

# COUNTRY FOCUS: MEXICO

## From the source downstream

IDESA Tlaxcala Plant



Dynamic demographics, large-scale manufacturing, abundant energy, a plethora of trade agreements and bordering the world's largest economy, what is preventing Mexico's Chemical Industry from realizing its potential?

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## Elections and the Economy

### A presidential race for reforms

Mexico's future economic performance will be defined during this year by two major factors. Internally, performance will be rocked by the coming presidential elections in July and externally, Mexico's growth will be dictated by the performance of its neighbor, the largest economy of the world, the United States.

In 2004 Mexico saw its economy expand 4.4%, the fastest growth in four years. 2005 saw a decline of 1.4%, largely due to the slowing of growth in the United States. The projected GDP growth for the US economy this year is set at 2.9%, indicating that Mexico will not be able to count on its neighbor to boost its growth, but will be forced to strengthen its economy from within. Since implementation of the North

American Free Trade Agreement (NAFTA) eleven years ago, Mexico's exports have tripled. More than 80% of exports are destined for the US, hence the strong correlation between the two economies.

Although the private sector has more or less detached itself from politics (a positive sign, especially in Latin America), the short to medium-term success or failure of the country and more specifically its industrial sector, is very much weighed against its ability to implement much-needed educational, fiscal, labor and energy reforms. This represents no small challenge and one which is further complicated due to the coming of a new president in a few months time. The Mexican constitution allows only one presidential term per administration. Three major contenders are running for office: Roberto Madrazo of the Institutional Revolutionary Party (PRI), Manuel López Obrador from the left wing Democratic Revolution Party (PRD) and the conservative National Action Party's (PAN) candidate Felipe Calderón. What is highly probable is another term with

a split Congress, a situation the current president, Mr. Vicente Fox, was not able to manage effectively. Fox failed to push through most of the objectives that he set himself in his mandate. No matter which candidate wins, he will face the challenge of being a stronger politician than the current president and will need excellent persuasive and negotiation skills to lobby the opposition for their support on key reforms.

The business community is confident that all of the candidates understand that reforms are crucial to the success of the country, although detailed plans as to how each will achieve them remain vague. The current legislative gridlock ahead of the elections is effectively stalling key economic reforms until the new administration is established. This process could drag on until the first quarter of 2007, a situation that could make Mexican ventures less attractive relative to other emerging markets, and hence dampen foreign investment.

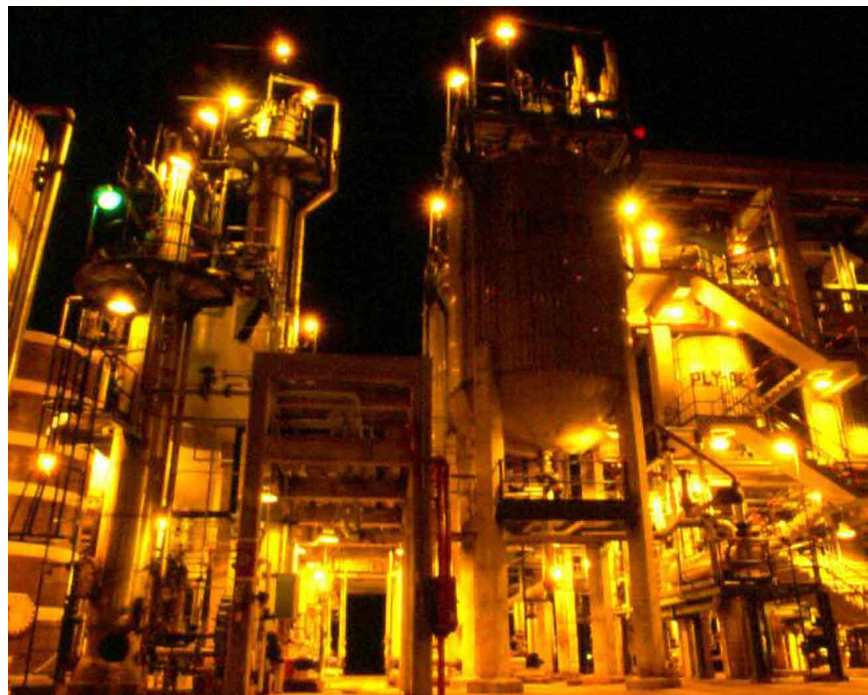


## ANIQ The National Association of the Chemical Industry

The National Association of the Chemical Industry (ANIQ – by its Spanish abbreviation) is the representative body for the private sector encompassing more than two hundred national and international companies, representing roughly 95% of the sector's private investment. This, and its reputation throughout the industry, lends ANIQ political leverage to act as a trusted and respected go-between with the Mexican government and the private sector in order to achieve its mission of promoting sustainable development and global competitiveness in the Mexican chemical industry. ANIQ has been organizing round tables between the respective political parties and industry leaders to make sure the industry's interests are represented and accounted for in future mandates. Work groups or committees cover areas such as external commerce, human resource & labor, energy, transportation & logistics, environment and health & safety.

On an international level ANIQ is in constant contact with its counter parts in the Americas, Europe and Asia, as well as belonging to the International Council of Chemical Associations (ICCA). ANIQ is also responsible for producing valuable statistics for the general public and private companies so that decisions related to the sector are made with the most information possible. The main issue ANIQ is currently working on in order to improve the competitiveness of the sector, is that of energy reforms which should guarantee the sufficient and competitive long-term supply of natural gas, refined products, basic petrochemicals and electricity. ANIQ are also pushing for a competitive pricing policy, in global terms, for basic petrochemicals, feedstock and government reserves. ANIQ is ready to assist interested investors or companies with any services, information or advice regarding Mexico and its chemical sector.

[www.aniq.org.mx](http://www.aniq.org.mx)



## Mexico's Chemical Industry

### Deficient supply and the effect of feedstock prices

**T**he chemical industry in Mexico has been in decline over the past decade, due mostly to uncompetitive feedstock prices from the government-owned monopolistic oil company, Petróleos Mexicanos (PEMEX). Oil, gas and electricity in Mexico are among the most expensive in the world. Understandably, the chemical sector is concerned with the companies' inefficiencies, uncompetitive pricing structure, political affiliations and deteriorating infrastructure as they are largely reliant on PEMEX to power their production. In the case of oil, PEMEX has fixed the selling price to that of Texas, the most expensive quote globally. This is an extortionate price considering that the country sits on the ninth largest oil reserves in the world by (CIA World Factbook). There has been much debate and a great deal of frustration felt by companies on account of successive government's inability to steer through much needed energy reforms.

At first glance the energy reforms seem obvious, but in reality there is a string of interrelated conflicting issues, policies, and

interests that have blocked any progress until now. According to the Mexican constitution, oil exploration, extraction and processing must be done by the state, which, in other words, means Petróleos Mexicanos (PEMEX). But, because of the government's tax system and its heavy reliance on oil revenues, PEMEX is not allowed the chance to be profitable, nor the freedom of management autonomy required in order to reinvest and develop to adequate levels. For the first time since the early 1980's, government revenue from the energy sector is set to exceed non-energy revenue. The government estimates that in fiscal year 2006, oil income will be \$18.1 billion. This figure represents a 63% increase over the same figure for 2004 (\$11.1 billion). Overall, oil revenue is expected to account for a little more than half (53%) of government proceeds in 2006. In fact, PEMEX is the eighth largest oil company in the world (Petroleum Intelligence Weekly).

Over the past two years the company has posted record levels of profitability due to the high global oil prices, a trend set to continue for the next couple of years, but not one that PEMEX can count on in the long run. New reserves in the Middle East and the Caspian regions are due to come online in 2007-2008 that should moderate global oil prices. With such dependence on oil revenues, heavy investment into value-added products such as petrochemicals is neither a priority nor a possibility for the



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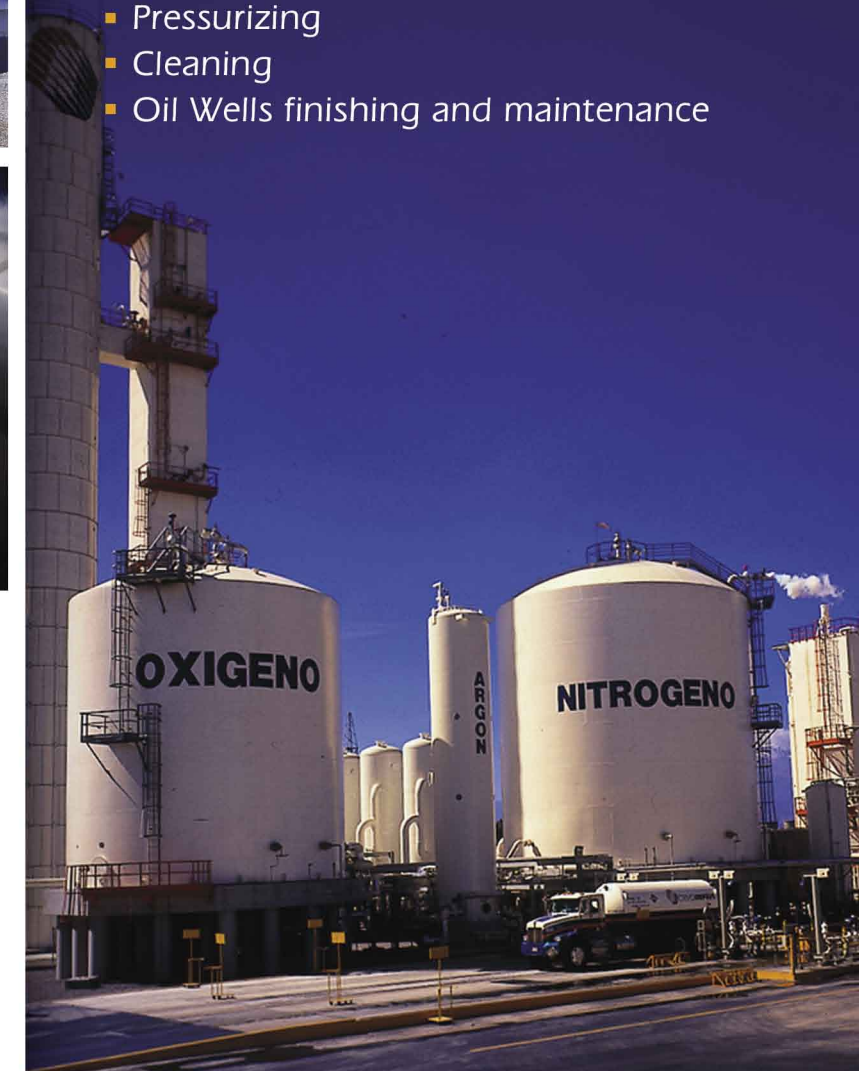
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government to sponsor on its own.

To further emphasize the need for private investment, the majority of remaining unexplored reserves in the Gulf of Mexico are considered deep-sea, which entails technology for exploration and extraction that Mexico does not possess. Ten years ago Mexico's chemical sector was robust, contributing 5.2% to the country's GDP and attracting large multinational companies to invest in production plants. Today that figure has diminished to a mere 2.1%; less than half of what it used to be.

## Is there light at the end of the tunnel?

Regardless of the energy conditions companies are forced to work under, there are local and multinational's posting strong growth and profits. A clear example of such is Alpek, the largest private producer of petrochemicals in Mexico and one of the most important in Latin America. Alpek is the second largest producer of DMT/PTA in the NAFTA zone. As Jose de Jesus Valdez, CEO, outlines, "we will still see some growth this year, and expect further growth in the coming years. This year we are expecting a growth in volume of 4-5%. The supply and demand situation for most of our products is still tight. At the end of this year, beginning of the next, we will see large increases in volume as our PTA plant in Altamira comes on-stream as well as the start up of our PET plant in North Carolina. By the end of 2007 we will also celebrate the start-up of our polypropylene plant in Altamira".

Companies are being forced to cut costs in other areas of their business through implementation of new energy saving and production technologies and restructuring business areas by having clearer strategies and identifying core and niche markets.

Reflecting the trends of the sector, companies are recovering from a dip in competitiveness. Cydsa, a 100% Mexican industrial group with plants in eight cities and exporting to more than fifty countries worldwide, is an example of a company that restructured its business successfully to survive the hard times and is now showing steady growth. Alejandro von Rossum, President of the Chemical division highlights the restructuring success: "The textile chain has been affected tremendously by the Far East and especially China. We have been through

a restructuring of our whole portfolio and working on reducing costs at our facilities, improving our yields and increasing our efficiency in energy consumption. We can now renew our growth. Last year we opened two new plants, one PVC pipe plant in Merida (South East) and another plant for the production of derivatives of chlorine in Hermosillo (Northwest boarder with Arizona). This year we have more plants under development".

Cydsa has had successful joint ventures with industry giants such as Honeywell, Bayer and Goodrich. They are currently looking for new partners to further grow and consolidate their chemical and plastics division.

Bayer's spin-off company LANXESS is one of Mexico's newest chemical

groups, and a global player in the fields of performance chemicals, engineering plastics, chemical intermediates and performance rubber with 5,000 products to support their chemical activities. Mario Correa Robledo, General Director of Mexican operations, highlights the strategic importance of their Mexican activities: "Our operation has a special role. It is our only site worldwide that manufactures organic pigments, which we currently export to over thirty countries. Besides, our plant is a multipurpose plant and not only produces pigments but other kinds of chemicals, like textile processing chemicals, leather chemicals and biocides. Personally, I see interesting opportunities here in Mexico." Lanxess Mexico has seen annual growth of 20% in total sales



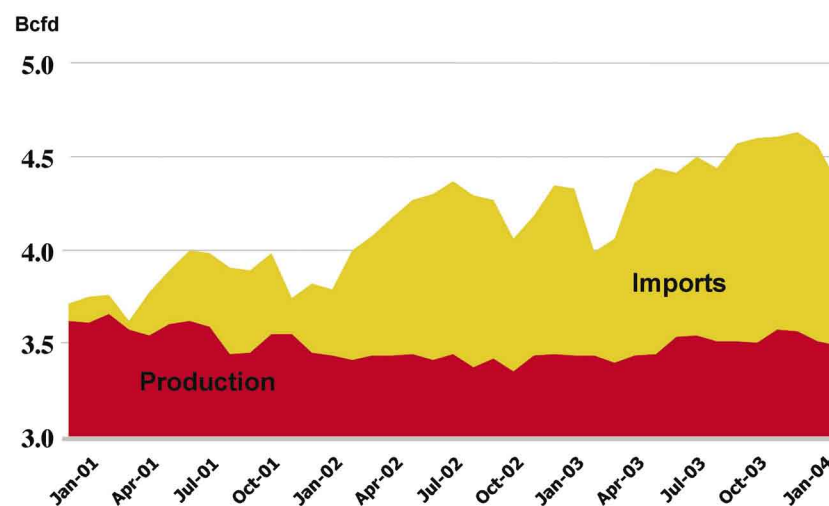
Mario Valles Septien, Vice-President of CRYOINFRA, builds business through relationships.



Mario Correa, General Director of Lanxess Mexico says "our young spirit will reenergize the industry."

## NATURAL GAS IMPORTS

### Natural Gas Demand in Mexico



Source: PEMEX, PIRA

in 2005, the main contributor being the performance rubber products.

Growing with the successful chemical companies are the industry's suppliers. This has attracted foreign companies to the market, often in the form of strategic alliances. Take industrial gases as an example. INFRA Group, an associate of the American Air Products and Chemical Group, has been present in Mexico for almost a century, inaugurating the first oxygen plant in the country. Mario Valles Septien, Vice-President of CRYOINFRA, the subsidiary dedicated to the production and distribution of industrial gases comments: "Thanks to good market knowledge, service, professionalism and additionally to the association with Air Products and Chemicals (APCI), the Group has grown successfully against international competitors such as AGA-LINDE from Germany and PRAXAIR from the United States." With their wide range of customers across several industries, CRYOINFRA boasts a portfolio of the most important companies in the Mexican chemical/petrochemical sectors. To consolidate their growth rate, INFRA, through a new joint venture called Tecnologia en Nitrogeno, have recently won an international tender and signed a ten-year contract with PEMEX Exploration and Production. This new contract will guaranty the supply of nitrogen to PEMEX through an investment of in excess of \$100 million in a new plant. The nitrogen will be used in the extraction process of crude in Jujo-Tecominoacan (State of Tabasco), one of the country's oil reservoirs. Mario Valles Septien outlines the groups' achievements in Mexico: "Our major success is to have been the leader in industrial gases for many decades. Every year we grow above the national average rate. This is something that we are proud of." The INFRA group is currently looking for acquisitions to further spur their growth in Mexico.

So despite the tough conditions Mexico still presents profits, growth and investment potential. The fact remains; Mexico has a population of over 106 million, the second largest in Latin America, has a wealth of scarce natural resources, and due to its geographical location and trade agreements, it is an entry point for products destined to the United States and Central America. Surely enough to fuel demand for a healthy chemical industry into the future, an industry where foreign capital will have a considerable part to play.

# Cydsa

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**Industria Química del Istmo (IQUISA)** - chlorine, caustic soda and sodium hypochloride products

**Polycyd** - Polyvinyl chloride resins

**Quimobásicos** - markets a comprehensive line of refrigerant gases, propellants and foaming agents, and manufactures the HCFC-22 refrigerant gas.

**Plásticos Rex** - Plastic pipes, fittings and irrigation systems

## Discover Cydsa, your partner in Mexico.



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IDESA: A private participant in the Phoenix project

## Petrochemicals

### Regenerating the foundations

**H**ow can the petrochemical industry thrive if there is no adequate supply of raw materials at competitive prices to feed production?

The private sector has been posing this question to the government for years. Mexico currently has two crackers, 'Morelos' and 'Cangrejera', that produce the country's supply of basic inorganic petrochemicals. Both are owned by the government via PEMEX. As the focus of the company is on the exportation of crude oil, accounting for more than half of government revenues, very few resources have been allocated to developing their petrochemical division. Complicating

matters further is PEMEX's reliance on the Mexican congress for its budget, which makes it difficult for the company to set its own priorities for reinvestment.

This situation has caused two main critical issues for the sector. Firstly, domestic demand is much greater than supply, causing a bottleneck. PEMEX does not have the funds to construct another cracker on its own and the private sector will not participate because they cannot get a competitive contractual long-term price on feedstock to merit the heavy investment. Secondly, companies have to import petrochemicals, mostly from the United States, to fuel their production. This has made Mexico a net importer of petrochemicals and in turn causes the chemical industry to account for more than 78% of the national commercial deficit (ANIQ 2004). Imports in 1995 were 30%

of national consumption, ten years later that figure more than doubled to 63% (ANIQ 2004). In essence the country is exporting a commodity and importing a value-added product and thereby losing industrial capacity, wealth, and employment potential.

The Fox administration is well aware of the situation and has put in place the 'Reactivation Program for the National Petrochemical Industry', a program that will see \$2 billion invested across thirteen projects in the hope of unblocking the bottleneck in production and placing Mexico's petrochemical sector on an internationally competitive footing. Rafael Beverido, president of PEMEX Petrochemicals, who is heading these projects, summarizes: "We have expanded our two crackers from 500K tons to 600K tons. This has taken place under the current administration. We are also in the process of expanding the same two crackers from 600k tons to 900K tons. We have doubled the capacity of vinyl monomer from 200K tons to 400K tons. We have increased the capacity of the polyethylene low-density plant in Cangrejera from 240K to 250K. We also converted one of our plants to produce 100K tons of high-density polyethylene. In March we will open a new polyethylene plant in Morelos. We are also expanding the production of ethylene oxide to 280K tons, which will be ready at the end of this year or latest first quarter 2007. Lastly, we are also in the engineering study stage for the expansion of higher capacity ethylene oxide that will also be ready in 2007."

The expansion of the two crackers is part of the Phoenix project, a key initiative involving public/private collaboration. The private sector will be responsible for the construction of a polyethylene plant and an aromatics plant due to come online in 2009, assuming everything goes as scheduled. Originally, the plan consisted of the construction of a new cracker and two polyethylene plants, with the possibility of a further two or three plants, but this did not go forward due to disagreements in feedstock prices.

IDESA, a well-established local petrochemical company and one of the private companies involved in the Phoenix project, has been pushing to move forward with the original plans. Jose Luis Uriegas a protagonist for the project and president of IDESA has not lost faith in developing another cracker for the country: "I am confident that in the future, as soon as the

pricing stance becomes more flexible, there will be an opportunity to develop both projects. We cannot even supply our own demand, for example, of polyethylene. We are currently importing about 1 billion tons. I don't know any other country that has hydrocarbon reserves and produces half a billion tons of polyethylene while importing 1 billion tons. We only produce one third of what we consume which is 1.5 billion tons. This can be changed with the simple development of the Phoenix project. All it would take is a bit of effort and flexibility in the pricing structure. Little by little it will be realized, I don't think it is a question of one or the other. I think the alternative plan can and should be enacted as well as the original plan".

For the time being Mexico can boast advances in the sector whilst the alternative plan develops. As for the original Phoenix



"The key factor is to have more available raw materials, for which we need the energy reforms" says Jose de Jesus Valdez, CEO of Alpek.

project, or another similar project, it will be up to the next government to decide. Arturo Garcia, Managing Director of the Phoenix project on behalf of PEMEX Petrochemicals and President of APLA (Latin American Petrochemical Association), summarized the recent achievements: "Fortunately, the past three months have seen substantial advances in making the alternative Phoenix plan a reality. This project will permit us to press forward with the objectives of the original plan. We ignored the need to invest in our Petrochemical sector for the past fifteen years. But we are now on track to begin the integration of PEMEX investment with private sector investment. We will be looking for joint ventures now and in the future."

Private investment into the sector will help companies with supply shortages imposed by the limited output of PEMEX Petrochemical's to grow their capacity. One such company is Canamex, a producer of active tensides. Dietz Kaminski, who worked in BASF for thirty-five years including the post of president of BASF Mexico, is now the General Director of Canamex and is charged with growing the business. He sees his growth potential limited by supply shortages: "We are growing by 35% but our potential to grow further is not a lack of markets, it's just a question of PEMEX. We don't get enough ethylene oxide. We have a certain quota and that limits our growth. I would double my purchases from PEMEX if I could. Importing is not an option, the price is too

high in the United States and there is not enough security from the Mexican boarder southwards. No big company will risk that for the moment. We have distributors in the US and Canada, but until we sort out our feedstock supply, it does not make any sense to take on any more. The shortage of supply by PEMEX really is a limitation for us."

It is clear that both PEMEX Petrochemicals and the private sector understand the need for investment in order to regenerate the petrochemical industry, and that this would, in turn, ignite the chemical sector as a whole and create enormous opportunities for foreign investment. This sector is one to watch as PEMEX Petrochemicals is on the brink of opening its doors to private investment. As Beverido of PEMEX puts it: "Let's join forces!"



Addressing the private sector, Rafael Beverido of PEMEX Petrochemicals says "Let's join forces".

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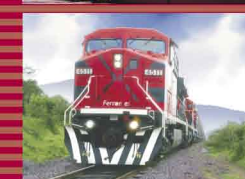
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## Resins

### Opportunities downstream

**M**exicans are acknowledged as the world's largest consumers of soft drinks, with a per capita consumption estimated at almost five hundred 8-ounce bottles a year (Lloyd March 2004). To the detriment of glass, polyethylene terephthalate (PET) plastic bottles are having an enormous success in Mexico. PET bottles are increasingly replacing pack types that are perceived to be 'old fashioned' such as glass bottles, metal cans and to a certain extent liquid cartons, across a range of product categories. Technological improvements with regards to barrier strength and visual appearance mean that the application of flexible plastic can be extended to a larger range of products.

Voridian, an operating division of Eastman Chemical Company and the world's largest manufacturer of PET, is convinced of the conversion trend to PET as Augusto Knudsen Liparachi Commercial Director for Mexico, Central America, Caribbean and the Andian Region explains: "I don't think PET has reached its peak potential in Latin America at all. If you look at the magnitude of products out there, we have not even reached the tip of the iceberg. We still have about 70% of the market left in the segment where PET is used, that does not take into consideration new segments. There is a change of habit happening with the new generation, from

glass to PET. What we are bringing to the table is new technology and a new plant dedicated to the packaging market and to new applications in particular. People say things are impossible. Our motto here in Mexico is 'impossible just takes longer'. Where is PET going to go? It will go everywhere."

#### 'We cannot isolate ourselves, otherwise we are very vulnerable'

One area with enormous room to grow as far as conversion to PET is concerned is that of beer. Traditionally, glass has had an almost monopolistic market, a trend that has been changing in the last couple of years. Gruppo Mossi & Ghisolfi (M&G) has been a catalyst in developing and promoting conversion of beer bottling from glass to monolayer PET with the new ActiTUF® high barrier resins. David Swift, Global Marketing Manager for the group summarizes their success in capturing markets: "We focused on beer as a major opportunity for PET. In 2003 our PET beer bottles were launched in the Russian market with Interbrew (now Inbev) because consumers were already accustomed to using PET bottles. Soon after our Russia launch, we entered new East European countries almost on a monthly basis. So, we can see that the technology is performing. We are now looking for projects and people in Mexico and Latin America with ideas for converting from traditional materials to PET for juices, beer and other oxygen sensitive beverages."

AOC Mexicana is a leader in the

production of polyester resins with a domestic market share of more than 35%. In 2005 they saw volume growth of 8% and are expecting the same this year. Enrique Arias Herrera, Director of the company summarizes how successful joint ventures and a state of the art plant have helped them to grow: "We have grown three and a half times since our joint venture with AOC. Seven years ago we produced less than 1,000 tons per month (TPM), today we are producing more than 3,000 TPM. We differentiate ourselves by the very close relationship that we create with our clients to custom develop specific products that are needed for their production lines. It is a very labor intensive approach that requires an extremely flexible plant to produce the precise products for our clients. Our future growth plan will involve more alliances and joint ventures."

He continues, "Latin America needs to reinforce its position through alliances to gain products, technology and know-how. We cannot isolate ourselves, otherwise we will be very vulnerable to China, Korea, India, and other emerging countries that are making strategic alliances with the developed world. I feel we are losing that opportunity. We are acting as an island."

There are no doubts that opportunities in the Mexican resins market exist both domestically and for export. Growth is being achieved whether through joint ventures, strategic alliances or innovative ideas. As with all downstream businesses, the inevitable energy reforms will boost growth and investment opportunities to record levels.

## Pharmaceuticals

### Heading towards a highly regulated market

**M**exico's pharmaceutical sector contains plentiful growth and investment potential: It is the second largest market in Latin America in terms of units, after Brazil and the first in terms of sales volume. The country has posted an increase in GDP per capita year-on-year for the past four years running (ERS International Macroeconomic Data Set). To further boost the sector, demographic trends show an aging population with longer life expectancy.

People's 'out-of-pocket' spending accounts for a large portion of pharmaceutical sales due to the lack of an adequate government sponsored health care system (only about 50% of the population is covered). In 2004 the government accounted for an estimated \$1.4 billion (19%) of medical spending or 974 million units (50%) of the total medicinal sector's drug consumption in the country.

The three main presidential candidates seem to agree that public health and education are a prerequisite to building a wealthy and prosperous nation. One of the Fox administrations' projects aims for 100% medical care coverage of the Mexican population by 2012. Should this plan go ahead, the medicinal sector will no doubt see substantial increases in demand. Currently, Mexico only contributes 6% of



Fernando Díaz Lombardo, president of the National Association of Manufacturers of Medicines (ANAFAM) and CEO of Kendrick Farmaceutica.

GDP to health expenditure, the third lowest ranked out of the OECD countries, behind South Korea and Slovakia. The Mexican private pharmaceutical sector in 2005 was valued at \$8.5 billion.

Most of the largest innovative European and American multinationals including Eli Lilly, Pfizer, Roche and Sanofi Aventis are present in Mexico with strategic production plants and/or research laboratories, thus contributing to the development of the local pharmaceutical industry. Eli Lilly Mexico, the number one company in the sector in terms of growth, has launched seven new molecules in the last thirty months and is currently planning another four new molecules for the coming three years. 2005 saw a reinvestment into research of almost 20% of sales globally. As Enrique Conterno, President and General Manager for Mexico's operations outlines, "we would like to make Mexico

a cost effective research and development division. This is something that we have been working on for many years now. You need speed, not only operational, but also in legislative approvals and market entry. Once this achieved then we can talk about cost efficiency."

In the case of Pfizer, they regard Mexico as the tenth most important country (out of one hundred and eighty) and that of principal interest in Latin America; a very good indicator considering Pfizer is the number one pharmaceutical company in the world with global sales of over \$50 billion in 2005. The investment into research at their Mexican laboratory has increased 25% from 2004 to 2005.

It is clear that an innovative company's future success stems from today's investment into tomorrow's unique medicines. As Mexico heads towards becoming more capable of providing an universal public health system, issues not uncommon to even the most regulated markets arise. Patent legislation and enforcement is key to balancing the system of generic and innovator medicines.

In Mexico a patent for a new molecule is given and safeguarded for twenty years before a generic version can come to the market. Opinions vary concerning the twenty years mentioned. On the side of the innovator companies, issues such as new patents for different uses of the same molecule and protection of research documentation are present. As Mony de Swaan, Pfizer's Regional Corporate Affairs Director for northern Latin America, put it: "I think there is a huge



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loophole in the Mexican legislation as far as data protection is concerned. We believe the authorities comply with disclosure, but we have documented examples where reliance has not been met. For example, a third party goes to the authorities before our patent has expired to present a generic version of our drug asking for a sanitary registry of a product that will be launched after our patent expires. At this point the generic company does not present their own studies but rather requests that the authorities rely on our clinical data in order to receive a sanitary registry. In this case it enables the generic company to come into the market literally the day after our patent expires without sharing the investment and efforts made in clinical research. What I am saying is, protect the scientific knowledge generated by our clinical trials for a certain period (NAFTA establish a five year minimum). That is, don't extend sanitary registries to third parties based on our clinical research in which we invested millions of dollars and years of work."

The generic companies on the other hand argue that patents are being awarded extensions past the twenty year mark mostly due to a change of component in the medicine, change of use for the medicine and commercialization time lost in early years of the patent. Fernando Díaz Lombardo, president of the National Association of Manufacturers of Medicines (ANAFAM) and CEO of one of the largest generic companies in the country, Kendrick Farmaceutica, shares his reservations on patent extensions: "When

### Social Responsibility in the Pharmaceutical Sector

Both local and multinational pharmaceutical companies in Mexico are taking part in the development of social programs through alliances with NGO's and high impact governmental projects. According to CEMEPI (Mexican Centre for Philanthropy), less than 1% of companies in Mexico participate in social programmes; of these, only 125 companies actually donate funds. One of these is Pfizer, who via an open contest, assign approx. 625,000 US dollars a year to the backing of 25 social programmes with activities in six identified areas. There are currently 28,000 direct and 60,000 indirect Mexican beneficiaries from these programs. A drop in the ocean for a country where up to 46 million inhabitants can be classified as living in poverty, but an example to companies who have not yet ventured into setting up sustainable CSR programmes.

a patent is granted it comes with a date of expiry. What can happen is that the owner of the patent argues that by adding X or Y ingredient to the original formula they have come up with an innovation. The patent board analyzes the situation and can award extra years of protection. That is one scenario. The other argument can be that the innovator claims that when the patent was

submitted the FDA took five years to give their final approval and hence the company lost five years of patent protection. In many occasions judges award a five-year extension. These examples are what we consider illegal. The law is very clear, twenty years for an innovative molecule, not for new uses or alternative versions."

These global arguments reflect some of the patent issues facing the Mexican pharmaceutical industry. In the words of Mr. Conterno, "I do not consider generics as competition; I see them as complementary to providing a sustainable health care system."

Some companies focus their strategy on both sides of the playing field to capitalize on both innovative and generic markets, as is the case with Silanes. It is one of the few Mexican companies who invest in R&D and have patented products. The development of new technologies and products are advanced in conjunction with academics and research centres all around the country. Antonio Lopez de Silanes gave us his insight into the future of the pharmaceutical sector in Mexico: "I don't think that companies can rely on the government for their sales taking into consideration the globalization of markets. We need to be developing cutting edge technology and laboratories to face competition from Asia. Next, we need to grow out of our county and into international markets. The companies who do not do so will not survive the competition, and hence I feel the sector will go through a consolidation stage in

the coming years." Asian competition, especially from India, has been entering the Mexican market for the past five years through acquisitions and joint ventures. A clear example is Indian pharmaceutical giants Dr. Reddy's Laboratories, who, last November purchased an active pharmaceutical ingredient plant from Roche in Cuernavaca for \$59 million. Other Indian companies present include Ranbaxy and Wockhardt.

### 'Asian competition, especially from India, has been entering the Mexican market'

In order to accommodate the influx of foreign pharmaceutical players, companies such as Grimann Laboratories, a 100% Mexican company, have constructed state of the art plants capable of producing a wide range of pharmaceuticals products in their different forms. Grimann, inaugurated their new plant of 17,000 square meters in April of 2005. Aside from producing for fellow Atmann companies, Laboratorios Sanfer and Laboratorios Hormona, they also manufacture for multinationals Servier, Recordati and Menarini, Viatris and Blistex. With their new installation capable of handling a greater capacity they are welcoming more foreign companies for joint ventures in production. Globalization, fusion of enterprises and the necessity of products with competitive costs opens great opportunities for those companies that have a solid structure, sophisticated technology and value added services.

A task that the government must address is that of quality assurances, both for domestic producers and for imports. In the case of domestic producers, new legislation has come into effect as of last January whereby generic companies are obliged to provide bio-equivalency tests for all their products by 2009. This will no doubt severely affect some laboratories without proven products, but at the same time it will insure the quality of medicines in the country and close the gap between Mexico and other highly regulated markets. One area that will need to be analyzed in the near future is that of imports. At present there is no legislation or process to certify the quality and effectiveness of imported drugs, a point that both generic and innovator companies agree could be damaging for the sector as a whole.



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## 50th Anniversary: The Industry behind Your Industry





## Transportation & Logistics

### Connecting to and from Mexico

As Mexican chemical and, more specifically, petrochemical companies struggle to become more competitive, transportation and logistics has been identified as a key area in which to reduce costs. Efficiency, prices and services in the sector have improved mostly due to the privatization of the rail system and governmental focus and investment into the terrestrial and seaport infrastructure. One area of concern is the aging road network, particularly where run by states and municipalities. Currently road transportation accounts for 75.3% of the terrestrial market, leaving rail with 17.2% and sea with 7.5%.

Railroads in Mexico face stiff domestic competition as outlined by Richard Miller, Assistant Vice President for BNSF Mexican Business Unit, “depending on the commodity, railroads typically begin to get competitive at 800km or more, TFM’s (Transportación Ferroviaria Mexicana) longest haul is 1,200km, from Nuevo Laredo to Mexico City. What we as an industry tend to do is focus on long haul where we work with truckers as partners. While the overall Mexican rail share has gone up in relation to road, it still has not made the progress the government envisioned. I would venture to bet that they have made quite a bit success on the international side of the business, where there is still a lot of room to grow, but that the domestic business is more likely to struggle because of the shorter length of haulage. That is just the fundamental nature of railroads. It’s short haul vs. long haul.”

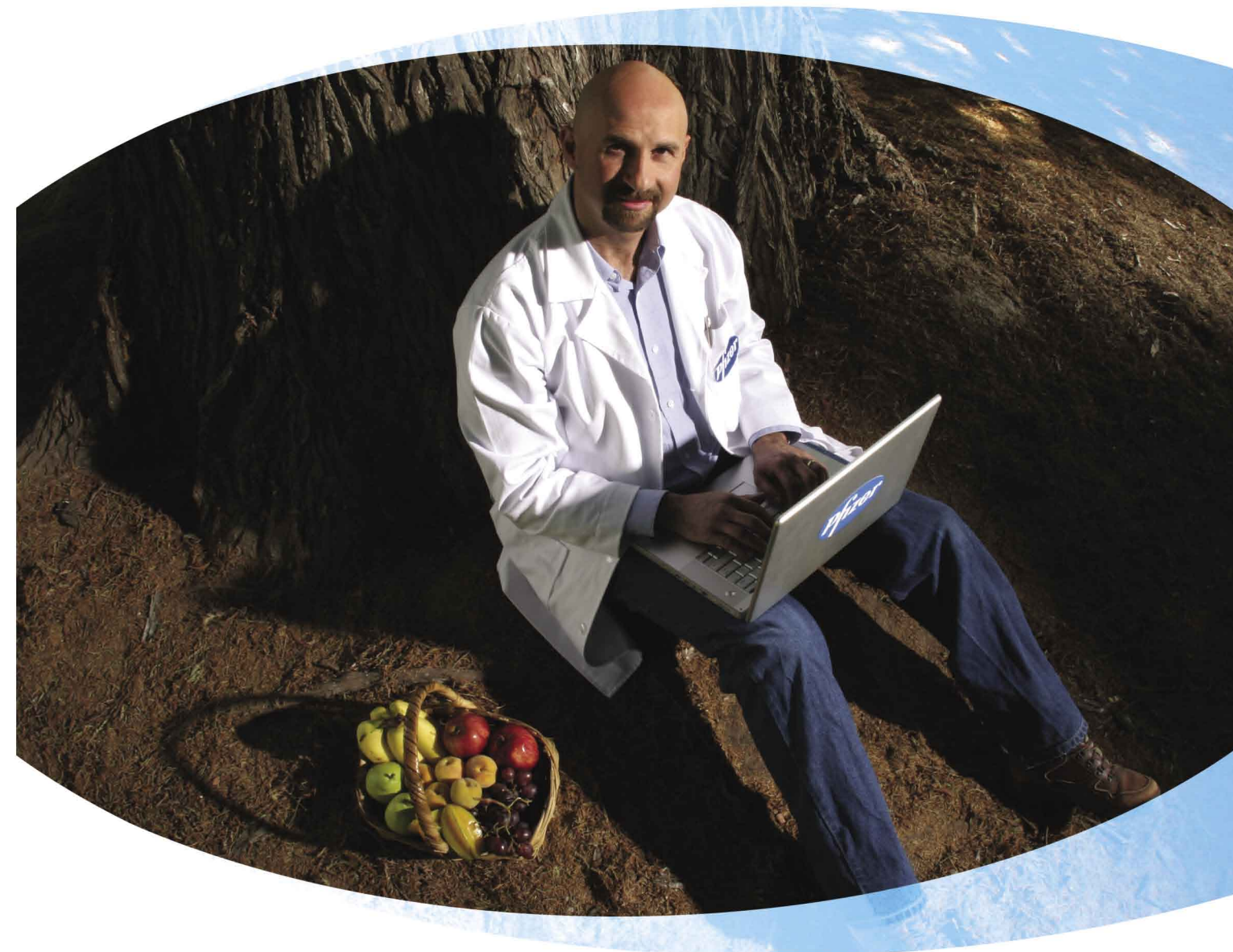


Multimodal facilities offer a solution to Mexico's transportation deficiencies.

Since the privatization of the rail system ten years ago, there have been advances in the areas of rail connectivity, safety, security, technology and rolling stock. One of the main challenges Mexican rail companies face is a negative perception dating from pre-privatization times. Edgardo Cabrera, General Director of Logistics Services Network, a consultancy firm providing supply chain management services to public and private companies, observes: “Transportation is the highest cost in the logistics area. Companies in Mexico are always trying to transport their products terrestrially via roads and highways ignoring the issues of road quality, safety, security and tolls. Over the next five years multimodal transportation will be the solution for moving products, investment in infrastructure to facilitate interchanging transport modes will help the sector to be more competitive. This will make Mexico a more attractive and accessible market,” a point that is increasingly becoming clear to companies in Mexico that have average transportation and logistics cost between 10% and 20%.

Italian multinational Gruppo Mossi & Ghisolfi (M&G), the world’s second largest PET producer, has operations based in Altamira. When asked about transportation & logistics in their Mexican operations, Mark Adlam, North America Commercial Manager of the PET resin division, remarked: “We have had a long learning curb. When we started the business our supply situation was stable, but our rapid expansion put a great deal of pressure on our logistics system and cracks began to show. It would be nice to find the perfect partner who would provide a quality distribution system sufficiently large to manage our business.

Railway companies recognize that they face stiff competition from the trucking industry seeing as rail transport accounts for only 17.2% share of total domestic transportation, compared to 40% in the United States. Rail companies have chosen to work together in order to better compete. Ferromex, the largest rail company in the country, and Ferrosur, the third largest, have combined their efforts to attract new clients through introducing value-added services, improving delivery times, and joining the South/Southeast with the Centre/Pacific and Northwest areas of the country. Carlos Miranda, CEO of Transportation Services for Ferromex, outlines the strategy: “We are developing new synergies between the two companies. For example, we are working with Ferrosur to service the chemical sector via a direct service from the Coatzacoalcas (Southeast) to Irapuato (Northwest).. Additionally, we will continue to have inter-sales and we will continue to interchange cars between United Pacific (USA) and BNSF (USA). We are



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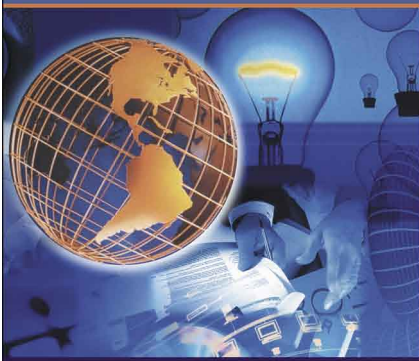


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interchanging locomotives, electronic documentation, technical equipment, and know-how, so that at the end of the day we will provide one seamless service for our customers.” These merged services create longer uninterrupted point-to-point hauls that helps rail to be more competitive and is why importing companies landing at Mexican ports are finding rail the best solution to reach the US market.

Mexico currently has sixteen ports owned by the federal government, five ports owned by regional governments, two ports owned by Fonatur (a federal government company) and one privately owned port in Acapulco that is dedicated to transporting automobiles and receiving cruise ships. Having invested \$3.5 billion in ports during its administration, the government has actively encouraged private involvement meaning that the public sector has only inputted 40% of this value.. As transporting vessels become larger, port options in the region are becoming fewer, including the main port of Panama. At the same time Mexican ports are gaining a sound reputation because of their depth and breadth to dock large vessels coming from Europe, Asia and Australia.

Leonardo Lazo Margain, General Director in charge of promotion and administration of the government owned ports highlights why Mexican ports are gaining in popularity: “The largest opportunity we have is our location next to the world’s strongest economy. We are connected by multimodal chains, both rail and highway, to enjoy the quickest access to the US border. The US ports are saturated, as is the case with Oakland or Long Beach, so we have found that the Asian transporters are choosing to dock in Mexico and hence our volumes are constantly rising. In the case of Europe, we are also seeing growth, especially from the Spanish ports of Barcelona and Valencia. We are continuously improving our infrastructure and services to gain these clients.” An example of service promises made to Asian transporters includes a delivery time of twenty-four hours from Lazaro Cardenas (Southern Mexico) to Chicago.

An impressive part of port infrastructure and also perhaps an interesting investment opportunity is in Altamira’s petrochemical corridor. It has taken the leadership position, both in Mexico and Latin America, as a major hub for the production of petrochemicals with more

than \$5.5 billion of investment. Currently it produces 30% of the country’s chemicals and petrochemicals and 80% of locally produced resins. Companies in the corridor producing chemicals and petrochemicals have an installed capacity of more than 2.6 million tons. This industrial zone has the capacity and provides all the needed services for any range of companies wanting to invest in production plants with access to rail, road and sea.

Mexico’s transportation sector has come a long way, benefiting from privatization, public/private investment and Mexico’s geographical location. Yet there are still improvements to be made. One major issue that needs to be cleared up is the border crossing from Mexico to the United States. Currently, transporters are finding it much more difficult to take cargo Southbound than Northbound. Historical interests of border towns, unclear regulations and overwhelming security to derail black market goods coming into the country all contribute to make for an uneasy border crossing. As Mr. Miller puts it, “it’s really a border issue. If you compare the route Chicago – Los Angeles where rail has roughly 90% intermodal market share and Chicago – Mexico City where rail has less than 3% intermodal share for non-auto parts freight, the only difference between the two routes is the Mexican border.” This is an issue the next government will have to tackle if the country’s railways are to tap into the cross US border intermodal market.

As with any emerging economy there are reforms, political will, and infrastructure that need to be built on, but in the same manner there are many investment opportunities to be had. Mexico’s logistic & transportation sector is a clear example of such.

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