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OIL AND GAS POLICIES IN MEXICO

ANALYSIS OF INDUSTRY, POLICY AND INSTITUTIONAL ISSUES AND FRAMEWORKS

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SCOPE AND PURPOSE

This report is a summary of an independent review of the industrial, commercial and policy issues that affect the Mexican oil and gas sector. We focus on three areas: 1) the operations and finances of Pemex; 2) the policymaking and public-oversight institutions and regulations of the sector; and 3) the applicable legal and constitutional frameworks.

The review of data and issues was enriched by the comments and points of view expressed at a number of industry and academic conferences held in 2005; among these were programs sponsored by Petróleos Mexicanos (Pemex) and the Colegio de Ingenieros Petroleros de México (CIPM), Veracruz, Feb. 20-23; CRE, Veracruz, Oct. 16-18; ANIQ, Mexico City, Oct. 20-21; Platts, Houston, Oct. 27-28; British Chamber of Commerce, Mexico City, Nov. 22; and El Colegio de Mexico/Mexican Association of Energy Economics (AMEE), Mexico City, Nov. 28-29.

Panelists in each of these public forums emphasized that **the country needs an agreed-upon diagnosis of problems and a consensus about the policy framework and the course that should be followed in the energy sector.**

Our purpose is to offer reasoned arguments that could be part of that consensus, ones that correspond to Mexico's unique situation in the global oil market. In this spirit, at the end of our discussion we ask, *Where to begin?*

The petroleum sector of Mexico, which includes crude oil, natural gas and petrochemicals, operates as a government monopoly in most industrial and commercial activities. Even so, it is not a commercial or policy island separated from the North American and Caribbean regions. In recent years, there have been meetings of specialists from the governments of the region to explore topics and solutions of common interest. One topic under discussion, for example, is the potential contribution of renewable energy and conservation to national energy supply. Documentation produced by these meetings is available online.

Such technical discussions generally presume the need for only small, incremental changes to policy and legal frameworks. **In contrast, in this report we wish to consider the need for major changes in policy, law and public administration.**

We focus on the industrial, institutional and policy machinery that operates within Mexico's borders. **We are interested in the challenging problems of crude oil and natural gas supply, but from an inclusive, wide-angle perspective.** We are concerned about the extent to which advances in regulation, technology and project management that are observed internationally are mirrored by parallel developments in Mexico.

As a panelist observed, in an incisive comment, what is needed in the energy sector is a review of the complete portfolio of options available to Mexico. **The central purpose of such a review would be to identify the steps needed to make sure that advances in the global market are quickly replicated in Mexico.** A collateral purpose would be to identify new areas and niches in which Mexican companies could participate in the sector as investors at home and suppliers to the industry in Mexico and abroad.

Our goal is that the arguments and conclusions presented in this report enrich the dialogue about Mexico's energy policies, and, in this way, help motivate the changes necessary to guarantee a timely and competitive supply of crude oil, natural gas and refined and petrochemical products in the coming decades.

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INDUSTRY, POLICY AND INSTITUTIONAL ISSUES AND FRAMEWORKS

The challenges of the Mexican energy sector are many and interrelated, involving the operational, financial, institutional/regulatory and legal areas. A satisfactory outcome will require attention to all.

1. OPERATIONS AND FINANCES OF PEMEX

Exploration efforts carried out by Pemex over the past 25 years have yielded results that are less than satisfactory. Replacement of production with new discoveries has been low (less than 15% in 2004 of proved reserves), far below the global industry average. The reserve base has now reached a critical position. Cantarell, the super-giant oil field on which more than half of Pemex's production depends, will soon begin its rapid, natural decline.

It is widely believed that oil and gas reservoirs located in deepwater areas of the Gulf of Mexico could fill this production gap in the long term; however, pursuing these hydrocarbons without the know-how and technical capabilities developed by industry around the world will result in an expensive, lengthy and uncertain course with high financial and environmental risk. **The nature of the potential contribution of the global oil industry in this pursuit is both methodological and technological.**

Mexico's refinery capacity has not expanded at the same pace as the economy and the population. Refinery runs per capita are, at present, 15% less than in 1993. The refineries are unable to supply domestic market needs in terms of either volume or quality of petroleum products, as evidenced by a large and growing import bill for products.

Domestic production of natural gas is similarly unable to meet demand. In the face of scarcely promising exploratory results, the goal of increasing gas production to 8.7 Bcfd by the year 2010 is highly questionable.

The Mexican government has chosen two policies to compensate for Pemex's lack of new discoveries: one policy encourages LNG supplies by tanker, while a second promotes increasing imports of U.S.-supplied gas via pipeline. Deliveries from either source will be marketed at global prices, which are calculated by the mechanism of "opportunity cost." In this connection, care must be exercised in the design of pricing policies intended to protect the consumer from the volatility of U.S. prices; the situation to avoid is one in which such policies come to be disincentives to invest in domestic gas production.

In petrochemicals, despite ample feedstock, a growing market and the interest of Mexican and international investors, it has been impossible to negotiate satisfactory agreements for investments (public and/or private) regarded as necessary to modernize and expand existing capacity. The chemicals trade balance, meanwhile, continues to deteriorate.

Finally, in relation to finances, Pemex is the most heavily indebted oil company in the world. This debt, plus pension obligations and other liabilities, add up to a figure that approaches US$100 billion. The administration of Vicente Fox has proposed measures to seek investment capital from private companies, Mexican and international, but on repeated occasions they have been met with resistance and have had limited success. **The prospects for the expansion of the oil sector are undermined to the degree that Pemex's investment needs are funded by means of additional debt.**

2. INSTITUTIONS AND REGULATIONS

The subject of the corporate governance of Pemex raises interrelated points and concerns. **Leadership at the top is uncertain and authority is diffuse.** At present—and in spite of what is clearly expressed in Article 59 of the Law of Government Commercial Agencies (LFEP) in which the powers and obligations of the *director general* are specified—the executive functions in the case of Pemex are limited, and the office has few tools with which it can carry out any plans that may be drawn up. Second-level executives in the operating subsidiaries and the headquarters unit may be appointed—and dismissed--by the Office of the President of Mexico for political reasons, a situation that creates the potential for conflicts of priority, loyalty and personality in the senior management team. **In order that leadership at the top may be exercised in ways comparable to those practiced in a major international oil and gas company, the position of *Director General* of Pemex should be strengthened with new executive powers.**

The highest level of corporate governance in Pemex is the Board of Directors, which is composed of eleven members, six from different government ministries and five from the Oil Union. In general, incumbents lack significant petroleum industry expertise. **The board is inefficient both as a body of public oversight and as a source of guidance on the rational use of company resources and commercial and financial strategy.** For it to be responsive to changes in the global oil industry, its membership should include career public servants and independent experts in corporate governance and international markets.

At the same time, it would be useful to revitalize auditing committees with the authority and the incentive to demand information and documentation bearing on *the full range of options* available to Pemex in its various areas of operation.

In order for the executives and board members of Pemex to be seen as business leaders, we believe that the legal status of Pemex should be changed from that of a governmental agency to that of a government-owned commercial corporation. In this way, Pemex leadership would be held to the accounting, governance and accountability rules that apply to other companies in Mexico and to Pemex's competitors abroad.

At present, the Energy Regulatory Commission (CRE) has authority over just a few links of the energy value chain, and there are serious questions about the future of this ten-year-old institution. Since 2000, the budget and staffing allocations of the CRE have been progressively reduced. Is it a true regulator, or just an issuer of permits to companies, public and private, who complete the required paperwork demonstrating compliance with federal and international norms and standards? It is a positive step that the CRE is urging a policy whereby permit-holders would pay fees to strengthen its finances. **But adding more regulations will not help, as their direction needs to change from that of regulating government monopolies to that of regulating a competitive market.**

Multiple government agencies have an impact on the oil sector. By its ability to approve or reject the financing for a project proposed by Pemex, the Finance Ministry (SHCP) determines many aspects of energy policy. In utilizing its authority to administer prices of petroleum products, the Economy Ministry (SE) also has an impact on energy policy. It is this situation from which two opposite conclusions may be drawn: one, expressed in a comment in a public forum by a former Pemex executive: "The topic of the corporate governance of Pemex is less important than the government of the energy sector as a whole." The other conclusion is that central problem of Pemex and the energy sector is not one of governance at all, but of the lack of incentives and mechanisms for improvement through cooperation and competition.

The responsibility and functions of the Energy Ministry (SENER) have been questioned almost from its beginnings in the 1980s. One concern, for example, deals with two of its functions that potentially create irreconcilable conflicts of interest: on the one hand, the Energy Minister is president of the boards of directors of the state-owned energy companies (Pemex and the two electric companies, CFE and LFC), and, as such, is responsible for the overall health of these organizations. On the other hand, the minister is also responsible for promoting a business environment that attracts capital on competitive terms with the best technology available in order to obtain the maximum benefit from Mexico's petroleum resources.

This tension, plus the impact of decisions by other government agencies that affect the energy sector, not only weakens the efficiency and prestige of the SENER but also lowers the credibility of the minister as the representative of the State, at home and abroad, on matters related to Government energy policy.

The regulatory bodies and functions that are commonly found in countries with large endowments of oil and gas do not exist in Mexico. An example would be an independent agency that is responsible for public oversight over the exploration and exploitation of the country's petroleum resources.

Today, Pemex, in its central role of exploration and production, is self-regulated with no effective public oversight. The need for such a regulatory institution has been studied and documented in the Energy Ministry, but no action has yet been taken to create one by adding new functions and authority to the CRE or by forming a new agency.

Thus, Mexico needs effective regulation over all activities that are connected in the value chain of the oil and gas industry. **The understanding of what counts as *effective* also needs to change: the old-style, command-and-control regulation—even if its scope is expanded—will lead to only limited results. A new philosophy of regulation is needed, one that regulates the processes of cooperation and competition.** Results from this new regulation will lead to improved public administration of the energy sector and improved business leadership in the government's energy companies.

3. LEGAL

The concepts of Government procurement, such as those set forth in the Public Works Law (LOPSRM), are effective in satisfying the everyday needs of the public sector; but it is also true that **these concepts do not satisfy all the needs of Pemex in relation to the acquisition of technology, goods and services.**

One problem concerns the process by which vendors are selected in Government public tenders. The law requires that a contract be awarded to the bidder with the lowest price. The shortcomings of this method were made painfully clear in a 1997 award to upgrade Pemex's refinery at Cadereyta: the contractor's inexperience in Mexico, a consideration not required in the law, led to huge cost overruns and years of completion delays. Today, government agencies outside of Mexico use diverse approaches. **New methodologies, such as value-based procurement, provide for quality-based selection processes of vendors that offer the best mix of reliability, quality, customer service, after-sales support, price and warranty package.**

A second problem is that **the law is efficiency-deaf regarding performance incentives.** There is no easy way, contractually, to motivate a contractor to lower costs or increase efficiency; and **the interests of Pemex and contractors are seldom aligned.**

In the oil industry, each new project has a degree of uncertainty: once begun, fresh data are acquired that *often dictate changes in the remaining activities* to either avoid suboptimal results or improve outcomes. In either case, a project needs experienced managers with the full authority to change course as needed; and contracts should be flexible to permit such changes efficiently and transparently. This is not the situation today in Pemex.

The Petroleum Law of Article 27 of the Constitution, which dates from late November 1958, also affects Government procurement. The application of its sixth article effectively bars the commercial operation of international oil companies in Mexico. **A change in *policy* would also require corresponding changes in law and regulation in order to remove expensive ambiguities for Pemex as well as for the international oil companies.**

At the structural level, the concepts of the status quo are tightly interwoven in Articles 25, 27, 28 and 73 of the Constitution. These articles are so intertwined that *to change any one of these would, apparently, require changing all of them*. "You cannot change the legal status of Pemex from that of an agency of the federal government to that of a commercial organization from one day to the next," observes Raúl Nocedal, a legal expert who has held important posts in the Energy Ministry and the CRE, and who adds "You need a complete legal strategy."

WHERE TO BEGIN?

As we have shown, touch on almost any area of the energy sector and it quickly hyperlinks into a dozen related topics. The global oil sector is highly complex, and becoming more so: oil and gas deposits are increasingly hard to detect, and, once found, they are increasingly difficult and costly to produce (as in deepwater); the global refining system is challenged to convert an ever-changing crude slate (a trend toward heavier grades of oil) into products of ever-increasing quality. What is world-class today may be second-class tomorrow.

In this way, to understand the challenges that face the Mexican petroleum industry knowledge of the regulatory institutions, operating practices and technological advances of the international oil industry is also needed. **It is not possible, we insist, to go deeply into the issues that face Pemex without having an international vision that encompasses the total environment in which the oil industry operates.** Sometimes there are developments that cut across all branches of commerce; the Sarbanes-Oxley legislation of 2002, for example, imposes transparency requirements for full access to U.S. credit markets.

In this way, by simultaneously exploring these two realities, the Mexican and the international, it will be possible to find solutions that will ring true with the values and institutions of Mexican society. *This is the place to begin.*

CONCLUSIONS

The institutional, legal and policy status quo that worked so well in the past will no longer protect the interests of Mexico.

The current organization and course of the oil industry in Mexico are unsustainable. The country's energy security and outlook for economic growth are at risk. In order to minimize this risk and strengthen the sector, major changes are needed in the coming years.

A restructuring of the industry would lead to greater investment in refining, petrochemicals, exploration and production, simultaneously lowering volumes of imports as well as increasing the involvement and skills of Mexican companies. In this process, compromises and commitments on the part of all parties will be needed in order to find solutions that are economically and politically viable.

Looking forward, we see a Pemex with strong leadership, responsive to market opportunities and with a labor force that is on a par with international practices. In our long-term vision, Pemex is an exploration and production company that operates—along with its competition and partners—not only in Mexico but in other basins and markets.

At present, Pemex is very far from this vision: **It is the only national oil company that lacks the flexibility to increase its technological capacity, commercial skills and investment opportunities by means of alliances or other commercial arrangements.** Greater flexibility in this sense would bring about a continuous transfer of leading-edge technology and know-how.

There would be new commercial discoveries of oil and gas in Mexico, and production could safely be increased to meet growing demand. **Greater value would be extracted from each barrel produced, as new technological, management and capital inputs strengthen energy security and national economic development.**

The path ahead needs to avoid common mistakes in the petroleum industry. The first mistake is to *over-estimate* the benefits to be obtained from increasing oil production in a market of rising prices--as was done in Mexico in the early 1980s. The second mistake is to *under-estimate* the benefits that could be obtained from a complete reevaluation of the policy and institutional frameworks of the Mexican energy sector.

It is within the strategic space to be found between these two extremes, where political and public-opinion leaders and analysts involved in the energy sector should concentrate their efforts and abilities. In this way, with the support of public opinion, it will be possible to find the path ahead to be followed.

INTERNET RESOURCES AND DOCUMENTATION

International

BP Statistical Review of World Energy 2005:
http://www.bp.com/genericsection.do?categoryId=92&contentId=7005893

U.S. Department of Energy (Energy Information Agency)
http://www.eia.doe.gov

North American Energy Working Group
http://www.pi.energy.gov/naewg.html

National Energy Board (Canada)
http://www.neb.gc.ca

NAFTA Secretariat
http://www.nafta-sec-alena.org

Security and Prosperity Partnership of North America
http://www.spp.gov

American Petroleum Institute
http://api-ec.api.org/newsplashpage/index.cfm

Norwegian Petroleum Directorate
http://www.npd.no/English/Frontpage.htm

Railroad Commission of Texas
http://www.rrc.state.tx.us

comments@energia.com

México

Energy Ministry
http://www.energia.gob.mx

Pemex E&P
http://www.pep.pemex.com

Mexican Petroleum Institute (IMP)
http://www.pep.pemex.com

National Chemical Association (ANIQ)
http://www.aniq.org.mx

Energy Regulatory Commission (CRE)
http://www.cre.gob.mx

Senate Energy Committee
http://www.senado.gob.mx/comisiones/directorio/energia/body/doc_concurrente.htm

Lower House Energy Committee
http:www.diputados.gob.mx/comisiones/energia

Mexican Association of Energy Economics (AMEE)
http://www.amee.com.mx

Mexican Association of Energy and Sustainable Development (AMEDES)
http://www.amedes.org.mx

Mexican Gas Association (AMGN)
http://www.amgn.org.mx/home.htm