the government will receive more taxes," said Benedetto.

"As there is a lack of ethane production in Mexico, which is Braskem Idesa's main feedstock, we started a dialog with Pemex to reach a common agreement in order to find a balanced solution to the problem," explained Stefan Lepecki, CEO of Braskem Idesa.

At the beginning of 2021, Braskem Idesa signed a memorandum of understanding with Pemex setting out respective understandings for the discussion of potential amendments to the ethane supply contract in the country and for the development of an ethane import terminal. Subsequently, a 15-year gas transportation agreement with Cenagás was signed and, as a result, the Etileno XXI petrochemical complex started receiving natural gas again through Cenagás, which had suspended deliveries in December 2020.

Lepecki revealed that Braskem Idesa is now working towards definitive amendments that include attaining approval from lenders to finance the ethane import terminal project. "All of Mexico's crackers rely on ethane and the development of a terminal would mean more feedstock could be imported, which would allow the crackers to run at full capacity, benefitting the petrochemical industry and entire country in terms of social and economic development," he explained, adding that Braskem Idesa's future will be based on maintaining the access to Pemex' ethane while having competitive access to ethane imported from the US through the new terminal.

Patricio Gutiérrez, chairman of the board and CEO of Grupo Idesa, stated that his company's position on AMLO's vision for the energy sector has always been clear: "Pemex needs to exist as an industry leader, but needs to be focused on the areas where it has good competence, for example E&P. If we have other players in the refining business than Pemex, that will help the chemicals industry have access to more options to source feedstock." Expanding on the subject, Gutiérrez suggested that if Pemex decides to stay in the refining business, then the private industry should help Pemex strengthen its business, be it in refining, gas separation or petrochemicals. "It would be a win-win-win relationship, for Pemex, for the private sector, and for the country."

Eugenio Manzano, executive director of large chemical distributor Grupo Pochteca, explained that because chemical plants in the southeast of the country are operating at low rates and with higher costs than their counterparts in other countries, many downstream inefficiencies have been generated, creating a commercial deficit of more than US$20 billion per year. He concluded: "The strength and efficiency of Pemex is crucial to obtain key raw materials. It is urgent to recover this and encourage private investment in the energy and petrochemical industries to improve the competitiveness of our industry."

On October 1st, 2021, AMLO's ruling Morena party confirmed its bill for electricity reform had been sent to Congress. Although there are doubts that the bill, which has been delayed until the second half of 2022, will be able to get the two-thirds majority it needs to pass, it is another clear indication of the President's intention to take control of the country's energy sector. In a scenario where energy prices are rising substantially regardless of government policy, the proposed constitutional reform is a further concern for an industry whose competitiveness has already been impacted by a lack of domestic feedstock. ■

Stefan Lepecki, CEO, Braskem Idesa

ANDEAN REGION

CHILE - 2021 GROWTH SURPASSES 2019 LEVELS

On August 18th, 2021, President (at the time) Sebastián Piñera of Chile highlighted the country's latest economic growth figures, as reported by the Central Bank in its latest country finances report. "The Chilean economy grew by 18.1% during the second quarter, to surpass the levels of activity that we had before the social unrest and the coronavirus pandemic," he stated, adding that investment grew by 24.8% during the second quarter, with an inflow of foreign capital.

For years, Chile had been a bastion of stability in Latin America – a region characterized by political and social unrest. However, rising inequality sparked violent public riots in 2019 and 2020, which led to a referendum on Chile's constitution, with an overwhelming majority voting "yes" to reform. To what extent, then, has Chile's business climate been impacted by social protests and constitutional reform?

Cecilia Pardo Pizarro, General Manager, Oxiquim

Werner Watznauer, president of the Chilean Chemical Industry Association (ASIQUIM), suggested that the 2019 protests follow a global trend that has been seen in countries such as the US, and underlined the improvements made by Chile in the previous 30 years in building infrastructure and training skilled professionals. "Importantly, we need to defend what we have established and built in Chile over the last 30 years, that is, a robust business climate that offers opportunities for workers, investors, and the Chilean economy as a whole," he stated, noting that chemical industry workers want stability, and hoping that the incoming president would reflect this.

Grupo Reno S.A. (Reno) is a Chilean chemical distributor that also has operations in Argentina and Peru. Claudio Gorichon, Reno's CEO, compared the three countries in which the company operates, remarking that the open economic model and clear regulations in Chile and Peru create strong competition, in contrast with Argentina which carries more business risk, but is a larger market. Gorichon also commented that Peru's new President, Pedro Castillo, has had to moderate his speech and take a more centrist stance since gaining power, illuding to the practical realities of running a country that has an established business culture.

Despite the challenges faced in the last two years, the Chilean chemical sector has performed well, according to ASIQUIM's Watznauer, who highlighted the resurgence of the construction and copper mining industries in 2021, as well as consistently strong demand from the agriculture, food packaging and pulp and paper sectors throughout the pandemic.

Cecilia Pardo Pizarro, general manager of Oxiquim, the integrated Chilean chemical organization which manufactures wood panels and industrial resins, distributes chemical products and operates maritime terminals, revealed that company achieved its best ever results in 2020. "Demand in 2020, for some products, exceeded demand in 2019 because we sell chemicals that are used for sanitizing, such as sodium hypochlorite or ethyl alcohol," explained Pizarro, noting that although demand for these products has not risen as sharply in 2021, it is still above 2019 levels.

Claudio Gorichon also mentioned that Reno has reached 2019 levels in 2021, having achieved record sales for disinfection, medical and cleaning products in 2020. He spoke of the company's plans for growth in the coming years, pointing to the mining sector as an area of high potential, as well as expansion with Chile: "We are in the process of building a warehouse and a distribution plant with more than 10 hectares to be ready to operate in August 2022, with 60 tanks, 1,000 cubic meters of storage capacity and 20,000 tons of dry cargo."

COLOMBIA – SOCIAL UNREST DISRUPTS A COUNTRY ON THE RISE

Before the pandemic, a growing middle class, prudent macroeconomic policy and a strategic position as the gateway between South and Central America made Colombia Latin America's leading light and fastest-growing economy. Although the country's economy has rebounded well after a disastrous 2020 (a fate suffered by every Latam nation), government measures to mitigate the economic impact of Covid have enflamed social tensions.

In April 2021, Colombians took to the streets to protest a proposed reform that would have lowered the threshold at which salaries are taxed, eliminating many of the exemptions enjoyed by individuals as well as increasing taxes imposed on businesses. The rallies escalated, and by the end of May, protesters had alleged more than 2,000 instances of police brutality, with over 50 having lost their lives.

Protests also brought the Port of Buenaventura to a temporary halt, impacting the flow of goods to and from the nation's largest Pacific seaport. "In total, approximately US$100 million was lost in the chemicals and plastics industries due to political unrest," revealed Daniel Mitchell, president of Acoplásticos, Colombia's chemical industry association.

Despite the turbulence, Colombia's chemical sector witnessed a positive growth rate in 2020 due to its role in manufacturing disinfectants, alcohols, health products and plastics used in PPE and packaging for food. In 2021, the industry is achieving results even better than pre-pandemic performance. Comparing production figures from January to April 2019 to that of January to April 2021, basic chemicals grew 30%, other chemical products grew 11%, and plastic products grew 11%, detailed Mitchell, before noting: "The first semester of 2021 is already representing, in local currency, more than 75% of annual achieved sales the previous year."

Vertically integrated companies, such as Colombia's state-owned oil and energy company Ecopetrol, have been able to capitalize on rising demand without suffering the more severe impacts of supply chains that rely on imports. "We produce gas, have raw material feedstock and petrochemical assets, and we sell raw materials to our daughter company Esenttia," explained Pedro Manrique, Ecopetrol's vice president commercial and marketing, adding that the company has also been making use of its trading business to expand across the region.

Colombian polypropylene producer Esenttia, part of the Ecopetrol Group, achieved record sales in 2020, according to president Juan Diego Mejía Mejía. "We shifted our focus onto exports, especially during the second half of the year, while guaranteeing supply to the national market, which enabled a speedy recovery," said Mejía, affirming that this upward trend has continued in 2021.

Although plastics have been essential for food and medical packaging during the pandemic, the increasing green agenda and public move away from single-use plastics means that producers have to evolve. Mejía sees this as an opportunity: "Esenttia is working towards developing a much greener portfolio. We already offer green products such as masterbatches, biopolymers are being added, and we are building a factory to launch recycled plastics products by the end of next year." ■

CHEMICAL DISTRIBUTION

The big fish thrive in a market made for distributors

Conducting interviews for the 2021 edition of this Latin America Petrochemicals and Chemicals report, one of the common themes has been the performance of the international chemical distributors in the region. The superlatives used to describe sales in a year where supply chain issues have persisted poses the question, why is Latam so suited to the chemical distribution business model?

"The complexity of the region in terms of distances is a great advantage for distributors," stated German Torres, regional president – Essentials Latin America for Brenntag, noting that with the exceptions of Brazil and Mexico, Latin America does not have a very strong industrialized base, so a significant amount of product must come from other regions in the world. "Dependency on imports implies a need for logistics, storage, technical and value-added services."

Eugenio Manzano, Executive Director, Pochteca

Jan Krueder, CEO, Química Anastacio

Torres observed that international manufacturers want to sell in Latin America, but do not necessarily want a physical presence in the region because, from a macro standpoint, Latam is not stable and currencies are volatile. "They are thus reliant on distributors' capabilities and knowledge in the region to move forward and consolidate the products they offer the market. Small and medium sized companies which are growing in local markets also need the reach and network that distributors offer."

Eugenio Manzano, executive director of Pochteca, remarked that the participation of distributors in the chemical supply chain is increasing as customers recognize that purchasing from a distributor can reduce total cost of ownership and manufacturers recognize that going to market through distribution can reduce their cost to serve several segments. “At the same time, we believe that chemical distribution is still very fragmented. In a recent count of distributors in the countries where we are present, we counted more than 1,400,” he added.

Manzano went on to explain that customers and suppliers are reducing the number of channel partners, choosing those that add value beyond the product with technical solutions, inventory management systems, blending, environmental services and logistics. “Increased regulation and economies of scale required to compete successfully imply that the segment will continue to consolidate and institutionalize over the next several years.”

Such a context favors the larger players, whose market share increased during the pandemic as their liquidity and storage capacity were able to weather supply chain disruptions and demand volatility. Jan Krueder, CEO of Química Anastacio, revealed that a 70% drop in the durable market (including paints, rubbers, plastics and lubricants) during Q2 2020 caused the company to rent extra warehouse space. As lockdowns were enforced across the globe, commodity prices also decreased, prompting distributors to get rid of stock quickly and buy back at a cheaper price.

Química Anastacio took the decision to go to market and start buying at the lower commodity prices, related Krueder, which benefited the company as it had a large inventory when demand rebounded and could supply the increased demand where others could not. “Smaller companies are struggling due to a lack of warehousing or liquidity, which creates the opportunity for bigger players to increase their presence in the market or team up with other players to continue successful business,” he said, reflecting that consolidation was already becoming a reality, but supply chain disruptions and logistical challenges have made it now even more appealing and necessary.

Jorge Buckup, Univar Solutions’ president for Latin America, echoed the sentiment that disruptions had played into the hands of the larger distributors: “This presented opportunities for those companies that were prepared and had inventory like Univar Solutions to be able to supply the robust demand that has reached pre-pandemic levels.”

Demand for chemical products in Brazil, Latin America’s largest market, has also been bolstered by low interest rates. In August 2020, Brazil cut its benchmark interest rate to an all-time low of 2% in an effort to boost its economy. Rodrigo Gutierrez, CEO of GTM Holdings, explained that Latin America has always had an issue with high interest rates, which created the scenario where people were putting their money in the bank rather than investing. Gutierrez elaborated how this scenario has changed: “As there are now substantial floods of money streaming in, net interest rates have decreased significantly, encouraging more spending and investment and creating more opportunities in Latin America. This has caused the market to invest in new equipment and infrastructure, which has increased the demand for chemical products substantially.” ■

LOGISTICS

Dealing with global supply chain disruptions that have no near-term solution

In March 2021, the Suez Canal in Egypt was blocked for six days after a 20,000 TEU container ship, Ever Given, grounded laterally, preventing an estimated US$9.6 billion worth of trade. The incident is symbolic in a year where global logistics challenges, which many expected to subside after the initial impact of the pandemic, have become even more pronounced. A series of events in the Americas, from climate-related issues such as the February freeze in the US, to sociopolitical disruptions such as protestors blocking the Port of Buenaventura in Colombia in May, have impacted trade routes throughout Latam. While these disturbances have exacerbated the situation, unbalanced supply and demand has been the fundamental cause of logistics delays and rising freight costs.

"On the supply side, the industry has not invested significantly into expanding capacity, and this is often the case when you have an economy which is not performing well," explained Robbert van Trooijen, senior vice president – head of Latin America for A.P. Moller – Maersk.

The initial outbreak of Covid-19 caused Chinese factory closures in early 2020, and this was followed by an implosion of demand as the pandemic became global. When a level of normalization was re-established, demand grew faster than usual, including the chemicals industry, and this has continued well into 2021.

"We are currently in a situation where there are not enough shipping vessels to meet demand, the global shipping fleet is fully deployed, and new builds are only going to come out of the yards in late 2022 or early 2023," observed van Trooijen, who added that, while rates have become extortionate, clients on long-term contracts benefit from more stability.

Peter Staartjes, CEO of Andino / Andikem, revealed that container rates from Asia to Latin America have risen from US$3,000 to over US$15,000, or even US$20,000 in some cases. In spite of the challenges, the company's revenues for 2021 are forecast to be double those of 2019, according to Staartjes, with most of the increase being volume and services driven. As record quarterly profits are reported across the industry, how are logistics providers taking advantage of the favorable business climate and reinvesting to mitigate logistics challenges?

In the case of Andino / Andikem, the company has added a second ship to support its Andino Alpha vessel, a 14,000 deadweight stainless steel tanker. "We noticed early on this year that many suppliers wanted to switch to bulk because they could no longer satisfy their customers with flexi-tanks and ISO-tainers the way they were in the past," explained Staartjes, suggesting that the current context will lead to a modality shift in the industry where suppliers and end users flexible

Peter Staartjes, CEO, Andino / Andikem

Martin Sack, Regional Head – Americas, Leschaco

enough to switch to bulk from containers via the hub and spoke model will gain market share over those who cannot. He added: "Experts are forecasting that these logistics disruptions could last longer than two years, so there will be no shortage of problems for Andikem to solve for its users."

"Increased logistics and freight costs is an issue for the entire market and there is currently no ideal short-term solution," reflected Martin Sack, Leschaco's regional head for the Americas. Sack also commented that infrastructural and political issues in Latam, such as social unrest in Colombia and Chile, and a rail blockade in Mexico, have significantly impacted the flow of goods in the region.

To adapt to the new normal, Leschaco has ramped up digital capabilities and decreased bottlenecks, increasing connectivity between its systems and customers to improve end-to-end visibility. "There is no doubt that the pandemic and global trade disruption has accelerated the need for and adoption of technologies," remarked Sack, adding: "Digitization was a trend before the pandemic but has now become a necessity."

Helio Coelho, BDP International's global chemical sales director, remarked that while ocean transportation is critical, companies have started to look for alternatives such as road or air transportation to try and meet demands. "We quickly collaborated with customers to implement and execute out of the box ideas such as cabotage transportation and usage of our free trade zones services in Cartagena to ensure business continuity and minimize the impacts of the disruption."

TANK CONTAINER DEMAND OUTSTRIPS AVAILABILITY

To illustrate the extent to which container rates have risen in 2021, Rodrigo Gutierrez, CEO of chemical distributor GTM Holdings, revealed that at times containers have cost more than the product being delivered. "The manufacturing of containers is globally concentrated amongst approximately four companies, which cannot necessarily rapidly increase production capacity," added Gutierrez.

Until new equipment comes into the market, the companies that offer equipment for the transport and storage of tanks, otherwise known as tank container operators (TCO), are having to be creative. Fabiano Machion, Newport Tank's general manager for South America, suggested that technology can help streamline logistics chains: "For the next two years we will be investing heavily in digitalization and information security systems in order to deliver better logistical tools to our end users based on algorithms and intelligent systems," stated Machion, adding: "Digitalization will lead to more services, agility and intelligence to have more logistical savings and an influx of shipments."

While discussing the ISO tank leasing model, Christopher Sandler, managing director of Eurotainer, mentioned a benefit which sometimes gets lost in purchasing and is particularly relevant in the current global context where supply chain disruptions have caused delays – the demurrage charges in normal operations.

"Demurrage is billed per container and per day by truck operators and tank operators with the charged amount varying per location and equipment type. Having a leased tank container, paying a fixed fee regardless of how long the tank is delayed at a location, can significantly decrease these charges." ■