

# Mexico

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# Mexico's Energy Reform: an opportunity in three generations



Mexico's oil production has decreased from 3.4 MMbbl/d in 2004 to 2.4 MMbbl/d today. Photo courtesy of Pemex.

**M**onday August 11, 2014, represented historic moment for Mexico: President Enrique Peña Nieto, who brought the Institutional Revolutionary Party (PRI) back into power in 2012, signed the Energy Reform bill after the legislative powers approved the secondary laws that will develop the new framework.

By the end of October, the details of the 25 sets of rules transforming the country's model for the oil and gas and electricity sectors had already been published by the Mexican administration. The process is developing at quite a fast pace considering that this is landmark reform that involves constitutional change and ends the 76-year monopoly in exploration, production, processing and distribution of hydrocarbons of the national oil company, *Petróleos Mexicanos* (Pemex).

A look at official investment and production figures helps to explain the bold move in a country where the state's exclusivity over the oil and gas resources was considered sacred. Mexico's oil output has been declining continually since its peak in 2004, when it reached 3.4 million barrels daily (MMbbl/d); by mid-2014, it was below 2.4 MMbbl/d. Also, from an energy self-sufficiency standpoint, Mexico has increased its gasoline and natural gas imports over the past decade, a trend accelerated by the shale gas development in the U.S., so that in 2013, Mexico imported 30% of its natural gas needs and 49% of the gasoline consumed in the country.

To support their budgets, the different governments were able to offset the declining production with the rising price of oil. The Mexican Crude Export Mix went from \$31 per barrel in 2004 to \$103 in 2012, according to the National Hydrocarbons Commission (CNH). Yet, this situ-

ation was not sustainable; a steep decrease in oil prices over the second half of 2014 has only helped the cause of those advocating for the reform. "What closes the circle of the reform is that, although the Mexican state will no longer keep 100% of the oil income, total revenues from the hydrocarbons sector will increase because production volumes will be higher," explained Fluvio César Ruiz Alarcón, independent board member of Pemex.

The expectation is to reach 3 MMbbl/d by 2018, although Ruiz Alarcón believes that timing to be overambitious: "To add production to a 76-year-old structure will take longer," he said.

The fall in production has been unrelenting, despite Pemex's rising expenditures on exploration and production. The total E&P budget has actually doubled over the last decade, from \$11.7 billion in 2004 to \$23 billion in 2014. The plan to stabilize production at around 3 MMbbl/d, and even push it to 3.5 MMbbl/d by 2025, will have several legs: On one side, large investments in Mexico's deepwater hydrocarbon potential, where major international firms are expected to partner with Pemex (companies like Eni, Pacific Rubiales and Kufpec have already signed MoUs with Pemex in different areas of the E&P business); the development of challenging fields onshore, such as Chicontepec, and unconventional plays such as the continuation of the

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Eagle Ford shale, probably by foreign entrants; and the introduction of new technologies to enhance recovery in Pemex's traditional shallow-water assets.

"The fact that there was a lot of oil in shallower waters has stopped Pemex from doing more in the past. Deepwater will probably be the first target for international companies," affirmed Eckhard Hinrichsen, country manager and country chair at DNV GL, a global classification and certification company that has been working on risk assessment projects for Pemex's deepwater wells.

"The deepwater areas in the Gulf of Mexico are the new geological frontier. Pemex is just starting to acquire knowledge there. With the drilling activity so far we know there is great potential, but we are barely starting to do a thorough study," said Ruiz Alarcón of Pemex.

With regard to shale resources, these will take longer to be developed, says Frederick Lawrence, vice president of economics and international affairs at the Independent Petroleum Association of America (IPAA): "At this juncture, it will most likely be the majors, large independents and service companies that will be early entrants, because they have the scale and the offshore deepwater experience. The natural gas and shale projects onshore pose more challenges (especially to smaller independents) in terms of infrastructure, water, surface issues, geology and most especially, security.

Moreover, independents still have a considerable amount of drilling inventory in the U.S."

### People shortages woes

The expectation with the reform is that overall E&P investment in the country could reach \$60 billion annually. However, one big question arises: Companies may have the money to invest, but it is not certain that they will have the people. Trebling overall expenditures will not be possible without the relevant experts, of which there is a shortage in virtually every oil and gas jurisdiction. "It will be difficult to uproot talent in Calgary, Houston or London, where there is full employment. To get someone to leave a very good position to do a contract job in Mexico is going to be expensive. People have options throughout the energy industry today," said Bruce Peterson, managing director in Houston for Korn Ferry, a recruitment specialist.

"Technical roles like geophysicists, vice-presidents of engineering and the like will probably come from outside of Mexico, because the people with those skills today are in Pemex. It is probably not in many companies' best interests to try to pool people out of Pemex. In fact, I do not know if the executives of Pemex would want to leave anyway," added Rich Russo, global knowledge manager, Korn Ferry.

Adding production also means much better recoveries are required from Pemex's maturing shallow-water fields. The case of Cantarell is



A more competitive upstream sector will benefit Mexico's industrial development. Photo: Morelos petrochemical complex, courtesy of Pemex.

*“Pemex is not being exposed to the whole gamut of technologies that can satisfy its needs.”*

*—Arturo Henríquez*



Arturo Henríquez, chief procurement officer, Pemex.

paradigmatic: one of the largest oil fields worldwide by accumulated output, its production has fallen sharply from 2.1 MMbbl/d in 2004 to just 353,000 bbl/d by mid-2014. Therefore, Cantarell is no longer Pemex's flagship asset; Ku-Maloob-Zaap is the field that yields more production, with an average of 863,000 barrels daily during 2013. “Mexico has a lot of shallow-water oil that has not been produced efficiently, with many wells that can be tied back to shallow-water platforms. There are moderately expensive techniques to drill deepwater wells that they may not be familiar with. In Cantarell, there are secondary and tertiary techniques that could improve recovery,” said Edward Hernandez, vice president of hydrocarbons for Latin America at WorleyParsons,

an engineering and project management firm.

### **Modernizing Pemex's procurement processes**

While opening the market to new entrants will certainly be a sea change to Mexico's energy industry, one of the aspects of the reform is providing Pemex with the much-needed autonomy to take long-term, strategic decisions. The state company has traditionally been “hostage” to the different governments that have squeezed it for revenue, while its investment decisions have been thoroughly scrutinized.

“One problem with being a government agency is that we are government employees. We adhere to laws that private companies do not. We have inspection efforts by transparency enti-

ties that do not give incentives for risk-taking and good decisions; the lowest-cost option is always the one that is going to be less questioned,” said Arturo Henríquez, chief procurement officer of Pemex.

The result of all of the checks and balances in place to curb corruption and obtain the lowest prices has been a cumbersome, slow and extremely competitive bidding process. One key change in procurement is the unification of all Pemex's supply

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# “We have 10 projects in which we want to sign joint ventures”

*Interview with Gustavo Hernández, Director, Pemex Exploration and Production (PEP)*

## **What are the main changes that the energy reform is bringing about for PEP?**

The changes are mostly related to operational aspects. Before the reform, Petróleos Mexicanos had the constitutional mandate, the responsibility and the obligation to explore all of the Mexican territory. Today, we only have a portion of all the prospects, which all together amount to 112 billion of barrels of oil equivalent.

We requested 34.5 billion barrels, or 31% of this total. Of these, we were awarded 22.1 billion barrels, which represent around 22%. Clearly, there is a reduction of responsibility, and that gives us the opportunity to be more focused. This means that we need to adjust our operational structure for exploration.

With regard to production, out of the 43 billion barrels the country has, Pemex was awarded 30 billion barrels (20 billion in P2 reserves, on top of 11 billion barrels of P3 reserves). This enables us to reorganize internally in order to exploit these fields more efficiently.

## **How are you allocating PEP's budget?**

Last year the Secretary of Finance authorized 300.5 billion pesos [about US\$22 billion] for 2014. Of these, about 30.5 billion pesos [\$2.2 billion] were dedicated to exploration and the rest, 271 billion pesos [\$20 billion], went to exploitation. For 2015, we have requested a similar volume of about 299 billion pesos that will go to the exploratory basins and the production areas that were assigned to Pemex in Round Zero. We are focusing on the northeast and southwest marine fields, Abkatún-Pol Chuc, Ku-Maloob-Zaap [KMZ], Cantarell, and the Tabasco coast. These areas, as well as Tsimin-Xux, are where we are placing most of the expenditures for the production of light crude. Equally, we are investing



significantly in the south region, a producer of light and extra-light crude, in our main projects: Cinco Presidentes, Samaria Luna, Bellota-Jujo, and Macuspana-Muspac.

We also have smaller investments going to gas-producing fields and crude fields that we have been assigned in the north of the country. In the north region we have also been working with third parties through public works contracts. We hope to migrate towards the new shared production contracts that the energy reform contemplates.

## **What is Pemex's favorite model in order to work in partnership with foreign companies?**

There are several situations. We have 10 projects in which we want to sign joint ventures with companies that have technical expertise, experience or financial means. These are: three mature fields onshore, Ogarrio, Cárdenas Mora and Rodador; three mature shallow-water fields with historical production, Bolontikú, Sinán and Ek; we also have an area of extra-heavy oil fields, Ayatsil-Tekel-Utsil, where we would like to find partners; we have our deepwater gas-producing fields of Piklis and Kunah; and in deepwater oil areas, in the northern area of the Perdido belt, the Trión and Exploratus fields. These

are 10 fields that we have identified immediately and where we can find an alliance. Our interest is to be the operator, because we have the experience, with the exception of deepwater fields. Most probably, in Trión and in Exploratus we will choose not to be the operators. Perhaps later, after this experience, we will want to be in control in the second or the third deepwater project.

## **How do you expect Cantarell, KMZ and Chicontepec to evolve in the medium term?**

Cantarell started to decline a decade ago. It is a field with a 35-year history that started production on June 23, 1979. Its production peak was over 2 million barrels per day, and today it is yielding around 350,000 barrels daily. There are still volumes to be extracted and it is still the country's second largest producing field after KMZ, which produces 850,000 barrels daily. Therefore, it is relatively important, and it still has a great amount of resources in the ground that can be extracted. It will continue being a priority.

KMZ is the country's main producing field and this is going to continue moving forward. We are going to try to take care of it and to manage its energy, using our experience in Cantarell for a more efficient exploitation in KMZ.

Chicontepec is a field with immense reserves of over 16 billion barrels of oil equivalent, which amounts to nearly one-third of the country's total reserves. We have worked on our knowledge of the geology and the extraction methods. This learning curve can take between 10 and 20 years as has happened in other fields worldwide. We need to know very well what's going on underground. We will continue investing to capitalize this asset efficiently. We will produce efficient barrels at competitive costs.

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offices under one centralized division led by Henríquez, who explains that the pre-reform scenario was far from ideal: “As a supplier, you may sell some equipment to the northern on-shore division, but in order to do the same in the south you have to start all over again. Overall, the supplier base has to knock on 100+ doors. The consequence of that is twofold; first, a lot of suppliers do not want to do business with Pemex, secondly, Pemex is not being exposed to the whole gamut of technologies that can satisfy its needs,” Henríquez concluded.

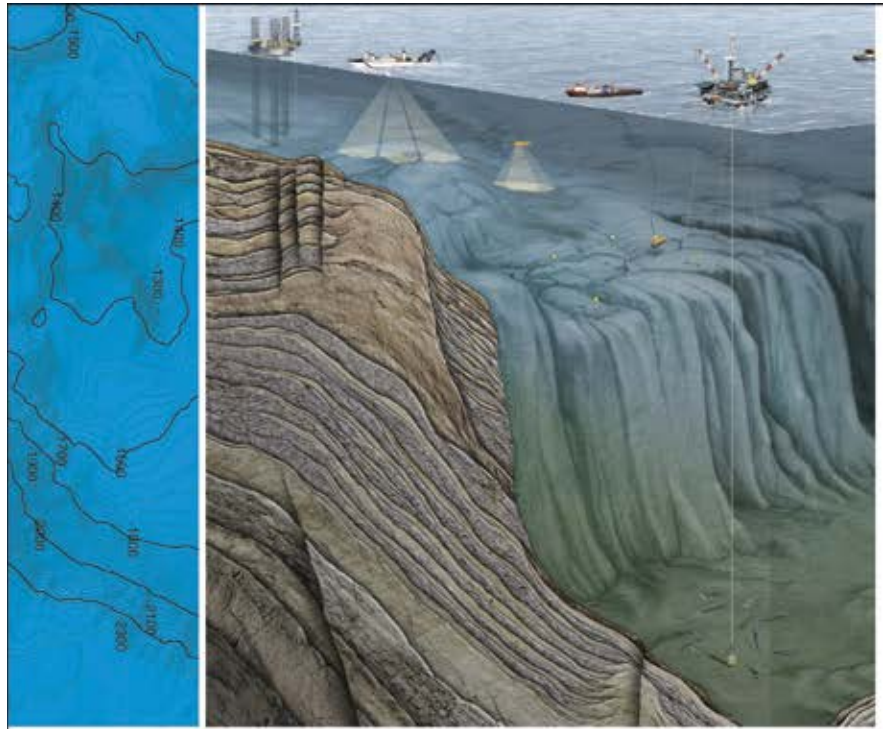
The reform is therefore very far-reaching. On one hand, international players will be able to invest in E&P. On the other hand, the opportunities for service providers are enormous, both for contracts with Pemex and business with the new entrants.

According to George Gonzalez, partner at Haynes and Boone, a law firm that has had a Mexican presence for more than 20 years: “This is not like the 2008 reform; the fact that there is a constitutional change cannot be underestimated. It is not just a once in a generation event, but a once in three generations event. It is the first time in over 75 years that private enterprises can participate in the oil and gas sector in Mexico.”

For his part, John Magee, president and CEO of Crane Worldwide Logistics, a rapidly growing company based in Houston, said: “I applaud Mexico for implementing reform because other Latin American countries have had these opportunities in the past and have failed to capitalize on them. On top of the opportunities in E&P, Mexico has long been looked at as a hub for manufacturing. With the rise of labor costs in China and increased transportation and fuel costs, I see Mexico as a gold mine for the Americas region.”

If the reform is implemented in the right manner, the results will be visible soon; from higher oil revenues for the State, to the creation of hundreds of thousands of jobs and the development of Mexico’s middle class. In this context, the next 10 years will truly be a time of opportunity for Mexico’s oil and gas sector and its ancillary industries.

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## 20 years Consulting and Managing Business In Mexico



Michael J. LeBlanc, CEO of LeBlanc  
Strategic Resources

### **How did you get involved with the Mexican oil and gas market?**

In 1972, my father, Steven J. LeBlanc, was a founding father of Caleb Brett, now known as Intertek. Today, Intertek is listed on the London Stock Exchange and is a leading third party testing, inspection and certification (“TIC”) company. I grew up on the inspection and

testing side of the oil, gas and chemical industry. As a third party inspector, I was able to understand the commercial side of the business because every buyer and seller needs an unbiased report of quantity and quality to complete a financial transaction. During the 1990s, I moved to Mexico to manage 3 locations inspecting and testing a wide range of products such as: LPG, LNG, Crude Oil, Gasoline, Diesel, Jet Fuel, Fruits and Vegetables, Minerals and Plastics. Petróleos Mexicanos (PEMEX) was our largest client in Mexico. I then was in charge of the global Crude Oil Vessel Inspections for ExxonMobil and all Chemical Inspection and Testing for Dow Chemical.

In 1998 I became the Global Director of Marketing, Sales, Contracts and International Operational Coordination for Intertek (ITRK:LSE). I was a leader on our IPO team successfully launching as a public company in 2001, then we swiftly broke into the Top 100 of the FTSE in 2008. I spent my last 5 years with Intertek attending regional and global responsibilities based out of Mexico City. Proud of my group’s efforts and my own personal goals achieved at Intertek, I moved back to Texas in 2009 to pursue and open my own consulting and industrial company.

Today, I provide strategic consulting for corporations and private equity firms that are vested in the TIC Industry and our company sells safety oriented industrial equipment such as explosion-proof equipment, blast buildings, offshore and onshore oil and gas separation units and various safety detection systems. The crude oil in Mexico is typically high in H<sub>2</sub>S with high gas pressure that requires well engineered and tested industrial operational systems, storage tanks and proper transport methods.

The Energy Reform is actually making Mexico a safer place to work, which bodes well with Mexican and foreign employees, business owners and their families. We have sold over 1,000 industrial and explosion proof units in Mexico to companies such as: PEMEX, Halliburton, Schlumberger, Grupo Carso, ICA Fluor, General Electric, ABB, Siemens, Grupo Alfa, Shell and Chevron.

The Mexican government has started to “clamp down” on PEMEX, domestic and foreign oil companies and Chemical and Gas facilities in regards to safety. Mexico will see a reduction in fatal safety incidents in the oil, gas and chemical space as a result of the Energy Reform passed by Congress. This safety achievement comes at a cost; as the need for new, efficient and safer equipment increases production costs. Mexico currently has a serious lack of skilled workers who can operate modernized equipment and technologically advanced procedures.

In light of recent private sector and governmental meetings in which I have participated this year, Mexico is increasing funding for Technological Universities and corporations are having to import workers from countries such as the United States, Spain and Asia. This has become a huge niche market of employment and education that is seldom reported in traditional media outlets.

### **What changes do you anticipate in PEMEX moving forwards?**

Over the years, I’ve visited and worked in 75-80% of PEMEX’s facilities in 27 Mexican cities and ports. In years past, some PEMEX locations that employed over 200 personnel could be efficiently run with less than half the staff if a private corporation were at the helm. Non essential PEMEX jobs and employee benefits absorbed too much of the Mexican National budget; as just a few years ago, an employee could retire at up to 90% of their final salary with medical benefits for life. Although employee benefits are today more in line with other comparable global oil companies, the retired employees’ financial burden on Mexico’s economic future had to be addressed. The new balance between PEMEX and private sector companies in Mexico along with booming automotive, aerospace and electronics industries will ease this financial burden.

As PEMEX decreases its footprint, many current PEMEX employees will not be able to find an immediate job with foreign oil companies. This is a concern for Mexican engineers, in particular, as under the previous PEMEX structure, continual improvement and new technological training expenditures were highly scrutinized and many times not approved. New oil and gas companies will need to take training costs into consideration and also be sure to comply with complicated national labor laws. The legal sector and bi-lingual attorneys will recognize a stronger demand for their services.

Traditional international and Mexican national industrial oil and gas products and service companies will enjoy stronger revenues and profits well past 2019. Engineering, Environmental, Safety, Training and Certification companies will experience unprecedented growth. A large driver of this growth is the fact that the new Mexican government will insist





that oil production sharing partners must bring internationally recognized modern technology and put safety as a top priority. For the Mexican economy, safety, in all its forms, is an integral component in order to achieve and maintain long term success.

Opportunities for employees looking for international assignments are rising steadily. In contrast to what is widely reported by the global press, Mexico is actually a great country to live in for many reasons. Core family values are still respected in Mexico and the large majority of Mexican citizens hold high moral standards, are very friendly, carry faith based character traits and are genuinely caring people. Crime is a reality in Mexico, but is easily avoided by staying away from “bad parts of town”, just as in any country. I brought my family from Louisiana to Mexico for 5 years and it was the best family experience we have ever had.



Steven J. LeBlanc, co-founder of Caleb Brett, USA, today known as Intertek



Susan Hinds Brenner, long time assistant to Steven J. LeBlanc

water, bio-fuel or traditional oil and gas based energy sources, the door is wide open for investments that will yield long term growth in the electricity and power sector in Mexico.

### **From your own experience, what advice can you give to people who want to enter Mexico?**

Investing in Mexico is a good bet. For businesses that want to share in Mexico's economic boom, they must incorporate Mexican workers and culture into their company. Mexico has

excellent international law, accounting and auditing firms and using them is essential for small, medium and large companies alike.

Smaller national and foreign companies now have a greater chance to be successful as a result of recent governmental and fundamental energy policy changes in Mexico. I am seeing more Americans and Europeans entering the market and this will continue to give birth to new start-up companies, joint ventures and international acquisitions.

Individuals new to Mexico should read and watch English or Spanish versions of the national news on a daily basis, understand the three party political system, subscribe to a variety of unique publications, encourage a bi-lingual attitude, get involved with many spouse oriented organizations such as The Newcomers' Club and I strongly suggest they join and become active members in one or more of the many reputable and influential business groups such as the American Chamber of Commerce, where I am currently a Director. The Mexican business climate shuns arrogance but is quite warm to foreigners who show cultural respect and make an active effort to network amongst the national and international business communities.

Mexico City is a major international finance hub and has affordable, top notch and safe private schools for those with children. A new International Airport is being built as Mexican airlines boast newer jets, cheaper flights, friendlier travel atmospheres and better safety records than most U.S. airline carriers. Daily flights to national business and vacation destinations as well as expanded global direct flights make living and working in Mexico a pleasant experience. New shopping malls, golf courses, trendy restaurants and continual newly built modern residential and commercial construction combined with reasonable home staffing costs make for a very good quality of life while living in Mexico.

### **What do you think of the creation of the centralized procurement division within Pemex?**

I agree with the creation of one centralized procurement group. When I entered Mexico 20 years ago I had inherited 12 local procurement centers. An estimated 24% of company profit was being lost in the process. Creating a centralized procurement office is the way to ensure that there is less corruption and more transparency. Local procurement specialists are still needed as each location has unique needs and cultures, but PEMEX is on the right track by enforcing a centralized procurement division.

### **What are the key points of Mexico's economy?**

Mexico is actually part of North America, has the NAFTA agreement in place, access to the Atlantic and the Pacific Oceans, shares a border with the United States and does not need to dedicate a large portion of their governmental and military budget in overseas activities.

With a steadily rising manufacturing base, wages more in line with China's wages and a natural strategic geographic positioning, the Mexican economy will continue to grow well past the foreseeable future. After visiting over 20 manufacturing and oil rich cities in 2014, the enormous amount of large structural and civil construction that is currently underway is a key indicator that Mexico will quickly become a G 10 economic power. Mexico's automotive, aerospace and electronic industries continue to grow. Using a financially trained eye, the type of construction and continual investments into the Mexican infrastructure clearly shows investors that this “Energy Boom” is just part of an overall and well thought economic strategy.

An overlooked fact of Mexico's Energy Reform is that there is only one, state owned electrical company in the entire country called the Comisión Federal de Electricidad (CFE). The new laws call for PEMEX and the CFE to become privatized. Industry experts estimate that more than 25% of Mexico's usable electricity gets wasted due to old and outdated systems and equipment. Whether it be nuclear, cogeneration, solar, wind,

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## Partnering with the modern Pemex

One of the key aspects of Mexico's energy reform is to provide Pemex with the necessary autonomy to set up a leaner, more efficient structure, and take over the strategic decisions that will ensure the sustainability of the company. All that while continuing under state ownership, ideally emulating other successful models in the region like Petrobras in Brazil and Ecopetrol in Colombia.

Considering that oil has lost 30% of its value during 2014, the authorities' decision to use financial derivatives to hedge this fluctuation is just a reactive approach to a deeper problem, since the road to competitiveness involves many aspects. In the words of Michael LeBlanc, CEO of LeBlanc Strategic Resources: "In years past, some Pemex locations that employed over 200 personnel could be efficiently run with less than half the staff if a private corporation were at the helm. Non-essential Pemex jobs and employee benefits absorbed too much of the Mexican national budget; as just a few years ago, an employee could retire at up to 90% of their final salary with medical benefits for life."

According to Miguel Jáuregui, president of Jáuregui y Del Valle, a law firm in Mexico City: "The restructuring of Pemex will allow the company to compete with private-sector players. There will be open competition, accompanied by a strengthening of the regulatory bodies and governmental agencies such as the CNH. Another aspect of the new legislation is its push towards transparency, sustainability and environmental protection."

The way Pemex meets its technology and service needs is one of the key aspects to be transformed. Arturo Henríquez, appointed chief procurement officer last year, is the man leading the modernization of Pemex's sourcing processes, replicating the changes already completed in most oil and gas companies over the last 10 to 15 years. The new, centralized system intends to look at the bigger picture of the company's needs to implement



Subodh Saxena, senior vice president for international business, Nabors.

longer-term strategies. Bruno de Ribet, technology global director at Paradigm, a developer of software solutions for the industry, illustrates how procurement can affect production. "With the reform, Pemex is changing its strategies in the main fields, with a stronger focus on data integration. They used to operate each asset separately; now they need a global panorama of what they have. Cantarell is not just one reservoir but a very complex geological environment."

As Arturo Henríquez points out, the real benefits come from strategic decisions: "Before, the decentralized procurement function was reactive. Now, we buy proactively, and the derivatives of that are economies of scale, savings, efficiency, faster processes and strategic, rather than transactional, relationships with the suppliers."

### Friendlier tender processes

These changes are being welcomed by many of Pemex's suppliers that did not agree with the way that some of the tenders had been done in the past. For instance, Pemex had introduced reverse auction processes where companies could bid multiple times in order to win the contract. "Pemex needs to get the lowest cost, but the usual practice of squeezing out the margins can potentially lead to service providers spending significant efforts on managing cost structures rather than focusing on the value they will deliver. Pemex needs to move to a process that is more aligned with value addition," said Subodh Saxena, senior vice president of international business at Nabors.

Chester Mroz, president and CEO of Yokogawa Corp. of America, a solu-



Chester Mroz, president & CEO, Yokogawa Corporation of America.

tion provider in instrumentation and process control, agrees: "The Shells, Chevrans and other IOCs tend to select preferred suppliers for strategic offerings. They go through very rigorous evaluation processes to prequalify their suppliers. They also establish purchasing agreements and develop standard engineering processes and workflows, which reduce costs and project risk. I think the current reform in Pemex's procurement process towards these approaches will be very positive."

Bob Arnold, president of Rotork Controls, a leading player in valve actuators, believes that dealing with Pemex is not so different if compared to other NOCs: "Pemex's executives are very knowledgeable, they spend time to investigate potential solutions and are good at making sound engineering decisions. Sometimes it takes a long time to bring a project to fruition, but that is just the nature of this type of business."

The issue of slow decision-making processes by Pemex leads to another challenge for suppliers; the long wait to get invoices paid. In some equipment packages, this may take 18 months, a period during which the supplier needs to keep the operation running at its own expense, or obtain financing.

One key organization that supports U.S.-based manufacturers and suppliers is the Export-Import Bank of the U.S., which provides export tools that fill gaps in trade financing. Of total Ex-Im Bank authorizations in Mexico in 2013, the vast majority (\$1.5 billion) was centered on Pemex business. According to Paula Swain, Ex-Im Bank's managing director for downstream energy, project and struc-



tured finance: “While some banks would lend to Pemex directly, there is a certain limit to what they can do, and regional banks do not have the appetite to take on direct Mexican risk.”

Many of the U.S. exports to Mexico come from the Houston area because of the importance of oil and gas in the Mexican market. In this context, Houston-based companies have developed great expertise in handling the related risks, said Genaro Peña, vice president, international investment and trade at the Greater Houston Partnership: “Houston is the top export market in the U.S., which means that Houston companies are very resourceful in their ability to finance and manage risk. We want to see Houston companies firmly engaged in partnerships with Pemex, as well as with their own independent projects with Mexican partners, and with other international players.”

With a faster, more modern Pemex as a result of the reform, and provided that the price of oil stabilizes at reasonably profitable levels, international companies will definitely find new opportunities to participate in Mexico’s oil and gas industry.

## EPC: Mexico’s strategic position

Already one of the largest oil producing nations, activity in Mexico’s energy industry will increase thanks to the reforms. Mexico can boast an educated labor pool at competitive costs, a large, growing economy and a vast array of free-trade agreements worldwide, including, but not limited to, NAFTA. The country also has access to both the Atlantic and the Pacific oceans, and sits next to the U.S., with excellent flight connections to the world’s energy capital, Houston.

It is of no surprise, then, that over the past years some of the largest EPC players have set up yards in Mexico, to serve not only Pemex’s national market, but also to export from Mexico to other jurisdictions with an active oil and gas industry. “The current trend is for modular construction, which can be done anywhere in the world, and then the different modules can be transported. Yet shipping costs and size restrictions in the Panama Canal make many companies focus on Mexico for construction needs. We expect a lot of this modularization to happen in Mexico. It is just a five-day sail from Mexico to the U.S. Quality is high and it is close to Houston, so it is easy to monitor the process,” said Jacques Stoof, vice president of sales for U.S. and Mexico at Mammoet, a multinational company specialized in heavy lifting and transport.

Dragados Offshore, a company from the ACS Group in Spain, opened its first yard in Mexico in 2003, in Tampico, a facility where it is currently executing two projects for Pemex of an estimated total of 39,000 tonnes. In 2013, the firm, which has around 4,000 workers in the country, decided to double its production capacity in Mexico with an investment in a new yard in Altamira. The new facility will be dedicated to large offshore projects in Mexico as well as



The main EPC players are ramping up their local capabilities in Mexico. Photo courtesy of McDermott.

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Dominic Savarino, vice president and general manager for the Americas, McDermott.

internationally. The company already has experience in Mexico developing projects for export, including the Port Arthur refinery project in the U.S.

Also in 2013, McDermott completed the shift of its fabrication facilities from its Morgan City unit in Louisiana to Mexico. “We have invested about \$150 million so far in our Altamira facility. We have a large deck building where we can assemble under cover so, from a weather and productivity standpoint, we can maximize efficiency. The 12-meter water depth along the quayside allows us to accommodate large vessels and integrate topsides, such as for FPSOs, and the yard has deepwater access directly to the Gulf of Mexico. The Altamira facility allows us to do non-Pemex work under the Mexican reform in Mexico or for export. We are currently undertaking a project for West Africa, for instance,” explained Dominic Savarino, vice president and general manager for the Americas at McDermott.

Savarino gives more details about the company’s latest projects for

Pemex: “We recently finished the Ayatsil-B jacket and deck that we designed and fabricated and we have another Pemex project ongoing for the PB-Litoral-A 6, 350-tonne deck and jacket, for which we are delivering full EPCI services. It is a significant-sized deck, and from a technological standpoint it is the first float-over installation for Pemex. We are utilizing our specialty installation barge as opposed to a heavy-lift vessel. We are halfway through the project and expect to complete the installation in Q3-Q4 2015.”

Another player in the EPC segment is Saipem of Italy. Mauro Piasere, CEO of Saipem America, explained that Pemex is increasingly moving toward an integrated contract model that goes from engineering to installation: “In the past, Pemex has always divided a project in different segments, and as Saipem, we have always been present in the T&I [transportation and installation] part. More recently, Pemex has been launching EPCI contracts, which is the way we like to work: One single contractor takes care of everything. We believe that this is the way to go, because under the other model, if you have one of the contractors not delivering on time, the whole project is affected.”

Pemex’s time management throughout the process is also a factor that needs to be considered. As it broke down projects into many segments, Pemex had to make more contract decisions, an area where the company does not have a reputation for being fast. In recent years, leaders have complained that Pemex’s time-

lines were disconnected from those required to properly plan, engineer and execute a project. As contractors could not keep major resources, like vessels, waiting for Pemex to assign a project, this eventually created higher costs for all parties.

Alfonso Wilson, Mexico director at Boskalis Offshore, expanded on this issue: “Pemex is slow to take decisions. For our heavy marine transport, what we sell is time. Our vessels need to be occupied most of the time. Very often, by the time Pemex makes up its mind, only one or two months before the movement is meant to take place, our vessels are busy with other jobs. This is a recurrent problem across our industry.”

In 2013, Boskalis acquired Dockwise, a specialized player in heavy marine transport that has a fleet of 21 semi-submersible vessels, including the Vanguard, the biggest heavy marine transport vessel in the world. Now, as Boskalis Offshore, the company wants to expand its focus to do more installation work in Mexico and internationally.

All contractors are ready for a boost in marine activity in the country. In the words of Piasere of Saipem: “Once the first major company decides to move to Mexico, there is going to be a chain reaction in the market. Major companies are now in a wait-and-see position before they start defining their plans with Pemex, but I think it is just a matter of time before the entire market evolves. In this region, between Pemex and the new entrants, the opportunities for growth are enormous.”



Pemex is increasingly moving towards integrated EPCI contracts. Photo courtesy of Pemex.





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# New technologies for Mexico's oil and gas development

*International manufacturers are gearing up to serve Mexico as the demand for equipment is set to expand.*

The immediate effect of Mexico's energy reform will be the arrival of international operators into the country. In order to carry out their activities in Mexico, these E&P companies will bring in their trusted providers that may or may not be present in the country already. On the other hand, as Pemex centralizes its tendering processes and becomes a more provider-friendly company to work with, some companies that were discouraged from entering the market previously may decide it is worth it to give it a shot now.

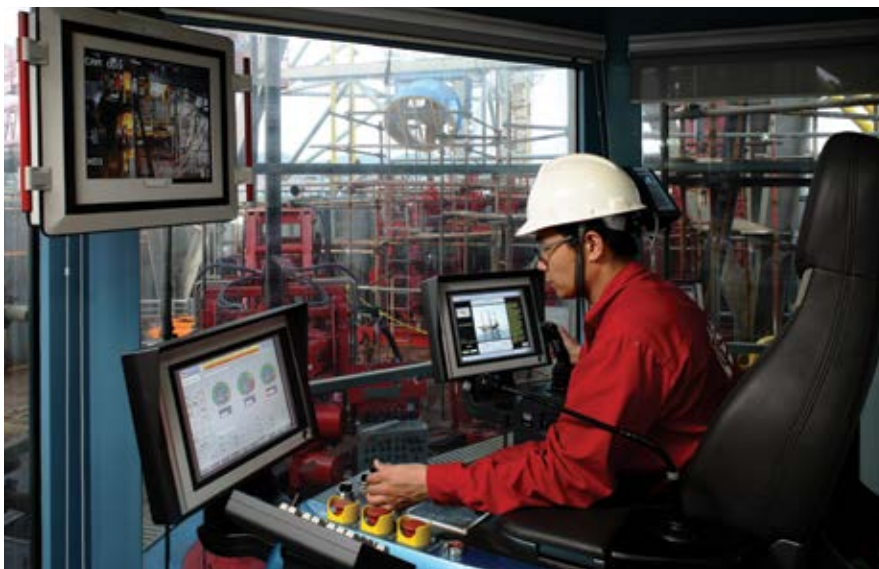
The size of the pie is not to be neglected; last summer Swiss bank UBS anticipated that the energy reform will translate into E&P investments of more than \$53 billion over the course of 2015, of which \$27.7 billion would be from Pemex and \$25.8 billion from new entrants. That is more than double the money Pemex spent in 2014.

"The energy reforms are a turning point for the country. We see growth in both the sale of equipment and the provision of services," affirmed Clay Williams, chairman, president & CEO of National Oilwell Varco, a global provider of technology and services that has been working in Mexico for decades.

"NOV serves the Mexican market



Clay Williams, chairman, president and CEO, National Oilwell Varco.



Overall E&P investment is expected to more than double with the arrival of private players. Photo courtesy of TSC Group.

in a variety of ways," he said. "Pemex is a very large operator of jackup rigs and has recognized the need to modernize its fleet in shallow waters. We are now building several jackups in shipyards around the world to go into the Mexican market. We have also recently sold 10 modern quick-move land rigs to Pemex directly and a number of coil tubing units. On the other hand, the deepwater areas are very exciting for us. Another expansion project we have underway is the build-out of an aftermarket support facility for deepwater rigs in the Villahermosa area."

NOV, which boasts annual sales of \$20 billion and employs 60,000 people worldwide, aims to change the supply model for floating production, storage and offloading units (FPSOs) by offering an integrated package of equipment to Pemex, replicating a model already in use for drilling rigs.

The expected takeoff of E&P activities in shale plays is also an opportunity for the introduction of new technologies that have been devel-

oped north of the border in the past few years. For Héctor Arévalo, vice president of sales and marketing for Vallourec's drilling products in Latin America, the opportunities in Mexico are manifold. "We have recently developed a type of drill pipe specifically designed for shale applications. This proprietary technology, along with our premium high-torque connections, is already being used in the United States. Also in the shale segment, we have the Hydroclean product line, designed to clean the well while you are drilling it," he said.

While expectations are high, what remains to be seen is the speed at which the changes will actually happen. The expert developers of shale resources currently have their hands full in the U.S. and there are serious infrastructure and security barriers that may delay the development inland.

"Foreign investment in E&P will not happen very fast, but for sure many of the rigs working in Mexico are not suited to how drilling is conducted to-





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day. Therefore, there is a huge market in replacing them. Some of them can be upgraded, but the majority will need to be replaced," said Jim Terry, CEO of Integrated Drilling Equipment, a designer and manufacturer of rigs.

The company, with facilities in Texas and Oklahoma, is in the process of opening a joint venture plant in Mexico.

The opportunity cannot only be found in the dramatic increase of volumes, but also in the fact that the client base will no longer be limited to a national oil company with its particularities.

"The issue with Pemex is that they only pay at the end of projects, so you need big financial shoulders. For platform rigs, you may need financing for 18 months. This makes it difficult for smaller companies to participate in Pemex's bids," explained Brando Ballerini, president of Drillmec, an international manufacturer that belongs to Trevi, a large construction group in Italy.

"Also, Chinese companies have an advantage as they have better access to financing than Western companies," he added.

Besides the financial constraints, obtaining the contracts is not an easy process in the first place. Bill Lewis, regional general manager for Mexico at TSC Group, said, "The Pemex bidding process is quite difficult for suppliers to complete due to the insurmountable amount of documentation not generally required in other regions of the globe."

Yet, difficult does not mean impossible. In 2014, TSC Group, in consortium with two other companies, won

a \$63 million contract with Pemex to carry out refurbishment of several land rigs. "Pemex wants to implement mechanization and automation in these for safety and to extend their life. They are putting in a new driller's cabin, a new control system, a new electrical system, new engines, new mud pumps, an automated pipe handling system and a top drive, which before they did not have. In addition to the land rig contracts, TSC envisions additional potential to supply the modular platforms and jackups required by Pemex in the Mexico region," said Lewis.

"For us, most of the opportunities will come from the fabrication of platforms, oilfield construction and possibly pipelines," said Travis Segura, president of Crown Resource Management, a company that provides labor resources in a number of fields, including shipbuilding, heavy oilfield construction and environmental projects.

"There are many competitors in the marketplace, so the strategy is to find our niche and go with the right technology, products, service and competitive pricing. Some people are skeptical about dealing with Mexico; I am not. Before, many of the projects on the table were too third-party, had too much risk, or had problems in quality control, but now the situation is changing," he said.

Indirectly, 20% to 25% of Crown Resource Management's work is related to Mexico's oil and gas industry, and the company is now looking at entering the country either directly as a contractor for Pemex, or as part of a joint venture with another company.

### **Local content**

Aware that the size of the market deserves a good local presence, international providers are taking positions in Mexico's hot spots, opening plants and hiring local personnel. TSC, for instance, opened its first facility in 2013 in Ciudad del Carmen and is now setting up a sales office in Mexico City as well.

"Mexico wants to emulate Petrobras in the long run, with respect to generating a fairly active local industry; they have large shipyards and manufacturing capacity in Brazil. There is pressure on Pemex to increase



Bill Lewis, regional general manager Mexico, TSC Group.





Pemex wants to upgrade its rig fleet. Photo courtesy of Drillmec.

local content,” said Robert Andrews, president & CEO of Andrews Technologies, one of the companies working with TSC on the aforementioned Pemex contract.

“The problem,” he explained, “is that there is no capacity in Mexico. There is nobody with a significant API certification in Mexico, except two little companies in the north that

have an API 4F license. There is not one manufacturer with an API Q1 license, whereas in China and the U.S. there are pages and pages of manufacturers with it. There are some Mexican service providers, but the big boys continue to be foreign. That does not mean, however, that the situation will not change in the future.”

Those who have been in Mexico for a long time have been ramping up their local capacity over the years. After all, Mexico has consolidated a strategic position as a great manufacturing location, with a competitive labor force and myriad free-trade agreements in place. GE, for instance, already has 20 manufacturing plants in Mexico, including four by its oil and gas division. “Expanding our manufacturing footprint in Mexico could be justified by the expected business volumes to serve both Pemex and the international operators. Besides, the oil and gas boom that the United States is experiencing and the growth expectations for the industry in Canada provide additional opportunities for our country to grow

as a manufacturing hub in the oil and gas sector,” said Gabriel Cerdio, director of GE Oil and Gas Mexico.

Rotork Controls, a company that produces a wide range of valve actuators for the oil and gas and other industries, decided to acquire its representative Rotork Servo Controles de México in 2011, and in 2013 it opened a new 1,400 square meter factory in Mexico City, under Rotork's Valve Automation Center model (VAC).

“We have invested heavily in our infrastructure and service team. We have people in the northern and southern regions as well as Mexico City. We are developing relationships with local suppliers that help us work more efficiently in the field. In Mexico, we do some municipal sales but our primary customer is Pemex,” said Bob Arnold, president of Rotork.

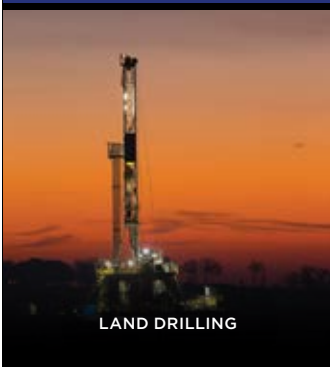
Local content also means good local distributors and logistics partners in order to place the needed equipment around the projects and providing after-sales services. This is especially relevant for specialty manufacturers that

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focus on one particular line and export it all around the world. "The challenge in Mexico is that there is not a large distribution network. It is difficult to find a good distributor for us with nationwide presence to get economies of scale," said Coby Salmon, vice president of business development at JAG Flocomponents USA, a well-established firm in the valves business in Canada that is targeting international sales from its Houston manufacturing plant.

In Mexico, it is present through the large EPC contractors such as McDermott and Dragados Offshore, but the company would like to gain direct access to Pemex. "There is no question that the business is going to grow," said Salmon. "Our goal is to have a very solid distribution platform in Mexico; and, additionally, we will forge a strong relationship with Pemex Procurement International in Houston to capitalize on large E&P projects," he said.

Although the changes brought by energy reform cannot be expected to happen overnight, companies need to

be ready to serve the market. From investments in plant expansions to the forging of alliances in Mexico with local players, providers need to take action if they want to make the most of this new window of opportunity.

## Services: Mexico Is Not Just Another Market

For its sheer size, one might expect that Mexico deserves special treatment by international service providers, yet the peculiarities of working with Pemex have created a distinction between those that eventually penetrated the intricacies of the NOC and those that decided to focus on other jurisdictions where tendering procedures are easier.

DTK-Group, a company providing niche laboratory and well services focused on the exploratory segment of the value chain, is a good example

of how local knowledge of the market can pay off. Its CEO, John Lawrence, has been in Mexico for 37 years. Today, the company has close to 200 people in the country, with laboratories in Villahermosa and Poza Rica dedicated to rock and fluid analysis and well-site services. While the company is also trying to grow its presence in other markets, such as Houston and Abu Dhabi, in Mexico 95% of DTK-Group's revenue comes from Pemex contracts.

"Our differentiator is that we created a laboratory to serve the Mexican market, while our competition sees Mexico as just another market to feed its larger laboratory in Houston. They do not have the same focus on the client's needs. We offer a different approach, which has allowed us to dominate the market," said Lawrence.

2014 has not been an easy year on the exploration side though, as Pemex put on hold some of its projects while the details of the reform and the results of Round Zero were being unveiled. Lawrence explained: "From

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an internal perspective, the reform has slowed down Pemex's activity because there has been uncertainty about which fields the company would keep, and which fields would be assigned to other players."

Another services company in the exploration segment is ION Geophysical, which signed a three-year deal with Pemex to process seismic data from onshore and offshore surveys. In the offshore sphere, seismic surveys are often hampered in the Gulf of Mexico by the presence of large salt formations that obscure or trap oil reservoirs. "Wide azimuth data acquisition has been broadly successful in illuminating these sub-salt targets, but successfully imaging these targets requires a combination of technology and experienced people," said Dave Ridyrd, vice president of ION's GeoVentures business unit.

### Drilling services

Subodh Saxena, senior vice president for international business at Nabors, described the current panorama of



In a scenario of lower oil prices, managing costs will be essential. Photo courtesy of Paragon Offshore.

Mexico's drilling business: "In 2014, the land region saw a decline in the rig count to less than 30 due to community issues and budgeting constraints for Pemex. The deepwater rig count is currently at four, with three additional semi-submersible rigs. The shallow-water rig count varies between 50 and 60 jackups."

Nabors is particularly strong on offshore modular platforms, an area where it provides seven of the 21 rigs active in the country. Saxena underlines the importance of forging a long-term relationship with Pemex. "Service companies have to adopt a distinct local flavor to ensure their success and alignment with Pemex. [With the

A large graphic featuring the Paragon Offshore logo on the left, which is a blue stylized nautilus shell. The background is a faded image of an offshore oil rig at sea. Text is overlaid on the right side of the graphic.

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Lee Ahlstrom, senior vice president for investor relations, strategy and planning at Paragon Offshore.

reform], the barrier to entry may become lower as the licensing rounds are completed; however, to be a sustained partner with Pemex in Mexico, one has to live through the ups and downs, which means that companies should have adequate resource allocation in Mexico irrespective of how lucrative the business is north of the border in the U.S.”

Long-term relationships have also been key for Paragon Offshore, a spinoff from Noble Corp. that operates a fleet of standard specification offshore drilling rigs. Overall, the company has 15 years of experience in the country, which is its most important market for jackups. Paragon has a total of 11 units working for Pemex, mostly in Cantarell and KMZ.

“Paragon has been in Mexico when day rates have gone up and when day rates have gone down. We have sought to build a significant presence so we can enjoy our own economies of scale, which also gives us an advantage in the competitive bidding

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*“To replace all of the old rigs in Mexico would cost \$350 million per year in capital investment for Pemex. There is clearly a place for standard specification rigs in Mexico.”*

*—Lee Ahlstrom*

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process with Pemex, since we do not have to move rigs in from outside of the country. Paragon has also grown comfortable from a risk perspective with the 30-day cancellation clause in Pemex’s contracts, which has prevented some contractors from coming into Mexico,” said Lee Ahlstrom, senior vice president for investor relations, strategy and planning at Paragon Offshore.

While there is a lot of talk about the need for new technologies to develop new oil fields in Mexico, Ahlstrom makes the case for Paragon’s standard specification rigs as the best alternative for many of Pemex’s requirements: “New rig day rates range from \$150,000 to \$160,000 a day, while our rigs average around \$100,000 a day doing roughly the same jobs. If there is a \$50,000 to \$60,000 difference in the day rate, a lot of efficiency needs to be demonstrated. To replace all of the old rigs in Mexico would cost roughly \$350 million per year in capital investment for Pemex. Paragon can demonstrate very clearly that there is a place for standard specification rigs in Mexico.”

Although it is the current reform that is responsible for the excitement, the truth is that Pemex has already been signing some integrated project

management contracts with third parties in recent years. In other words, the NOC has not been the only possible client for services companies. Parker Drilling, for example, counts six rigs in Mexico with two private clients. Outside of the U.S., the company focuses on land-based, high-technology, fast-mobilization rigs, including rigs with variable frequency drives.

“We do deep drilling and that separates us from other drilling contractors. We focus on the challenging, ultra-deep wells. We have a 2,000 HP rig that drilled a well of 7,092 meters, which is one of the deepest wells ever drilled inland in Mexico,” related Jason Geach, vice president for Latin America at Parker Drilling.

The company has more than 60 people in Mexico on the drilling side of the business and a further 90 people in the rental division. “Most of the big land opportunities will be kept by Pemex. As they operate these through integrated project management contracts, we will continue to participate in this business. I do not think that international companies will enter the land business until the shale technologies and the social issues are worked through appropriately,” said Geach.

## **The technology opportunity**

Across the whole value chain in Mexico there are opportunities to introduce new solutions that will result in more efficient extraction and better management of the country’s oil and gas resources, which will be key in an environment of lower oil prices. Large service providers are constantly acquiring smaller players in order to incorporate the latest technological solutions and ideas. Schneider Electric, for instance, has acquired more than 100 companies over the last seven years, among them Invensys and Telvent, a Spanish company that provides pipe-



Service companies are preparing for higher levels of activity. Photo courtesy of Parker Drilling.



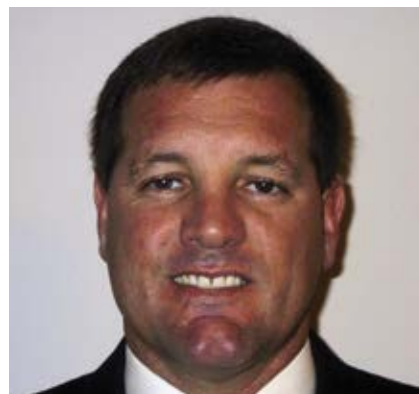
line monitoring services. In Mexico, Schneider has 8,000 employees, 12 plants and an R&D center in Monterrey with 300 people. Two-thirds of the company's production in Mexico is exported.

Baldur Krahl, director of oil and gas for Schneider Electric, gives a taste of the company's breadth of products and services for the industry: "In upstream we have safety systems and control systems, including all the telemetry for wellhead automation. In midstream Schneider Electric offers electrification and process control, using DCS or SCADA for processing facilities, as well as LNG facilities. We also provide SCADA for pipeline management systems, and we go all the way down to the marketing side, with terminal automation products. Moreover, looking at transversal solutions, we offer cyber security, which is very important nowadays."

Jean-Luc Vieux Pernon, vice president of energy for Latin America at Schneider Electric, based in Mexico,

explained that it is in the upstream segment where the company has entered more recently, and where there is more room for growth. "In exploration, we have recently provided an integrated solution for multiphase pumping. We are also preparing a Smart Field solution to control the well performance. We are working to provide a global management solution in the wells area, but also in the pipelines and refining areas. There is a lot to be done on the technology side: the opportunity is huge."

GE is another company that is increasingly targeting the oil and gas segment, and has evolved from being a manufacturer of turbo-machinery to become a provider of solutions across the value chain. Acquisitions have also been important in this respect: Vetco Gray, Hydрил, Wellstream and Lufkin are among the names that have joined the GE family over the years. Gabriel Cerdio, director of GE Oil and Gas Mexico, provided more information about GE's Industrial Internet initiative: "This has the potential



Baldur Krahl, Director of Oil & Gas, Schneider Electric.

to revolutionize industries that are intensive in high-technology equipment, such as the oil and gas sector. The idea is to help the client transform crude data into information and promote the development of predictive solutions. This way we can offer, for instance, intelligent pipelines, and improve the optimization of producing fields."

In terms of its relationship with Pemex, GE is providing wellheads and trees for new heavy oil wells in the

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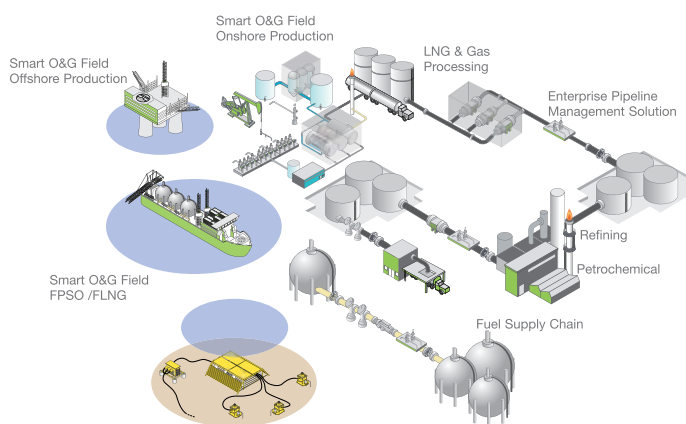
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Gulf of Mexico, wellheads for deepwater and ultra-deep-water projects and a number of compression and energy generation units, both inland and offshore.

Technology transfer to Mexico will be particularly relevant in the area of deepwater fields and the shale resources. Air Liquide, a company specializing in industrial gases, has invested heavily in Mexico, initially to serve the steel industry, but is following very closely any developments that may take place in the oil and gas industry.

Robert Legler, director of business development for North America at Air Liquide, which advocated strongly for the opening of a Mexican business, is optimistic about the growth prospects in the country: “Pemex is interested in technologies and we are a technology-driven company. With the energy reform they are open to bring in a partner like us and purchase gases over the fence, whereby Air Liquide would invest in a plant and sell gas via pipeline. On the other hand, we know the Eagle Ford Shale extends into Northern Mexico, where we already have infrastructure to provide large quantities of nitrogen gas. The issue in the area is the lack of water, and we have technologies to solve this issue. We believe that many of the companies operating in southern Texas will gravitate south of the border, and we are already talking to some of them.”

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## Spotlight on the Southern Gulf of Mexico: Innovation keeps aging offshore fields afloat

The offshore industry in the Gulf of Mexico has long been the mainstay of Mexico’s E&P activities, accounting for roughly three-quarters of overall production. Now more than ever, all eyes are on the offshore business in the wake of onshore budget deductions by Pemex and the national oil giant’s move to pursue the Gulf’s deepwater reserves.

While the low-hanging fruit of the shallow waters of the Gulf has been exploited for nearly four decades, the giant oilfields Cantarell and Ku-Maloob-Zaap in the Bay of Campeche have considerable remaining potential to be tapped into with the use of new technologies. As a result, service providers based in the states of Tabasco and Campeche have developed expertise in innovative techniques, providing the flexibility and creativity for which Pemex has historically had neither the budget nor the risk appetite. “The easy oil is gone and now we have the need and the responsibility as service companies to become more innovative in the solutions that we provide in order to overcome the challenges of exploited mature reservoirs in Mexico,” said Horacio Ferreira, president and CEO of oil field services provider Surpetrol, which operates a key office in Villahermosa. “Even now with the current oil prices it makes more sense to invest in technologies and solutions that add technological value and reduce cost,” he added.

To manage the production decline at Cantarell, in 2004,



Pemex brought in the expertise of Beicip Franlab, a consulting and software company that is part of the French Institute of Petroleum (IFP). For the aging giant oilfield, Beicip Franlab developed its innovative Enhanced Oil Recovery Alliance. This approach brings together the resources of Beicip Franlab, IFP and the chemical company Solvay, providing conceptual studies, laboratory studies and specialized chemical additives respectively. The work has contributed in part to the stabilization of Cantarell’s production at 400,000 bpd through 2017, following an 80% decline from 2004.

In this more challenging climate for production optimization, companies such as Surpetrol are placing a greater emphasis on constant well monitoring and deeper analysis with multiphase measurement. “We have reduced costs for well monitoring by providing a technical advantage by evaluating and transmitting data in real time. With multiphase technology we are able to see what is really going on in the field, which allows our clients to make the right decisions at the right time,” said Ferreira of Surpetrol.

With the opening up of the sector to foreign investment, service providers have an added incentive to bring in new solutions to optimize aging fields and unlock deepwater potential, which Pemex has estimated could exceed 26 billion barrels of oil.

For C&C Technologies, a Louisiana-based provider of geophysical surveying and mapping services, Mexico has proved to be a key market for the pioneering of new technologies. The company opened up a formal office in Mex-





Although Cantarell is in decline, the Campeche area continues to be key for Pemex with the company's main producing field, KMZ. Photo courtesy of Pemex.

ico, based out of Ciudad del Carmen, a decade ago to do business with Pemex and multinational contractors. Since then, it has seen operations grow at a year-on-year average of 30% in recent years on the back on innovation. “As a small company we are able to be flexible and responsive to client needs, unlike our competition. We have a continued focus on new technologies that bring in better data at lower costs. For example, in Mexico we are very focused on Autonomous Surface Vehicles (ASVs),” said José Aguilar, general director of C&C Technologies Mexico. “This is a very new technology on a global scale and brings very significant cost and time savings to clients. In fact, C&C Technologies Mexico is leading the development of the market for ASVs for the company as a whole.”

Even before the energy reform takes full effect, C&C Technologies has found Pemex and its contractors to be receptive to the innovative techniques that the company brings to mapping and surveying. Going forward, accessing the deepwater reserves and optimizing the shallow fields will rely heavily on data acquisition. “It is still early for deepwater development in Mexico, but we expect to see this area start to take off in the next few years and we will be ready to work on these projects,” said Aguilar of C&C Technologies.

Unlike the US market, which is mature in terms of data, Mexico must complete extensive geological and geophysical studies before drilling campaigns can begin. Seeing this opportunity, Villahermosa-based Geoprosados, a provider of geological and geophysical studies, is planning to move

into seismic acquisition for onshore and offshore. “Pemex still has a lot of work to do exploiting reserves in different areas and geologies, and we have a good portfolio of technology to help them,” said Javier Rubio, vice president of Geoprosados. “We are working with Pemex on a reverse time migration project inland, which is new for Mexico. In deepwater, we are applying different technologies for processing, imaging, and reservoir studies.” With teams of experts available locally to support them, Pemex is in a strong position to capitalize on this innovation expertise. As the market opens up to international oil companies, the service sector will have a further improved climate for competition and cutting-edge technology.

## HSE: Integrating Mexican and international standards

Transforming a monopoly into an open market not only has an impact on the regulatory framework that needs to be modified to allow new entrants in, but also it will translate into modifications of the operational and environmental regulations that frame the companies’ day-to-day activities.

On one side, Mexico is updating its health, safety and environmental framework so the process of attracting international investment will be smooth. On the other, newcomers will surely have to adapt to the particularities of the country, in a learning curve that should not differ so much to the experience accumulated in other jurisdictions worldwide. “Mexico is patterning its offshore industry on international approaches, particularly the U.S. Gulf of Mexico model. This is encouraging and should make it easy for companies that work in the U.S. to work there,” said Henrique Paula, vice president of global energy initiatives at ABS, a classification entity.

Having worked in Mexico since the late 19th century, ABS has classed more than 85% of the rigs operating offshore in the country, including the first floating, storage and offloading (FSO) unit in the Gulf of Mexico, and the first jackup rig ever built in the country, Swecomex’s Independencia 1.

The bet on the development of offshore E&P activities, particularly deepwater operations, raises the need for standards and technologies to prevent disasters such as the Deepwater Horizon explosion in 2010, still fresh in many people’s minds. The challenge in this respect is not so much the standards themselves, but the enforcement, said James Watson, president and COO of ABS’ Americas division: “The post-Macondo drilling standards in the Gulf of Mexico are not as difficult to manage as the organization and the staffing on the regulatory side. Sometimes you can fall into the trap of carrying out regulations where it is easy to do oversight and then not enforce the minimum standard where it may be a bit more difficult.”

Eckhard Hinrichsen, country manager and country chair of DNV GL in Mexico, expects the bar to be raised in the years to come: “As international companies arrive in the

country, bringing in the same international standards they are applying in, say, the North Sea, we will see improvements. Until now we had the monopoly of Pemex, and they already have come a long way to raise safety standards.”

DNV GL currently has 170 people in Mexico, 100 of which are dedicated to the oil and gas business. The company offers technical assurance, risk management and asset integrity services, including financial impact assessments of deepwater wells. “We have a lot of expertise in oil spill modeling and response,” said Hinrichsen.

## Keeping a clean environment

As production volumes are expected to increase over the next years in Mexico, so is the business of environmental services. Water produced in hydrocarbons extraction is one of the issues to be addressed, said Greg Norman, vice president for the Americas and global strategy at CETCO Energy Services: “You have to solve this both on land and offshore, and solutions range from small applications for cleaning a few barrels to large solutions for hundreds of thousands of barrels per day.”

With headquarters in Houston, the company started in Mexico with pipeline services, but water treatment is the main growth driver. “The marginal fields are what have to be addressed right now. Investment to increase production is going to result in more water; the systems in place are often antiquated and not adapted to today’s requirements. There is big opportunity in this area,” affirmed Norman.

Carbon emissions are also an important aspect to be considered. Fluenta, a company specializing in the production and installation of flare gas meters, set up an office in Houston following the tightening of regulations in the U.S. Now, it plans to consolidate its growth in the Americas region. Arnold Rivas, sales manager for Latin America at Fluenta, points out that the regulations on emissions started in Europe, but they are fairly new in the Americas: “In the U.S., the regulation was only passed around 2010. In Latin America, Brazil is the country that is more up to date. In Mexico there is more awareness about the subject than in other Latin American countries, but the rules are not very specific so decisions are left to the discretion of Pemex’s managers.”

As of today, Pemex is Fluenta’s only customer in Mexico, but Rivas expects that to change: “As Mexico opens up, we see many opportunities, since most of the companies that are looking at entering Mexico are already using this technology. These companies are going to bring even more awareness about environmental issues, and Pemex will also have to catch up in the new competing scenario.”

## Safety for workers

Obviously, safety should not be seen as the mere application of standards and regulations. There is significant emphasis on R&D and technology, as well as a cultural effort by all companies involved in the sector.

Baldur Krahl, director of Schneider Electric’s oil and gas business in Houston, insisted that safety considerations need to be incorporated during the design of new equipment: “Equipment needs to be much more robust to contain a potential explosion. At SE we offer active arc resistant solutions, for instance, which in addition to protecting personnel also protect the equipment from being destroyed.”

In the drilling business, technological evolution has had a great impact on the safety of rig operators. While in the old days it was necessary to disassemble a rig to move it to the next well, today there are rigs that practically “walk,” saving costs and reducing the need for operators. Looking more specifically at Pemex’s operations, industry leaders affirm that the NOC’s sites are often overstaffed, which has the unintended effect of increasing the exposure of workers to risky environments.

In this context, technological innovation needs to go hand in hand with efficient management and an appropriate safety culture. In the words of Jason Geach, vice president for Latin America at Parker Drilling: “We are investing in technology to take people out of the line of fire. Having said that, if you do not have the right culture, you are still going to have incidents.”

Geach explained that, as opposed to many companies’ “stop work authority,” Parker Drilling implements a “stop work responsibility” policy, whereby every worker has the obligation to stop an unsafe act. “In Mexico, in 2012 we had a total recordable incidence rate (TRIR) of 0.96; we lowered that to 0.77 in 2013, and so far this year [August 2014] we are at 0.27. We are pleased with these results, but for us, the goal is always zero incidents from both a safety and an environmental standpoint,” he concluded.

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# The Canadian Factor

*Mexico looks to Alberta for oil and gas expertise.*

The fact that Mexico sent a delegation to Calgary in June 2014 to discuss the oil reforms and promote opportunities should not come as a surprise, given Canada's international reputation as a center of oil and gas expertise. What is surprising, however, is that Mexico reached out to Calgary before going to Houston, New York or London. The message is clear: Mexico is actively courting Canadian participation in its newly liberalized resources sector.

Canada and Mexico enjoy a friendly trade relationship that predates the implementation of NAFTA in 1994. Both countries are each other's third largest trading partners, with bilateral trade amounting to \$32 billion in 2013, a year in which Canadian companies invested \$12.28 billion in Mexico. While oil and gas linkages are weaker than other sectors such as mining, Mexico is planning to adopt a similar regulatory framework to Alberta, Canada's oil-rich province. The Comisión Nacional de Hidrocarburos, Mexico's energy regulator, recently signed a memorandum of understanding (MoU) with the Alberta Energy Regulator to model its new regime off of Alberta's own system.

Since President Peña Nieto signed the reforms into law in August 2014, two Canadian companies have entered Mexico in a major way. The first is ATCO Group, a major midstream infrastructure company with operations in Canada, the U.S. and Australia, that signed two separate contracts to build a 16-kilometer pipeline and a 638 MW cogeneration plant in the state of Hidalgo. The company recently opened an office in Mexico.

James Delano, ATCO's head of Mexican operations, sees huge potential in the country's business environment. "It is the right time for us to participate in projects that will improve the economy and stimulate growth," he said. "There is a lot of work to do, which is hugely exciting for ATCO."



Steven Landry, senior vice president and chief development officer, ATCO Group.



Peter Volk, general counsel, Pacific Rubiales.

President Peña Nieto plans to install 10,000 kilometers of pipelines and 18 new projects for natural gas transport within the next four years. "The simple fact that the government is inviting foreign investment and participation in the sector offers an opportunity for ATCO and our peers not only to build and operate projects, but also the chance to share our knowledge and technical capabilities with Mexican companies," said Steven Landry, senior vice president and chief development officer at ATCO Group. "The construction of Mexico's natural gas pipeline network has already begun—there are several large diameter pipelines already in construction."

The second is Pacific Rubiales, Latin America's largest independent oil

and gas producer, that was proactively speaking with Pemex representatives prior to the reforms being implemented. In October, the company signed an MoU with Pemex to jointly explore opportunities in Mexico and is expected to be a participant in Round One bidding in 2015. "Mexico is a unique opportunity to anyone in the oil and gas industry right now. Few countries have the same combination of an incredible amount of knowledge about existing fields and those available for further exploration, said Peter Volk, general counsel at Pacific Rubiales. "Although the specific plays and timelines have yet to be worked out, we think our expertise in heavy oil and enhanced oil recovery is particularly suited to Mexico's production needs. Outside of this niche, there are opportunities for us in light and medium oil, shallow water and gas fields, although we will leave deepwater plays to others."

## The Maple Leaf in Mexico

Pacific Rubiales and ATCO Group join a small selection of Canadian companies in Mexico; there are fewer than 50 Canadian companies currently active there. These companies range from the very large—Precision Drilling, TransCanada, Enbridge and SNC Lavalin—to smaller niche players such as environmental containment pioneers Katch Kan and seismic technology providers NXT Energy Solutions.

SNC Lavalin, the global engineering giant, is a newer entrant to Mexico through its August 2014 acquisition of fellow engineering firm Kentz, whose subsidiary Valerus partnered with Pemex to provide in excess of 200,000 hp of compression capacity to develop the Magallanes and Santuario blocks in Tabasco State. Going forward, the company expects Valerus to lead efforts to unlock shale formations in the Burgos basin in northern Mexico. "The challenge for Valerus and other



Fernando Aguilar, president and CEO, Calfrac Well Services.

operators will be building the new infrastructure required, often in remote locations, to accommodate production,” said James Compston, senior vice president, customer relationships and business development, environment and water at SNC Lavalin.

Q’Max Solutions Inc. (Q’Max), a multinational drilling fluids provider to the oil and gas industry, first entered Mexico in 2000 when it opened an office in Villahermosa. For its first project with Pemex, the company imported a silicate technology that had been successfully used in the Canadian oil patch. While the job was a technology trial, Pemex was pleased with the work and encouraged Q’Max to bid on forthcoming projects.

The company grew to be the biggest international mud company in Mexico with 7 facilities in the country, and a 35-40% market share. Q’Max’s ability to grow hinged on the fact that instead of importing personnel and skills from Canada, the company hired locally. Today, they employ over 800 local staff. “One of the most important factors to the company’s success is our



Todd Parker, CEO, Blue Spark Energy

people,” said Chris Rivers, president and CEO of Q’Max Solutions. “Our company culture of ‘Growth Partnering’ encourages and rewards innovative thinking and customer success, and employees thoroughly understand our clients’ challenges.” The company employs more than 1400 people around the world.

Q’Max’s mud plant in Villahermosa is the largest in Mexico, with a nominal capacity of 9900m<sup>3</sup>, which is able to generate and condition nearly 2160m<sup>3</sup> of drilling fluids per day. They have just finished building a second mud plant in Ciudad del Carmen, to properly support the large contingent of offshore rigs where they are providing fluids and engineering services. “Between these two plants alone, there are 8,500 m<sup>3</sup> (53,463 bbl) of fluid storage and over 800 m<sup>3</sup> (5,032 bbl) of mixing tanks,” said Q’Max’s Rivers.

NXT Energy Solutions is a TSX-listed airborne geophysical service company with a proprietary seismic technology known as Stress Field Detection (SFD) that utilizes small oscil-

ating masses which are moved through the gravitational field to exploit the wave properties of these systems. NXT was contracted by Pemex to do a pilot test survey in August 2012 designed to cover a 100,000km<sup>2</sup> area, both onshore and offshore. George Liszicasz, president and CEO at NXT Energy Solutions, explained: “The results of the survey indicated to Pemex that the SFD technology worked. As with any disruptive technology, there was some initial skepticism, but we were able to prove its use using very little information given to us by Pemex. In addition to correlating their existing data, they were interested in salt-bounded traps, which is a big exploration challenge in the Gulf of Mexico.”

Working with Pemex can be challenging for service providers that are unfamiliar with the national oil company’s policies and procedures. “Unlike most other Latin American markets where service providers have exposure to the end user, Pemex relies almost exclusively on contractors to provide turnkey solutions,” said Mark Nowak, vice president and general manager, Latin America and EMAR regions, Flexpipe Systems.

The company worked with Pemex to install 3 kilometers of spoolable composite pipes at a project in Poza Roca, Veracruz.

Foreign companies currently active in Mexico have also invested significant resources to develop elite engineering skills. “Investing in Mexico’s talent pool and providing the necessary training and technological tools to excel has been a strategic priority for Q’Max,” said Garrett Browne of Q’Max. The company’s mud school



Calfrac is operating 22,500 horsepower in Mexico, two cementing crews and one coiled tubing unit. The key operating bases are located in Reynosa and Poza Rica. Photo from the Calfrac yard at the Poza Rica district office. Photo courtesy of Calfrac Well Services.



has trained over 250 Mexican chemical engineers, with another 20 being trained as degreed drilling-fluid engineers to become Q'Max field supervisors.

### Unlocking unconventional resources

One area where Canadian services companies are expected to make an impact is in unconventional shale plays. The Burgos Basin—the extension of the prolific Eagle Ford play in South Texas—is estimated to contain more than 60 billion barrels of oil, yet has seen little activity thus far. With only 25 wells drilled, the Burgos blocks are expected to be one of the prizes in Round One bidding.

“There is definitely not a wide swath of information about the Burgos Basin in Mexico to be able to indicate the quality of these plays,” cautioned Douglas Carsted, executive vice president and chief technology officer at Sproule, a Calgary-based international consultancy. “We will likely see another few years of strictly collecting data before seeing anything commercial in the shale plays. At the moment the estimated amount of shale reserves present is based on other similar basins, as well as the rock volume. The 60-billion-barrel figure cited by Pemex as being present in the basin is a prospective resource, not a reserve.”

Accessing these prospective resources will be tricky as the basin is tightly formed with a high sour gas content not unlike the Eagle Ford play to its north. “The true potential has not been analyzed yet—Pemex was not investing in unconventional resources,” said Fernando Aguilar, president and CEO of Calfrac Well Services, a Calgary-based pressure pumping company that has been working in Mexico since 2007. “In the past, in Mexico, it was very difficult to use the latest technologies because the bids were decided on the basis of lowest cost. The reforms give operators the opportunity to introduce more advanced technologies in order to achieve the level of productivity that these reservoirs require.”

The sour nature of the basin also poses a challenge for operators since hydrogen sulfide (H<sub>2</sub>S)—a byproduct of sour gas—can be deadly to humans. “Naturally occurring H<sub>2</sub>S or fracturing technologies and the introduction of water into formations, such as the Eagle Ford, increased the amount of H<sub>2</sub>S. In terms of processing, oil and gas needs to be sweetened to be transported and enter into the market,” explained Sheldon McKee, director of business development at AMGAS, which recently released its CLEAR technology that treats H<sub>2</sub>S externally rather than adding high volumes of chemicals to the fluid.

### Brownfield possibilities attracting attention

While the Burgos Basin is exciting due to its greenfield potential, it is certainly not the only area where Canadian companies are expected to be visible. Mature fields such as Cantarell are in need of new technologies to revitalize production in order for Mexico to reach its goal of 3 MMbbl/d by 2018. Sproule's Douglas Carsted advises infill drilling as an initial step, followed by waterflood or polymer flooding, provided that the economics of the well support these technologies.

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Trent Abraham, president, fluids division, Bri-Chem Corp.

Drilling conditions in Mexico are very different from those that Canadian companies encounter in the Western Canadian Sedimentary Basin. The wells in Mexico can reach depths of up to 7,400 meters and temperatures of over 200 degrees Celsius; many of them also have high mud weights.

Blue Spark Energy has been marketing its Wireline Applied Stimulation Pulses (WASP®) technology to Pemex in Mexico. WASP uses repetitive pulsing to liberate materials in the wellbore, allowing hydrocarbons to flow more easily. “We are very aware of both the challenges that operators face recovering hydrocarbons from aging basins, as well as the opportunities that could be present in Mexico’s oil and gas industry for a smaller service company,” said Todd Parker, CEO of Blue Spark Energy. “Our challenge is trying to find a viable entry point into Mexico in order to capitalize on these opportunities.”

## Entering Mexico the Canadian way

One strategy to enter the Mexican market is partnering with, or even acquiring, a local company that understands the industry dynamics and has native Spanish speakers. Bri-Chem Corp., an Edmonton-based drilling fluids wholesaler, used this strategy as an entry point into the U.S. and will likely do the same for Mexico.

“We will not enter a market unless we have someone on our team that understands the region,” said Trent Abraham, president, fluids division at Bri-Chem Corp. “Two years ago, we hired a salesperson from El Salvador who had extensive experience selling

drilling fluids in South America and was able to form a relationship with one of the independent service providers in Mexico. Although we are evaluating a number of opportunities, we know that any company we purchase would have to be a fully Mexican company.”

Utilizing this strategy for their initial foray into the U.S. in 2011, Bri-Chem grew from \$6 million annual revenues to over \$60 million. Bri-Chem has focused on working with the domestic Mexican service groups as potential partners. “There has been less activity for them since the reforms were introduced in December 2013, but they are now starting to talk about opportunities for Q1 2015 as the new rules are clarified,” said Bri-Chem’s Abraham. “We have already seen a few major international oil companies sign agreements with Pemex and expect even more to participate in Round One—there could be an exceptionally diverse group of companies servicing these operators in the future.”

Rangeland Engineering, a Calgary-based engineering company, is taking a different approach: by partnering with a Cuban engineering firm that is looking for opportunities to expand into Mexico. Empresa de Ingenieria y Proyectos Petrolea visited the petroleum show in Calgary about six years ago and tried to find engineering companies with which to partner. “We have engaged in discussions with them in the subsequent timeframe, but it took two years to negotiate a contract,” said Ron Daye, Rangeland’s president. “They want us to joint venture with them to do their projects in South America, such as Venezuela, Mexico and Colombia.”

While Empresa de Ingenieria y Proyectos Petrolea’s engineering skills are primarily civil and electrical, Rangeland could supply the remainder of the necessary disciplines to complete oil and gas plus heavy industrial projects. “Rangeland’s management is planning on visiting Cuba in the coming weeks to explore various opportunities that could arise from this partnership,” said Daye. “At the moment, we anticipate that these could be rewarding contracts for Rangeland and Cuba.”

## Tentative first steps for new players

In contrast to their American peers, Canadian oil and gas companies are seemingly adopting a “wait and see” approach when it comes to entering the Mexican market. While it is true that the window of opportunity is limited when it comes to the prime opportunities created by the reforms, in the long run, this strategy could prove to be prudent as companies weigh the risks involved with expanding internationally.

A possible reason why companies might take a cautious approach is because the business environment in Western Canada is much more active and less risky than foreign markets like Mexico. Alberta-based Rangeland Engineering is completing one of the largest oil terminals in North America, located in Edmonton, and is also working on the largest NGL fractionation facility in Canada at 70 MBPD feed stock for a de-ethanizer, de-propanizer, debutanizer, product treating and salt storage caverns.

“We look at risk quite seriously; when we evaluate \$100 million projects we do not proceed without firm, irrevocable letters of credit from the client,” explained Rangeland’s Daye. “There is plenty of work available in Western Canada; the market has been relatively stable and work has been consistent for oil and gas engineering companies. That said, we have also applied our technology practices in projects in Colombia. We did some laser modeling to replace vessels that were dilapidated. We scanned the facility and with 3-D rendering we were able to produce an intelligent model for design of additional facilities to the refinery.”

GASFRAC, a well-fracturing company that is utilizing its proprietary liquid petroleum gas (LPG) fracturing fluid in South Texas, is waiting for the right opportunity to expand into Mexico. “E&Ps will most likely enter first and establish their contracts, and then bring in the service companies,” said Eric Tudor, advisor, corporate engineering at GASFRAC. “Once the market is established it will be a great opportunity for everyone.”

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is also paying attention to Mexico's oil and gas reforms. Although oil and gas investment into Mexico currently represents only a fraction of the \$12 billion invested by Canadian companies in 2013, Mexico's government is hoping to attract \$15 billion in Round One bidding alone. "There are definitely people paying attention to the reforms underway in Mexico, but for many it is still too soon to tell what these reforms might represent in terms of investment opportunities," said Bruce Edgelow, vice president, energy group at ATB Financial, an Alberta-based financial institution. "There have been a number of attempts to reform the Mexican oil and gas market but none have taken hold; however, there is an understanding that given current economic conditions in Mexico, partially caused by declines in energy production, these reforms are necessary to attract foreign investment."

ATB has worked with a number of service companies with operations in Mexico. "When it comes to political risk, once equipment leaves Canada, it is not likely that a company will get that equipment back if things do not go well on the financial front, or with nationalization, which has happened in the past," cautioned Edgelow. "For this reason ATB assesses how equipment is insured and how revenue for stated risk is insured against certain political risk. We look for clients with strong balance sheets who have well-governed companies and where their



Q'Max Solutions recently completed building a second mud plant in Ciudad Del Carmen, which will provide fluids and engineering services to support the large contingent of offshore rigs in Mexico. Photo courtesy of Q'Max Solutions.

move into Mexico represents only a fraction of the company's total operations."

### Making sense of the new reforms

The uncertainty surrounding the fiscal terms of Round One contracts is one of the biggest immediate risk factors in Mexico's oil reforms and could stop Mexico from reaching its \$15 billion investment target. The Mexican government expects the terms to be decided by Q2 2015—a few months

after the contracts will be awarded in January.

Frank Alexander, partner at Dentons LLP in Calgary, outlined the need for dispute resolution mechanisms, stabilization, and development plan approval standards before making the decision to invest in a foreign market.

According to Alexander, the first pillar, dispute resolution, holds particular significance in the Mexican market, as the possibility of administrative rescission will be a key point of contention in drafting the new regime.



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Canada has been gaining market share in U.S. refineries, yet the trend could change if Mexico boosts its oil production. Photo courtesy of Pemex.

“The Hydrocarbons Law provides that the validity of a termination by the government of an oil company contract—‘administrative rescission’—shall not be subject to review under international arbitration in Mexican law,” explained Alexander. “This is an unusual approach that might be a cause for concern for some oil companies.”

While the clause is highlighted in the new Hydrocarbons Law, it is also present in other sectors of Mexico’s economy. “Investors can take some comfort in the fact that other sectors of Mexico’s economy are also subject to administrative rescission and, for the most part, investment has proceeded without negative consequences as a result of the clause,” said Ryan Keays, partner at Norton Rose Fulbright.

The firm’s global team recently advised Mexico’s first independent E&P company, Sierra Oil & Gas, on a US \$525 million private equity investment.

### North America’s ‘Hollywood problem’


Mexico’s oil reforms also pose an interesting conundrum for Canada’s own oil-dependent economy. On one hand, the liberalization of Mexico gives Canadian oil and gas companies a new market to export technologies and services. However, if Mexico is able to reverse its declining production through these reforms, Canadian crude will have another competitor in the global marketplace.

In 2013, Canada produced more than 4 MMBbl/d, and the Energy Information Administration’s Short-Term Energy Outlook forecasts that Canada’s production will grow by an annual average of 180,000 bbl/d in 2014 and 2015. Almost 97% of this production is exported directly to the U.S. A recent report released by the Canada West Foundation stated that heavy oil imports from Mexico into the U.S. have decreased by 41% in the past six years, while imports from Canada are up by 25%. Yet the report cautioned that Canadian sales expectations to the U.S. might have to be revised if Canadian service companies help to revitalize Mexico’s oil and gas sector.


Over the past few years, Canadian crude has also increased its market share in the already-squeezed Gulf Coast oil refineries, where Pemex has also sent its heavy oil to be refined. The big winner in this scenario is the U.S. in the midst of its own energy renaissance, something Sonny Mottahed, CEO and managing partner at Calgary’s Black Spruce Merchant Capital, terms a “Hollywood problem.” “It is a high-quality problem to have for the U.S. to have Canadian and Mexican supplies on the rise. As far as gas is concerned, the North American market boasts the cheapest gas source in the world, but it is going to be range bound until new outlets are found for demand. Canada’s oil and gas dominance is unlikely to see any negative consequences as a result of Mexico’s reforms,” said Mottahed.

For the time being, Mexico’s oil reforms represent an opportunity for Canadian oil and gas companies to expand their market share, should they choose to do so. “The energy reforms are a game-changer in Mexico’s oil and gas industry,” said Steven Landry of ATCO. “As a North American, it is nice to see Mexico have a chance to be as strong in the global marketplace as the U.S. and Canada—Mexico’s time is now.”

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