Woodrow Wilson International Center for Scholars
*Mexico Institute*

Red Mexicana de Energía
Por un manejo responsable del Sector Energético

# OIL IN MEXICO:

## POZO DE PASIONES

### The Energy Reform Debate in Mexico

by Rossana Fuentes Berain
with Daniel Rico

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[…] Patria: tu superficie es el maíz,
tus minas el palacio del Rey de Oros,
y tu cielo, las garzas en desliz
y el relámpago verde de los loros.
El Niño Dios te escrituró un establo
y los veneros del petróleo el diablo. […]

*[…] Patria: your surface is the gold of maize,*
*below, the palace of gold medallion kings,*
*your sky is filled with the heron's flight*
*and the green lightning of parrots' wings.*
*God-the-Child deeded you a stable,*
*and gushing oil was the gift of the devil. […]*

RAMÓN LÓPEZ VELARDE, *Suave Patria*

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## PROLOGUE

*By Duncan Wood, Director of the Red Mexicana de Energía*

In the final two weeks of October 2008, Mexico's Senate and Chamber of Deputies approved a package of administrative and operational reforms to Petróleos Mexicanos (Pemex), Mexico's state-owned oil company. Though less ambitious than the original legislative proposal made by the Calderón government in April 2008, the final legislation maintained much of the same spirit of reform—moderate, limited, but important and necessary. Though the reform fails to solve the most important problems facing Pemex, it does allow the company more autonomy and will help to overcome at least part of Pemex's financial challenges.

A more complete reform, one that will address the fundamental challenges facing oil exploration, production, transportation and refining in Mexico, is still very much needed, but still very far off. At least until after the mid-term elections of 2009, the political spotlight will fall elsewhere, and the government will face battles with the opposition on many fronts. The significant cooperation that emerged among the political parties in the energy reform process, however, suggests that the opposition to reform has, for the time being at least, been laid to rest.

In the meantime, Mexico's oil reserves and production levels will continue to fall. With no viable replacement in sight for the rapidly declining Cantarell field, by the middle of the century's second decade the country may well have to start importing crude to satisfy national demand. The significance of this for Mexican economic development, political stability, and broader welfare are easy to imagine. But we should also focus our attention on the meaning of this for global energy markets in general, and for the U.S. energy security in particular.

Rossana Fuentes Berain's essay in this publication examines the process of a debate that dominated Mexican politics in 2008, assessing the challenges facing Pemex, the different options for reform, and the highly charged nature of energy politics in Mexico. Focusing on the importance of culture and context for specific interpretations, it shows how a broader reform was impossible and how oil remains firmly embedded in the Mexican political psyche. It also compares Mexico's energy sectors to those in other countries and looks at the potential for Mexico to address alternative energy sources in the future.

## INTRODUCTION

Watching the universally-televised scenes of the militant supporters of Andrés Manuel López Obrador, Mexico's defeated presidential candidate from the leftist Party of the Democratic Revolution (PRD) in the 2006 election, throw themselves in front of the wheels of a bus taking legislators from the other two major political parties, the Institutional Revolutionary Party (PRI) and the National Action Party (PAN), to an off-site meeting, an Ethiopian taxi-driver living in Minneapolis asks out loud: "If Mexico has oil, why are Mexicans so poor and why do they come to the United States for work, just like us?"

Those following Mexican President Felipe Calderón Hinojosa's energy reform efforts would probably respond that to talk about oil in Mexico is not to refer to a resource below ground or the country's geographical wealth. Instead, oil represents something largely symbolic. It is an important part of the mythological construction of an independent nation, and it is also associated with the underworld of corruption in Mexico. The mere mention of oil stirs up both a strong nationalistic pride and feelings of profound distrust.

The good news is that there is a degree of consensus among the country's polarized population and its political parties that oil production in Mexico is falling and that something needs to be done with the state-owned oil company, Petróleos Mexicanos (Pemex). The bad news is that there is little agreement as to how to turn the first problem around and what exactly to do about the second.

In the first half of 2008, the scoreboard for President Calderón's government seemed to be settling at four to one. The PAN administration was able to orchestrate reforms of the pension, electoral, fiscal, and judicial systems, but its attempt at energy reform reopened the wounds of the contested 2006 election and the ultimate reform passed was weaker than Calderón desired, resembling a first step in a debate that will most certainly continue.

Mexican politicians are playing a childish game of "chicken" reminiscent of *Rebel Without a Cause.* They know that since 2003, Mexican oil extraction has been falling and that in the first quarter of 2008 alone, exports were down 12.5 percent, yet nobody seems willing to yield significant ground and do anything about it. Each is waiting to see who blinks first and who jumps from the car that is headed for the cliff. Each political party—the PRI, the PAN, and the PRD—is making its own calculations about the cost of the energy debate with a mind to the 2009 midterm elections and, even more importantly, to the presidential elections of 2012.

The Ethiopian driver is surprised to hear the argument sustained during the debate that any kind of relationship between Pemex and private investment, particularly foreign investment, would turn Mexico into a colony. "Interesting," he says. "I would have thought that oil reserves would be a blessing for any country; I guess that is not always true, right?"

No, not always. In Mexico's case, it remains to be seen whether oil is a blessing or a curse for the country. The 2008 debate is simply one more chapter in the complex history of black gold in our sweet homeland.

## THE GOOD NEWS AND THE BAD NEWS

The fall in Mexico's crude oil production is not subject to conjecture. The backdrop of the energy reform bill sent to Congress by President Calderón on April 8, 2008 was the news that oil production in 2003 peaked at 3,000,455 barrels a day and had dropped to below 3,000,000 by the close of 2007.

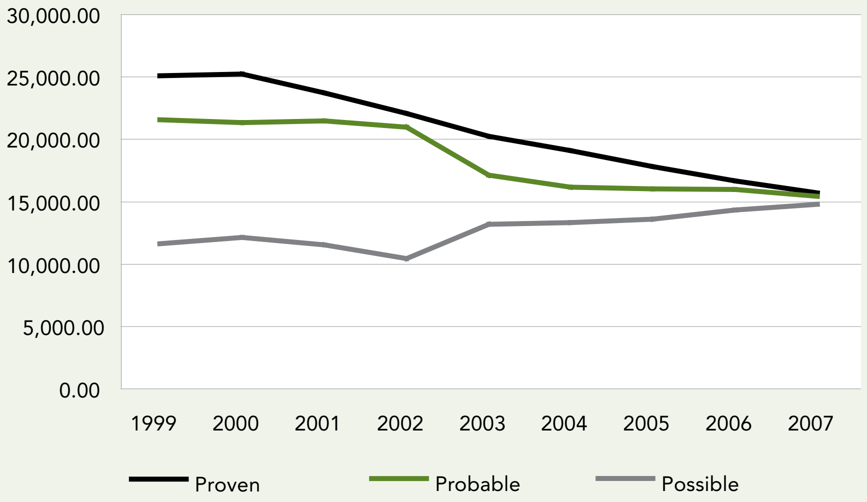
### THE UNCONTESTED FACTS

- Decline in reserves
  - Particularly in super-light and light crude
  - Exhaustion of the Cantarell oil field
- Decrease in production and exports
- Increased dependence on oil exports
- Increased importation of oil products and petrochemicals
- Overburdened tax system
- Lack of general investment
  - Scant investment in exploration
  - Scant investment in research and technology
- Administrative problems
  - Oil Workers' Union
  - Inefficiency owing to the four-company structure
  - Corruption and lack of transparency

The most significant decline in extraction occurred at the Cantarell oil field in the state of Campeche. In 2004, Cantarell accounted for 63 percent of Mexico's crude, and at the time the bill was sent to Congress, it was only producing 43 percent.

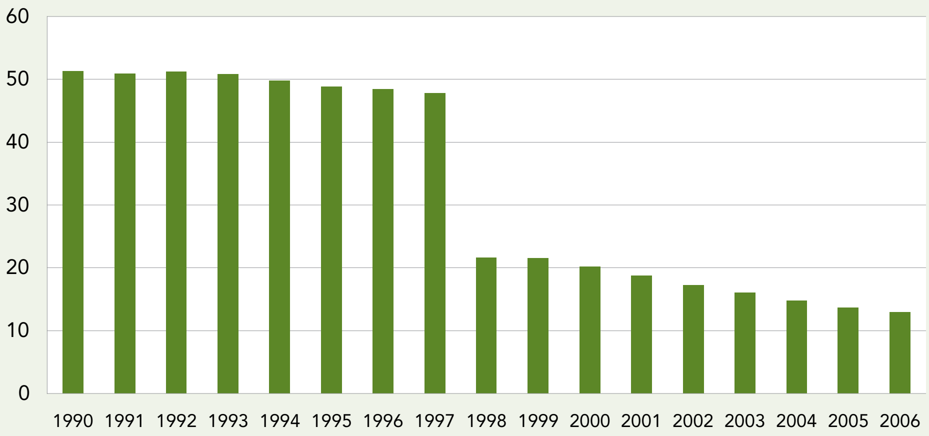
The numbers speak for themselves. Yet rather than convincing and motivating the Mexican population and politicians to pull together to avoid an energy crisis, the fact that crude exports were down 12.5 percent in the first quarter of 2008 immediately achieved quite the opposite effect. The debate got so contentious that progress on the

## Total Hydrocarbon Reserves (Millions of Barrels of Crude Oil)




Source: Created with data provided by the Energy Information System, Mexican Ministry of Energy.

## Proven Oil Reserves in Mexico, 1990-2006 (Billions of Barrels)




Source: Created with data provided by Ramón Espinasa, Inter-American Development Bank.

possible energy reform for many months was summed up on Thursday, April 10, 2008 in one word on a sign in the congressional chambers—"Closed."

## POZO DE PASIONES: THE PASSIONATE DEBATE ON OIL IN MEXICO

Until more exploration is done, the prospects of the country's oil reserves—proven, probable, or possible—are somewhat bleak. Without additional investments of some kind, some of the country's experts who are pushing for reform warn that Mexico is only good for another 9.6 years of production. Others disagree, arguing that the country's petroleum riches will not dry up within a decade.

After more than 70 days of debate in the chambers of Congress, the many factions involved agree on one point—that Pemex, the governmental entity in charge of exploiting Mexico's petroleum resources, has invested much more in development than in exploration.

This differs little from what other private and public companies do elsewhere; the difference in the case of Mexico is that a lack of accountability means there is little to show from the billions of dollars spent on looking for new reserves.

Regardless of the reason for this—which is one of the major issues that opposing factions have clashed about during the reform debate—the fact remains that the replacement rates are low.

In addition to the exhaustion of Cantarell, it is important to note that while the market privileges light or super-light crude, Mexico mostly exports heavy crude. In fact, the composition of Mexico's crude reserves is leaning increasingly toward heavy crude, the density of which makes it more difficult to process.

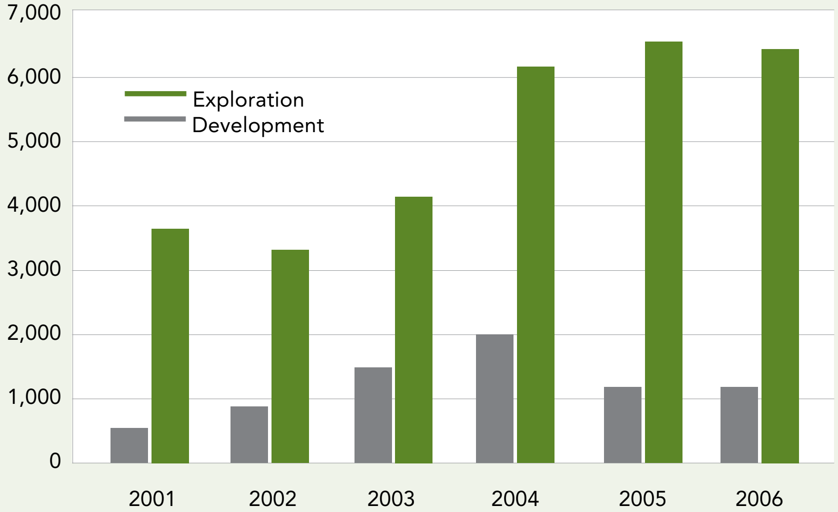
In spite of the 2007 fiscal reform and given the absence of changes in the relationship between the government and Pemex, it appears that the current lack of investment in the energy sector will continue. The current tax system, as well as those that preceded it, imposes a heavy fiscal burden on the company due to inadequate tax collection, thereby limiting Pemex's ability to invest in itself.

At least 40 cents out of every peso in the national coffers comes from Pemex. As Finance Minister Agustín Carstens acknowledged at a banking convention in April 2007, Mexico is "addicted" to oil.

Since 1971, when the most important oilfield in Latin America and the world's third-largest "appeared" before the Campeche peasant, Rudecindo Cantarell—just like the Virgin of Guadalupe to Juan Diego—the spending of five successive governments has consistently been on the rise.

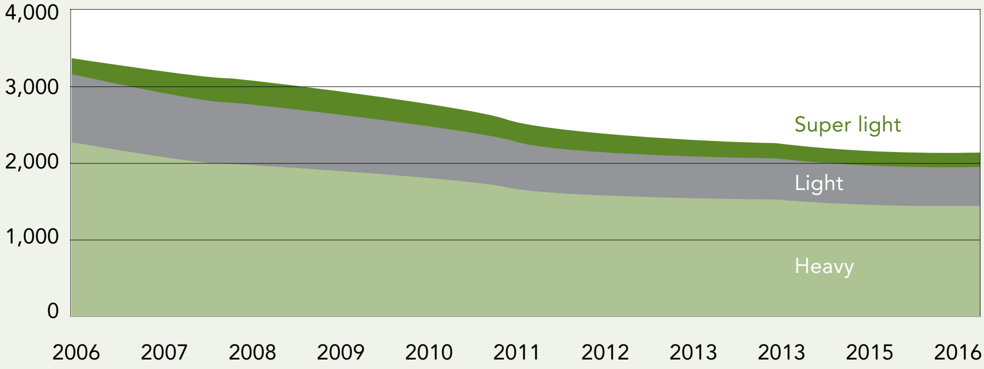
The attempt to "depetrolize" the country's exports has produced mixed results. For instance, the value and percentage of total exports in sectors such as machinery has grown considerably—from 5 percent of total exports in 1980 to 59 percent twenty years later. This trend is the opposite of what has occurred with oil. However, the fact

## Investment in Oil Exploration and Development (Millions of Dollars)



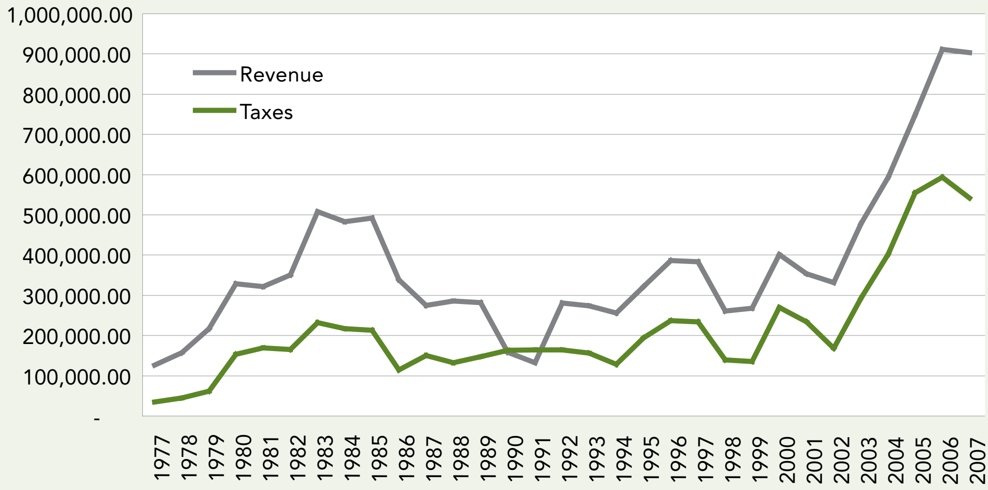

Source: Presented by Francisco Labastida Ochoa, "Oil Reserves and Production, Pemex Finance, and Reframing the Oil Sector," Meeting of PRI Senators, August 2006.

## Crude Oil Production by Quality, 2006-2016 (Thousands of Barrels/Day)



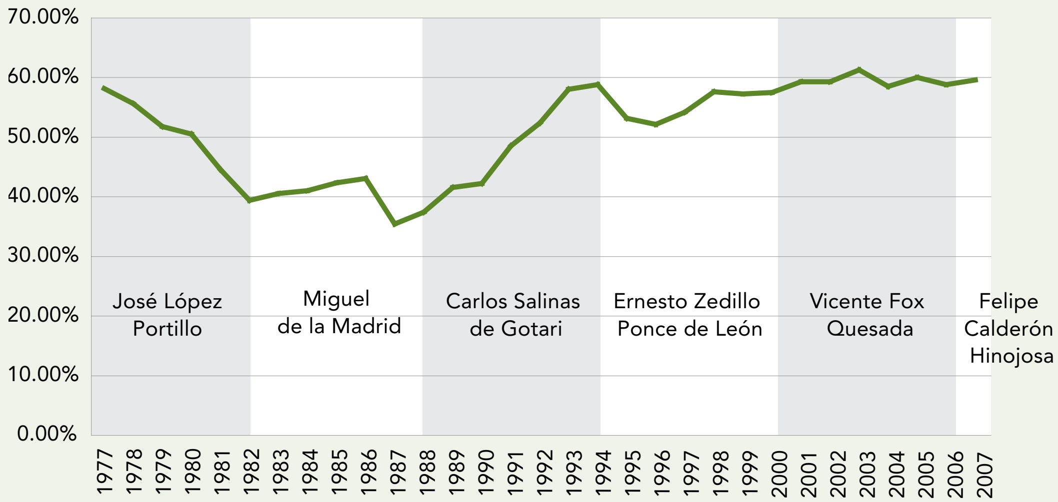

Source: Created with data provided by "Prospectiva del Mercado de Petróleo Crudo, 2007-2016," Mexican Ministry of Energy.

### Pemex Revenue and Taxes (Millions of Pesos)




Source: Banco de México.

### Operating Expenses as Percentage of Total Budgeted Expenses, By Presidential Administration




Source: Banco de México.

remains that in 2000 crude oil reached the lowest level of its value as a percentage of exports—8.9 percent. By 2005, it had gone back to the double digits—13.2 percent.

At all three levels of government, the Mexican system is a "petrocracy." The fluctuation in world oil prices has led both the bureaucrats and the Pemex union to spend money hand over fist.

The case of the state of Tabasco between 2000 and 2006 is a prime example of this pattern of behavior of relating a higher price with higher spending. As the price per barrel of crude rose, so, too, did the expenditure item for "personnel services." Under the governorship of Manuel Andrade—who took the reins from Roberto Madrazo when Madrazo embarked on his failed presidential bid—the state's public expenditure rose by 42 percent. At the same time, investment in public works rolled to a standstill, which partially explains the precarious condition of the state's infrastructure and its total inability to deal with natural disasters like the floods of 2007.

This is just one example of the discretionary, if not opaque, manner in which surplus oil revenues were mismanaged at the state level. In the last two years of Vicente Fox's administration, these surplus revenues amounted to more than 104 billion pesos.

Public expenditure has not benefited technological research centers such as the Mexican Petroleum Institute, the National Polytechnic Institute, or the National Autonomous University of Mexico, as the opposition to President Calderón's reform proposals sternly points out.

"We have engineers; there just has not been investment," argues Rogelio Ramirez de la O, an economist who has served as a consultant to the PRD. "The management strategy for Pemex, which proved to be a popular one throughout several presidential administrations, in the end "feudalized" Pemex. Changing this should not be an ideological issue. We must recognize that the strategy did not work and reverse it. This can be done by rebuilding Pemex's capacity and returning to the capital markets. Then Pemex can attract investment."

Another aspect of the diagnosis is that the technology and the financial and human capital needed to conduct more and better oil exploration—through surface, shallow-water, or deep-water drilling—is a challenge that both Pemex and Mexico will have to struggle to meet in the coming years. They may face this struggle alone, as some protagonists suggest, or they may work together with others, as other oil companies have, including some under state management.

To private companies such as Shell, Exxon, and BP, and state-run companies such as Petrobras and StatoilHydro which possess the necessary technology, the response to this challenge might appear clear. We are frequently told that "Mexico cannot just buy technology," although the answer is more complex than that.

Milton Costa, the representative in Mexico for Petrobras and someone who has closely watched the energy sector for over two years, asserted that this is not a question of "buying parts," but of assembly, and making sure those parts work through the management of knowledge. In other words, it is a challenge of administration

## Export Value and Percentage of Total Exports by Sector (Billions of Dollars, %)

| SECTOR | 1980 | % | 1985 | % | 1990 | % | 1995 | % | 2000 | % | 2005 | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Agriculture, Hunting, Forestry, Fishing** | 1510.2 | 9.7% | 1721.8 | 7.6% | 2446.8 | 9.3% | 4615.5 | 5.8% | 4790.6 | 2.9% | 6012.9 | 2.8% |
| **Mining and Quarrying** | 10394.8 | 67.0% | 13655.6 | 59.9% | 9755.9 | 37.0% | 8078.1 | 10.2% | 15453.5 | 9.4% | 29550.7 | 13.8% |
| **Oil** | 9448.8 | 60.9% | 13033.5 | 57.2% | 8934.1 | 33.9% | 7397.4 | 9.3% | 14564.1 | 8.9% | 28278.8 | 13.2% |
| **Other** | 946.0 | 6.1% | 622.1 | 2.7% | 821.8 | 3.1% | 680.7 | 0.9% | 889.4 | 0.5% | 1271.9 | 0.6% |
| **Beverage, Food, and Tobacco Industries** | 766.3 | 4.9% | 370.5 | 1.6% | 789.5 | 3.0% | 1833.4 | 2.3% | 3510.0 | 2.1% | 5753.7 | 2.7% |
| **Nondurable Consumer Goods Industries** | 299.0 | 1.9% | 345.2 | 1.5% | 929.0 | 3.5% | 7558.6 | 9.5% | 18164.5 | 11.1% | 17811.4 | 8.3% |
| **Intermediate Goods Industries** | 1718.4 | 11.1% | 3759.6 | 16.5% | 5268.3 | 20.0% | 12748.4 | 16.0% | 16813.6 | 10.3% | 26239.7 | 12.2% |
| **Machinery Industries** | 810.4 | 5.2% | 2914.8 | 12.8% | 7076.9 | 26.9% | 44521.0 | 56.0% | 107565.6 | 65.7% | 127746.0 | 59.6% |
| **TOTAL** | 15515.3 | 100% | 22785.9 | 100% | 26354.3 | 100% | 79542.0 | 100% | 163642.0 | 100% | 214233.0 | 100% |

Source: Created with data provided by the Economic Commission for Latin America and the Caribbean (ECLAC).

and management. For this reason, no oil company is going to explore in deep-water alone.

Ole Peterson, an engineering geologist and representative in Mexico for the Norwegian firm StatoilHydro, added that his company invests 35 cents from every barrel produced into research and development. Despite this investment, however, "ours is not a technology services company but one of strategic alliances."

None of the national or international actors doubt the capabilities of Mexican engineers. However, they all stress the inflexible structure of labor relations between Pemex and its union (the Oil Workers' Union of the Mexican Republic, or STPRM), describing it as a factor that increases the technical difficulty of modernizing Pemex, if it does not, in fact, impede it.

On March 18, 2008, the Secretary General of the Union, Carlos Romero Deschamps, predictably denied that his organization was inefficient, saying: "Today Pemex is a complex, diverse, vast company which could only simplistically be catalogued as inefficient." He further added that, after 70 years of labor activity, "it goes without saying that we oil workers have no need to hark back to the past with misplaced patriotic sentiment or hog the limelight" (*Reforma,* Monday, March 24, 2008. p.3).

The transformation of Pemex is hampered not only by the way in which the STPRM is structured but also by the manner in which the company is run. In just the last decade, three of the union's general directors have ended their administrations by being brought up on criminal charges. The 1992 decision to divide the company into four large sections made its daily operation more complex. Some say this division was carried out in an effort to make Pemex more efficient; others, however, claim it was done to weaken the company and lay the groundwork for its eventual sale in parts.

Of course, Pemex's corporate organization is not unlike that of other oil companies, which are, nonetheless, more efficient. It is the inflexible rules by which Pemex presently operates to prevent the misuse of public resources that makes it difficult to manage.

In addition, the company's financial structure—for example, its capital-assets ratio—places Pemex at a clear disadvantage when it comes to international comparisons, according to the prestigious firm Marcos & Associates.

Further complicating things is an alternative mechanism known by its acronym "Pidiregas," which was created in an effort to raise capital to invest in the state-run company. Pidiregas—or Productive Long Term Infrastructure Projects—is just a long name for debt that Pemex will have to pay back in the future.

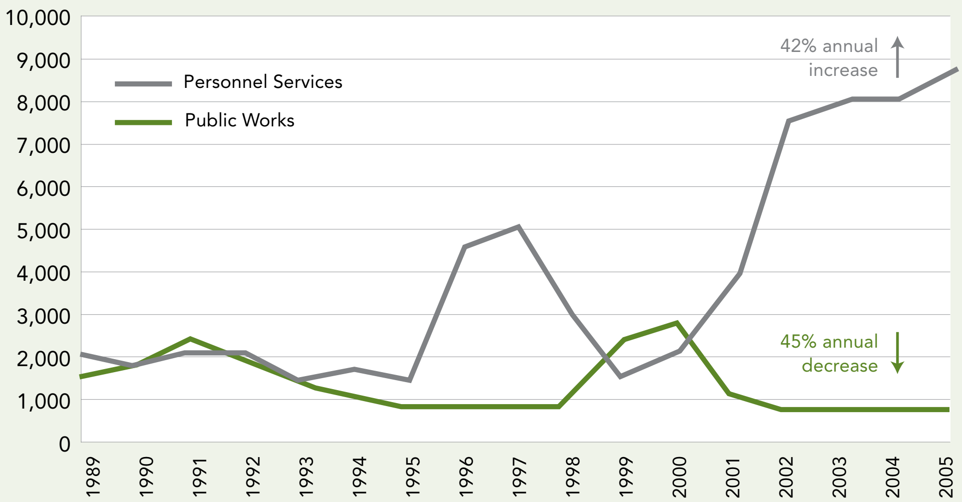
Another factor hampering the running of the company is the absence of a strong regulator with the authority and wherewithal to demand greater transparency. When the general public is asked what Pemex's biggest problem is, the answer is clear—corruption. This indicates there is a pervasive perception of abuses in and by the state-run company.

Whether they are affected as direct consumers of gasoline or because they do business with goods that are transported, the price of gasoline is an issue close to the hearts

## Oil as Percentage of the Total Value of Exports, Fox Administration

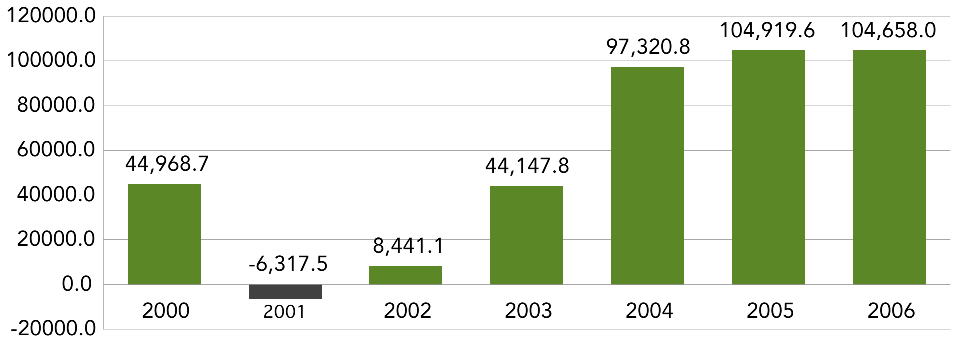

Source: Instituto Nacional de Estadística y Geografía (INEGI).

## The Case of Tabasco (Millions of Pesos)




Source: Data provided by Juan Pardinas, Instituto Mexicano para la Competitividad (IMCO).

**Surplus Oil Income, 2000-2006 (Millions of Pesos)**




Source: The Center for Public Finance Studies of the Chamber of Deputies, based on data provided by the Mexican Ministry of Finance.

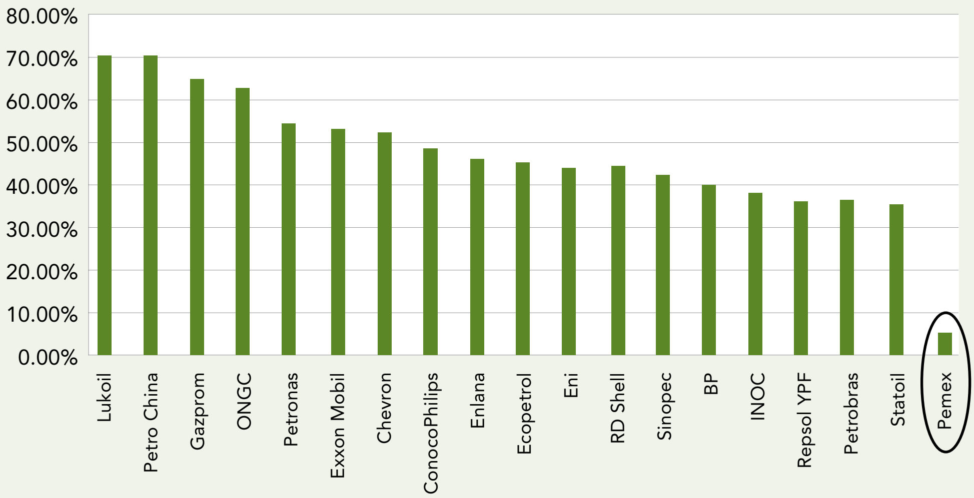
of the majority of Mexicans. Unfortunately, there are few positive prospects for this problem. Today, because Mexico has to import significant quantities of refined products, it finds itself in an undesirable position: selling low and buying high.

Furthermore, there is real danger of becoming dependent on imported gasoline. Shortcomings in the transportation infrastructure create a latent risk of shortages. On December 20, 2006, Mexico City was just a few hours away from running out of supplies because, due to bad weather in Tuxpan, it was impossible to offload imported gasoline for several days. This situation, which was further exacerbated by the increased demand during the Christmas season, brought Mexico to the brink of a shortage. In an oil-producing country, no less! Such is the degree of dependence and vulnerability. Natural phenomena aside, the fact is that the present infrastructure cannot meet Mexican consumers' demand for more and better gasoline.

The balance of the oil trade is another problem related to the issue of imports. In recent years, the country's trade balance for oil-based products has reached close to a 12 billion dollar deficit annually. This situation will most likely continue if there is no refinery construction, with or without reform. The last new refinery in Mexico was built in 1979, and the last expansion made to the existing refineries was carried out in 1989.

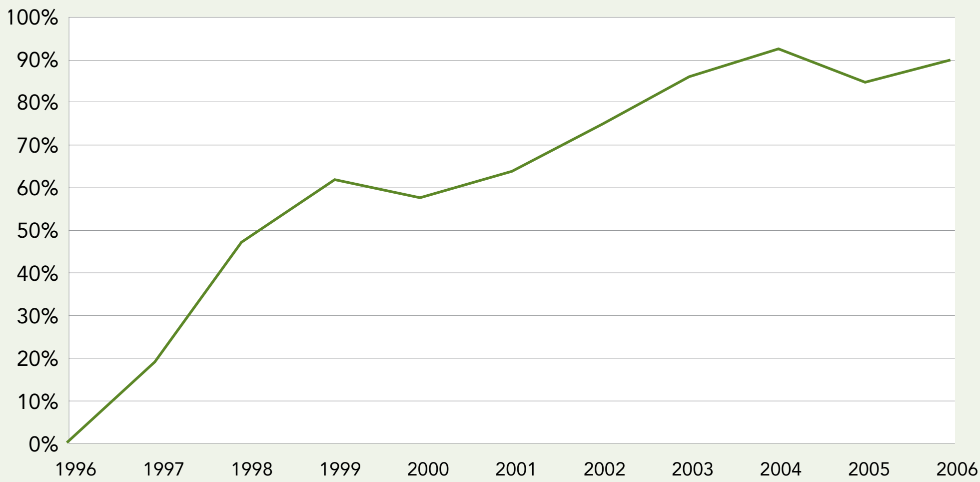
The challenge is daunting. If the complex combination of symbolism, the union, administrative shortcomings, and corruption that currently characterize Pemex is not addressed, there may come a time when Mexicans will not be able to fill up their gas tanks.

### Ratio of Capital/Assets, 2004



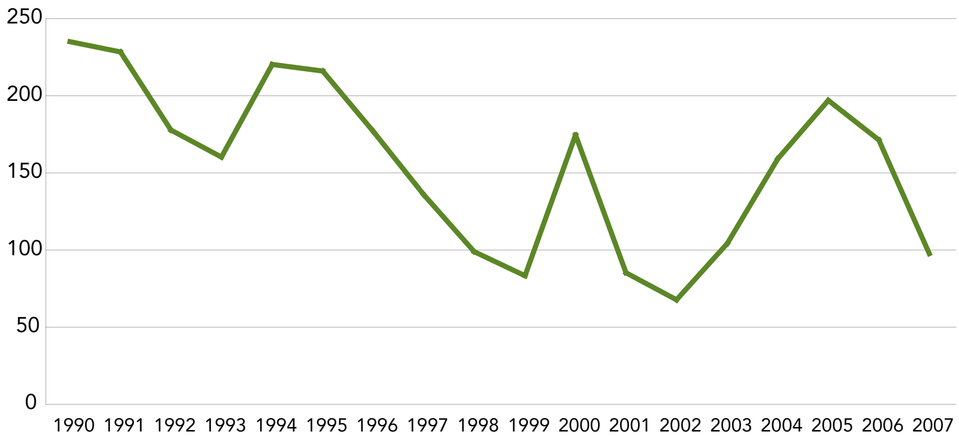

Source: Created with data provided by the Petroleum Intelligence Weekly (PIW).

### Pidiregas Investment as Percentage of Total Investment, 1996–2006



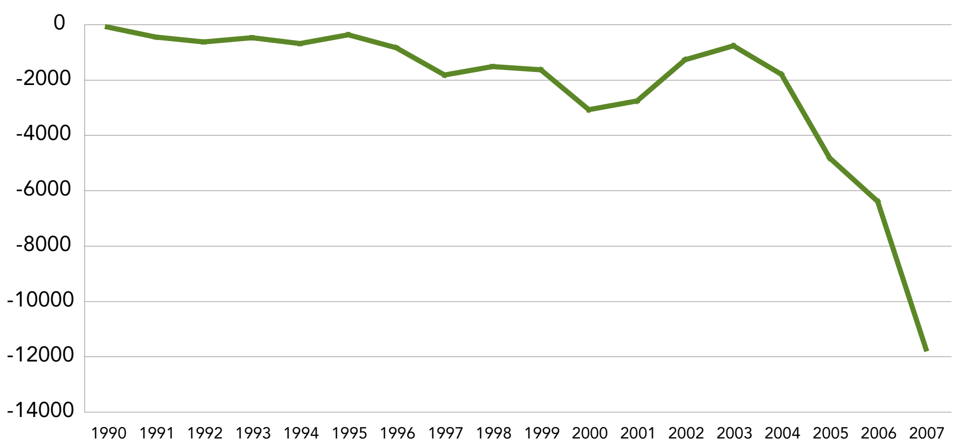

Source: Pemex, Corporate Finance Division.

## Trade Balance of Petrochemicals (Millions of Dollars)




Source: Energy Information System, Mexican Ministry of Energy.

## Trade Balance of Oil-Based Products (Millions of Dollars)




Source: Energy Information System, Mexican Ministry of Energy.

- Restructuring Pemex:
  - Board of Directors' new powers
  - Strengthening of the Energy Regulatory Commission
  - Petroleum Commission
  - Transparency Commission
  - Auditing of Pemex
  - Pemex bonds

## THE NEW PEMEX

The fundamental change in Pemex's mandate called for under President Calderón's reform proposal can be summed up in a few words: "Create economic value to benefit the nation."

During the twentieth century a great deal was asked of Pemex. It was called on to be the symbolic bastion of Mexico's sovereignty before foreign powers, as well as the petty cash for a state that was incapable of or unwilling to collect taxes. (And this does not even mention the expectations that the company or its union would illegally finance political campaigns or feed the greed of dishonest businessmen and public officials, who embodied the corruption for which the company was infamous).

In the twenty first century, however, by explicitly declaring that "our petroleum belongs to and will continue to belong to the Mexican people," the emphasis shifts to other, more positive values that should characterize the company: transparency, competitiveness, and quality.

Forty-nine articles and an additional eleven transitory articles seek to build a bridge from one century to the next for Pemex and make it less of a symbol and more of a company.

It is an enormous challenge. Well-known Mexican oil-sector experts like journalist David Shields have serious doubts that the challenge will be fully met. "The political conditions seem not to be right" [for a true overhaul of the system], states Shields, who participates in the Red Mexicana de Energía, where the debate concerning the sector is focused.

Creating better practices of corporate governance for Pemex aimed at achieving results that are effective and sustainable while being measurable and verifiable—as the Calderón proposal establishes—should be a goal welcomed by many of the actors involved. This approach would stress a transparent process of decision-making instead of the opaque one that has been so detrimental to Mexico's national resources.

Although this should be the case, it is not. Even though the banners of protest were removed and the storming of the Chamber of Deputies and the Senate ended five days before the close of the first period of sessions for 2008, tension and mistrust continued to mark the path of the public debate.

President Felipe Calderón's public campaign to garner popular public support for the bill he was about to send to Congress showcased the fact that Mexico had "a treasure in deep-waters" that had to be exploited. The street protests of the PRD followers of Andrés Manuel López Obrador were just beginning when López Obrador temporarily crippled the proposal.

Humor—that age-old Mexican remedy for dealing with tense or difficult situations—was used to answer the question of who was going to lay claim to the deep-water treasure trove. The answer—the now scandal-plagued Secretary of the Interior Juan Camilo Mouriño, accused of negotiating contracts with a company owned by his father, and his family—began to be heard in many different circles, even those outside of the PRD.

The strategy of the opponents to Calderón's reform was to incorrectly fix the debate in dichotomous terms—to privatize or not to privatize—an option that had never been proposed by the president. Opponents destroyed Calderón's main political operator, Juan Camilo Mouriño, with accusations of conflict of interest. These allegations were later rejected by a legislative committee, but the damage had already been done.

By the end of April, experienced pollsters like María de las Heras assured everyone that the first round of the public opinion fight had been won by those opposing the project. A different poll conducted by GEA/ISA phrased the question in terms of whether or not the proposed reform would strengthen Pemex and whether there were positive results for the people. Foremost in people's minds is the part of the proposal dealing with citizen bonds. Of crucial importance was the fact that a consensus had emerged that something needed to be done to fix Pemex.

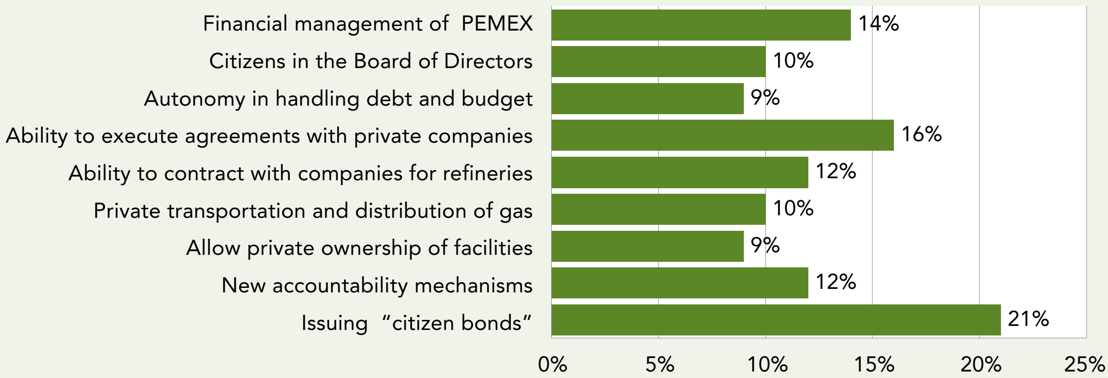
## THE MORE, THE MERRIER: THE NEW BOARD OF DIRECTORS

On the second presidential attempt to alter the balance of power on the Pemex Board of Directors, the professionals bested the millionaires.

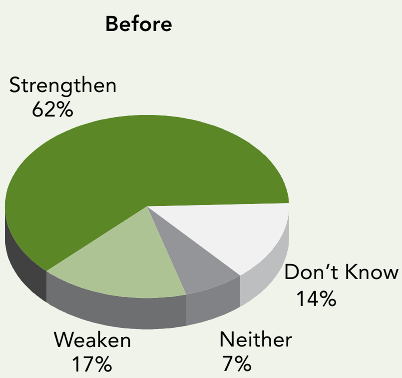
In 2001, an attempt was made to create a Board of Directors in which Carlos Slim Helú, Lorenzo Zambrano, Alfonso Romo, and Rogelio Rebolledo would be involved in decision-making about Pemex. However, this move was criticized based on conflict of interest because companies owned or headed by these individuals had business relationships with Pemex. As a result, the idea did not get off the ground.

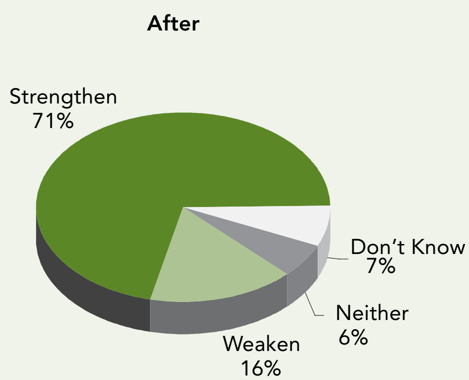
The reform bill now before Congress again takes up the idea of modifying the Board's structure to include four professional members in addition to the five members representing the labor union, six representing the President and the Director of Pemex, and a Commissioner who represents the interests of bond holders.

## Based on your knowledge, what does this reform propose?




## Do you think that passing these reforms will strengthen or weaken Pemex? (Responses before and after being asked, "What does this reform propose?")




Source: GEA-ISA, "First National Telephone Survey on Reform Proposals for Legislation for the Oil Sector."

The text of the reform bill argues that the "performance of the professional board members will be crucial in adding value to the Board of Directors of Petróleos Mexicanos, given that they will act with total autonomy and independence in making decisions, just as in the case of the Federal Antitrust Commission and other bodies under autonomous management within public administration."

There is a guarantee in place to ensure that the professional board members will have access to all pertinent Pemex information that they might require for the performance of their duties. Likewise, they will have a team of assistants to aid them in their work.

In light of the negative experience involving the Board of Directors of the Federal Electoral Institute (IFE), when all the board members were appointed at the same time, the Pemex proposal calls for staggering the appointment of board members and stipulates that the term of office will be eight years, renewable only once.

Two of the proposed professional board members will work full-time for the company and will, therefore, be considered state representatives. This means that they will not be allowed to hold any other job, position, or commission, either public or private, with the sole exception of teaching or research activities. The other two professional board members will be part-time; in other words, they will act as external board members, and will be entitled to freely pursue any other activity of their choosing.

The Board will deliberate in a collegial manner, requiring a quorum of at least eight of its members as long as the majority of those in attendance are state representatives. It must convene regular meetings every two months and may convene additional meetings whenever deemed necessary. The variation in the number and composition of the Board Members works to reduce the power of the labor union and increase the President's influence.

Lastly, in order to support the work of the Board of Directors, the proposal allows for the creation of as many technical committees as necessary. However, the Board must include at least a Transparency and Auditing Committee, a Strategy and Investment Committee, and a Remunerations Committee.

## KEY COMPONENTS OF CALDERÓN'S PROPOSAL

### *The Regulatory Agency: the Pivot in the Bureaucratic Balance*

On paper, the Ministry of Energy regulates Pemex, but historically and in fact, this has never been the case. During the brief time that Felipe Calderón Hinojosa headed the ministry, he noted the lack of instruments that would allow the president to engage in energy planning.

First-hand experience and comparisons with international models of administrative agencies led to the creation of the Petroleum Commission—one of the centerpieces of Calderón's proposal. This Commission effectively strips the state of two sets of responsibilities. The first concerns the definition of energy policy and strategic planning. The

**Article 11.** The professional board members must meet the following requirements:

**I.** They must be Mexican citizens by birth and in full possession of their civil and political rights;

**II.** They must have a professional degree in law, economics, engineering, public administration, accounting, or other fields related to the energy industry.

**III.** They must have shown outstanding performance in the execution of their professional, research, or teaching activities.

**IV.** They must not have or have had any business, labor, professional, or any other kind of relationship with Petróleos Mexicanos and its subsidiaries in the two years prior to their appointment, which could give rise to a conflict of interest, according to the terms established in the regulations issued under this Law.

At least one of the professional board members must be an expert in finances and this person shall sit on the Transparency and Auditing Committee referred to in article 22 of this Law.

second has to do with the functions of regulation, oversight, and technical analyses. The proposal is for the new Commission to provide support to the Ministry of Energy in the regulation and supervision of exploration and production activities.

A presidential summary of the proposal states that the "entity would contribute technical expertise in evaluating the designation of areas for exploration and production, affect the determination of oil reserves, and issue technical findings on projects put forward by Petróleos Mexicanos."

In other words, the Commission chairperson and his or her four colleagues, whose names would be proposed by the Ministry of Energy and appointed by the President, would strike a healthier balance between the state and the Director of Pemex, who has traditionally been extremely powerful.

## OVERCOMING DISTRUST

To quote Horacio Boneo, the Argentinean official who headed a team of United Nations election observers in Mexico in 1994, "Mexicans have a distrust gene." It is true.

One of the most crucial elements of the proposed energy reform bill will be to come up with a cure for this malady. In the case of Pemex, there is a justifiably high level of fear that the reform will allow the rampant corruption that has traditionally characterized the company not only to continue but also to become even more deeply entrenched.

Arturo González de Aragón, the senior federal auditor and one of Mexico's most respected authorities on accountability in Mexico, stresses that any new regulatory agency in the energy sector must not only be responsible for enforcing the law but must also have the necessary design, elements, and wherewithal to do so.

He declared "the mission of this regulatory agency must be the constant quest to strike a balance between the well-being of the masses and the efficiency of the sector."

Chapter II of President Calderón's proposal stresses the need for Pemex to adopt "the best practices of corporate governance." As González de Aragón argued, these practices must include mechanisms for evaluating results that have to be "measurable, reviewable, and verifiable." This suggests that the Commission will have financial and administrative autonomy, as well as access to the human, material, and monetary resources it needs to properly do its job.

These points are of even greater importance when considering remarks made by Francisco Salazar, who is the director of the predecessor organization to the proposed Commission. In a statement delivered at a conference held at the Instituto Tecnológico Autónomo de México (ITAM) in early 2008, Salazar argued that "with staff and budget cuts it is impossible to implement the regulations that a modern nation needs to maximize efficiency." He further admitted that his costs for 2007 had skyrocketed and had been cut from 200 to 107 million pesos. It is therefore understandable that there would be distrust given the enormous gap between the discourse and the facts on the ground.

### Common Functions of a Regulatory Agency to be Adopted by the Energy Regulatory Commission

| | |
|---|---|
| • Evaluate the country's hydrocarbon potential | *Yes* |
| • Promote the development of hydrocarbon reserves | *Yes* |
| • Maintain the data pool on the country's hydrocarbon activity | *Yes* |
| • Draw up contracts with companies who participate with Pemex on specific project | *No* |
| • Invite bids from operating companies to develop areas with hydrocarbon potential | *Not planned* |

Source: Created with information provided by Espinasa, Inter-American Development Bank.

## PETROLEUM COMMISSION ACT- CHAPTER I

*Characteristics and Powers*

**Article 1.** The Petroleum Commission is created as a decentralized entity of the Ministry of Energy, with technical and operational autonomy, pursuant to the provisions of this Act.

**Article 2.** The purpose of the Commission will be to use the most appropriate technology to optimize the operations of exploration and exploitation of hydrocarbons, contribute to the design of the sector's regulatory framework, and oversee the aforementioned activities.

**Article 3.** The Commission has the following responsibilities:

**I.** Provide technical support to the Ministry of Energy in determining the oil-production platform, as well as the rate of replacement of hydrocarbon reserves;

**II.** Report its findings regarding quantification of the country's hydrocarbon reserves to the Ministry of Energy;

**III.** Within the scope of its responsibilities, submit proposals to the Ministry of Energy concerning the technical regulations required for improving exploitation of the country's oil resources and for overseeing their enforcement;

**IV.** Propose that the Ministry of Energy issue guidelines governing the technical parameters of drilling investment projects. Among other considerations, these guidelines should take into account the following factors:

a. The success of exploration and incorporation of hydrocarbon reserves;
b. The technologies to be employed in each phase of the project;
c. The extraction rate of the oil fields;
d. The hydrocarbon recovery factor;
e. A technical evaluation of the project;

**V.** Grant and revoke permits for the execution, operation, and cancellation of works and jobs related to oil drilling and extraction within the projects previously authorized by the Ministry of Energy, in accordance with the guidelines issued for this purpose;

**VI.** Provide technical support to the Ministry of Energy in the fulfillment of its mandate whenever so requested;

**VII.** At the behest of the Ministry of Energy, draw up and propose a technical ruling on wells suitable to be used for storing hydrocarbons;

**VIII.** Assist the Ministry of Energy in identifying benchmark technical patterns in the oil industry, in keeping with international best practices;

**IX.** Gather and analyze information on production as well as on oil and gas reserves;

**X.** Conduct inspection visits to oil facilities, either directly or using third party inspectors;

**XI.** Demand from Petróleos Mexicanos any and all data related to the performance of its functions;

**XII.** Within the scope of its responsibilities, impose sanctions for any breach of the applicable regulations;

**XIII.** All other functions attributed to it by law and other legal provisions.

Source: Reform initiative presented by the Mexican Presidency.

## THE TRANSPARENCY AND AUDITING COMMITTEE

Pemex's record of public accountability has been as black as oil itself. In the aftermath of the 2007 pipeline explosions at the Salamanca refinery, it took several weeks for Pemex to admit that it was sabotage and not an accident. On the Pemex website, to cite another example, it is difficult to find even the most basic information such as the chronology of its general directors.

The Mexican President's proposal to reform the energy sector seeks to improve accountability through the creation of a Transparency and Auditing Committee. The Pemex Board of Directors, with its four new professional board members, will ensure that the individuals responsible for oversight submit full reports. This is a "basic but essential task within any corporate organization" according to the text of the proposal.

As with all government entities in Mexico, Pemex has a set of guidelines for "the mandatory disclosure of information"; and the reform would seek to broaden these guidelines. Furthermore, there is reference to an external auditor. It remains to be clarified, however, if this task would be performed by the office of the senior federal auditor, the entity established by the governmental structure, or if it would be done by outside firms. In any case, the initiative establishes that the external auditor would "reinforce the mechanisms of control and oversight currently in place in Pemex and must include new procedures conducive to timely and effective accountability, for the benefit of all Mexicans."

The proposal establishes that the "truthfulness and adequacy" of this additional information be validated by the presidentially-appointed commissioner who would represent the bond holders.

### DESIRABLE ELEMENTS FOR A SUPERVISORY SYSTEM FOR THE ENERGY REGULATORY COMMISSION:

- It should be easy to understand, show current trends, respond to changes in the status quo of power, and demonstrate values that can be used to measure progress;
- It should be based on clear objectives;
- It should have a reasonable cost;
- The indicators should show the context and process;
- It should be sensitive enough to detect changes in the system;
- It should be based on reliable data from trusted sources;

Source: Arturo González de Aragón, "Reforma en PEMEX y regulación del sector energético."

## STRUCTURE AND OPERATION OF OTHER AUTONOMOUS PUBLIC BODIES

| | IFE (FEDERAL ELECTORAL INSTITUTE) | BM (CENTRAL BANK) |
|---|---|---|
| Law(s) | Political Constitution of the Mexican United States (article 41) and Federal Electoral Institutions and Procedures Code (Book Three) | Political Constitution of the Mexican United States (article 28) and Law of the Central Bank |
| Characteristics | Autonomous public body, with permanent decision making authority and functions; is a legal entity and has its own patrimony. | Has autonomy in the exercise of its duties and management |
| Organizational Chart | General Council<br>Presidency<br>Executive Secretary | Board of Governors (one governor and four deputy governors) |
| How is it organized? | The President and Electoral Members (8) of the Council are elected by two thirds of the members of the House of Representatives, proposed by Parliamentary groups. The President of the Council shall remain in office for a six-year period and may only be re-elected once. The Electoral Members of the Council shall remain in office for 9-year periods, and may not be re-elected. | The Governor and Deputy Governors are appointed by the President and confirmed by the Senate. The Governor shall remain in office for a six-year period and Deputy Governors for eight-year periods. Deputy Governors shall be elected for staggered periods, and shall be replaced or reappointed every two years, on the first, third, and fifth years of each presidential term. The members of the Board of Governors can be appointed more than once. Likewise, they shall be removed from their posts for any of the causes set forth in article 43 of the Law of the Central Bank. |
| Financing | There is a category for the Institute's financing in the Federal Expenses Budget, under "Autonomous Branches." | Self-funding with its budget reported to the President and the Congress. |
| Duties | The Institute is the public body responsible for the state function of organizing elections. | Its main function is to provide currency to the domestic economy. In discharging this task, the Bank's priority is to ensure the stability of the currency's purchasing power. Its other functions are to promote both the sound development of the financial system and the optimal functioning of the payment systems. |

## BONDS: PEMEX FOR EVERYONE?

It could well be that the most attractive part of the energy reform proposal, from the public's viewpoint, are the citizen bonds. This mechanism is aimed at bringing the benefits of Pemex to the Mexican people while injecting funds into the company. The proposal does not address the bonds in detail, but does stipulate that they may only be acquired by Mexicans.

They may be acquired either directly or indirectly, through retirement funds, pension funds, mutual funds, and other financial intermediaries (the exclusive purpose of the latter would be to create a bond market). There will be regulations established by the responsible authority—what authority this would be is not specified—to curtail the stockpiling of bonds. This will force Pemex to operate with transparency since the bonds will act a gauge of the company's activity and performance.

It is still not known exactly how much money Pemex may obtain from these bonds. The inspiration for this part of the initiative, on the other hand, is well known. It comes from the Colombian state-run company, Ecopetrol. Ecopetrol did not issue bonds but rather voting-right shares with entitlement to dividends. The model in Colombia had the following characteristics:

1. Maximum sale of 20 percent of the stock;
2. Two offerings exclusively for Colombian citizens, with subsequent offerings open to the general public;
3. No private individual may own stock worth more than the equivalent of five thousand official minimum monthly salaries and the minimum package is one thousand shares;
4. No company or corporation may own more than three percent of Ecopetrol outstanding stock.

On April 27, the Spanish newspaper, *El País*, wittily equated the needs of an oil-hungry world with the traditional Olympic motto "*citius, altius, fortius*" or "faster, higher, stronger." It referred to Mexico's deepwater oilfields—that "undersea treasure" which President Felipe Calderón's Energy Reform Bill seeks to find.

According to the newspaper article, the company known as *Repsol YPF* drives the race to find oil *farther away, deeper, and more expensive* because the world's hydrocarbon reserves are becoming increasingly scarce and harder to reach—miles below our seas.

The elements of Calderón's initiative that have elicited the fiercest criticism include the contractual mechanisms that might surround the drilling and exploitation of oilfields which experts believe could yield as much as the Cantarell oilfield to date.

Beatriz Paredes, president of the PRI National Executive Committee, argues that the eagerness to develop the oilfields in the Gulf of Mexico is due to geopolitical pressures from the United States. She also underlines her party's staunch position that Mexico must defend its reserves in cross-border oilfields.

For his part, Cuauhtémoc Cárdenas, who is an engineer by profession, president of the Foundation for Democracy, and a three time candidate for the Mexican presidency, stresses that myths abound about the lack of technology. He says that the success rate for this kind of drilling is around 10 percent and that such projects take at least eight years.

In the initiative sent to Congress by the President there are 17 references to deepwater oilfields. This type of drilling is one of the text's four central projects. Presidential advisors have described the oil lying in the depths of the Gulf of Mexico as a "treasure" to be found. So-called deepwater oilfields would yield a part of that potential wealth. Roughly 70 percent of them lie in depths of over 1,500 meters.

The majority of the deepest wells Pemex currently operates do not even reach a depth of 1,000 meters. Despite records showing five cases in which the company drilled in deeper waters at a cost of 200 million dollars each, there are still no conclusive results on the subject.

According to Juan Pardinas, a researcher at the Mexican Institute for Competitiveness (IMCO), there is a clear dilemma: whether to "turn a blind eye to our underground potential or be creative and find a formula to ensure that we tap the oil that belongs to us." This same dilemma appears to be at the heart of the proposed reform, but has not yet reached the current political debate.

To privatize or not to privatize? The controversial question has framed the issues of the initiative, in general, and in particular the topic of deepwater drilling. As Lourdes Melgar, an expert in energy matters, has warned, this dichotomy does not help the debate.

Opponents to Calderón's initiative reject the argument that Mexico needs to speed up deepwater drilling. They also reject the arguments concerning the internationally-recognized potential for such projects. Likewise, they call for Mexico to develop its own capacities before resorting to partnerships.

## FARTHER AWAY, DEEPER AND MORE EXPENSIVE: DEEP-WATER OIL RESERVES IN MEXICO:

- Complexity of deep-water drilling
  + Lack of technology
  + Prolongation of the processes of oilfield development
- Possible oilfields in the Gulf of Mexico
- Cross-border oilfields
  + Shared-risk solutions
  + Solutions from international law: 'Donut Hole' Treaty

The technical and financial complexities of deepwater drilling make the internationally accepted practice of "shared risks, shared benefits" necessary. Opponents to the reform argue that Pemex could explore and drill by itself, if it only had the necessary resources. Reform supporters insist on the need to follow the international experience of cooperation.

## MEXICO IN DEEP WATER

Whereas the current legal framework governing Pemex prohibits strategic alliances with foreign companies for drilling deepwater wells in the Gulf of Mexico, in U.S. waters dozens of American and international companies are already drilling in an area known as the "Donut Hole." Included among these companies are Ecopetrol and Petrobras, companies that did not even operate in shallow waters a decade ago. Petrobras, in conjunction with Dutch Shell and Italy's ENI, reported a "find" in late May 2008.

With or without energy reform, more voices are suggesting it is important to study extending the moratorium on the Donut Hole Treaty.

In 2001, Mexico and the United States signed an international treaty called "the Donut Hole Treaty," which divides the area beyond the territorial waters of both countries, albeit still within the Gulf of Mexico. The treaty established a deadline of ten years in which to begin exploiting the oilfields there. The United States will be primed and ready to begin; Mexico, however, will not.

For this reason, the Foreign Affairs Commission of the Mexican Senate has come out strongly in favor of expanding similar negotiations, not only concerning the maritime borders between Mexico and the United States but also between Mexico and Cuba, Mexico and Guatemala, and Mexico and Belize. One facet for the proposed diplomatic negotiations is the possibility of standardizing the oilfields for exploitation.

In *Cruzando Límites. México ante los desafíos de sus yacimientos transfronterizos (Crossing Borders. Mexico and the Challenges of Its Cross-Border Oilfields)*, Melgar writes: "Mexico has to be tireless in its efforts to actively protect its resources." From an analytical viewpoint, she is right. However, from a business perspective this would only further delay the development of the oil potential in the Gulf.

## THE LEGAL FINE PRINT

In a radio broadcast that went out at 10:00 p.m. on Friday, March 18, 1938, the incumbent president, General Lázaro Cárdenas del Río, informed the nation of the expropriation of the foreign oil companies operating in Mexico and the subsequent creation of a company called Petróleos Mexicanos which thenceforth would take complete charge of all the country's hydrocarbon extraction.

Drilling for oil began in Mexico with the Mining Act of 1884, which granted rights to landowners with regard to subsoil resources. Enacted in 1901, the Petroleum Act granted private concession permits for petroleum drilling and exploitation on public lands. Both pieces of legislation were later revoked and, pursuant to article 27 of the 1917 Mexican Constitution, subsoil mineral resources would thenceforth be the inalienable property of the nation.

In 1925 and 1928 further legislation sought to establish an operational framework for the existing concessions, shortening the permit periods originally granted. The oil companies, which were mostly British and American, rejected their implementation on both legal and factual grounds.

Relations between the oil companies and their workers, as well as between the companies and the governments that came about after the Mexican Revolution, grew even tenser. There were labor disputes, tax fights, and lawsuits for damage to public property. The situation reached a head that fateful night of March 18, 1938, when President Cárdenas spoke the words: "the oil belongs to us."

As Ewell E. Murphy, a lawyer and historian at the University of Texas, Austin, points out despite its monopolistic position acquired from the expropriation, Pemex continued to enter into service agreements that included payment through profit-sharing measures. In fact, Lázaro Cárdenas actively pursued such arrangements. Then, in 1958, a new law was introduced which specifically stated that contractors could only be paid in currency.

In articles 44 and 45 of the new Pemex Organic Act, the initiative sent to Congress by President Calderón proposes reversing the 1958 laws and establishing a "special system" for what are considered to be "fundamental productive activities."

The question for constitutional lawyers and lawyers for the energy sector is how to deal with the fine print of Pemex contracts in the framework of the new bill.

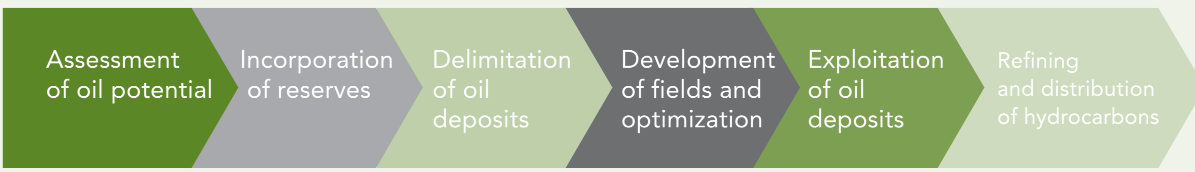
Miriam Grunstein, coordinator for energy at the legal firm of Thompson & Knight, stresses that "clarity in the area of enforcement of special juridical systems is the cornerstone of their effectiveness" A member of the Mexican Energy Network, Grunstein also argued states that, on a legal level, it is best to mark the boundaries of the legal framework of those "special systems" so as to clearly define the degree of discretion that Pemex executives will have in terms of enforcement of the law.

From the viewpoint of the opposition to Calderón's initiative, the legal aspect is also a controversial arena. Ignacio Marván, an academic at the Center for Economic Research and Teaching (CIDE) and one of the closest advisors to López Obrador, points to the possibility that these special systems may be contested by the Federal Supreme Court.

"We are faced with another trap as the Constitution speaks not of superintendence but of exclusivity. Not even Carlos Salinas de Gortari in 1992 dared to touch Article

**Time Needed to Develop a Project in Shallow Waters: 8 to 10 years.**

*The production of hydrocarbons involves different processes that include:*




Source: Created with Information from the Pemex website.

27 (in reviewing the legal framework of the Federal Electricity Commission). This is nonsense and there will be controversy," he assured, adding that 70 years after President Cárdenas' radio broadcast, faced with the 2008 reform, the new legal framework still does not work.

## ONE SIZE DOES NOT FIT ALL

There are many models for oil exploitation. There are monopolistic national companies, transnational companies, and companies that are states within a state. One size does not fit all. However, observers of the Mexican political situation have noted certain trends in the energy reform debate.

Public ownership of hydrocarbons clearly continues to prevail. Seventy-seven percent of the world's 1.1 trillion barrels of oil reserves are either owned or managed by the state. This is the case for Mexico. In the rest of the world, even though oil reserves may be national property, many of these companies drill in partnership with international private or public operators.

Daniel Yergin, author of *The Prize*, a classic book on the history of the global oil industry, recently stated that when oil power is discussed, it is not to the proverbial Seven Sisters that we should look, but rather to the National Oil Companies (NOCs). "The great companies are not private but state-owned," he said (*Congress Quarterly*, July, 2007).

In a world where the demand for oil is growing and pushing prices up, a barrel of West Texas Intermediate (WTI) crude went from 10 dollars a barrel in the first quarter of 1999 to over 100 dollars in the first quarter of 2008.

According to figures from the Organization of Petroleum Exporting Countries (OPEC), between 1965 and 1998, the economies of its member countries did not expand but in fact actually shrank at a rate of over one percent annually during this period. This is one of the paradoxes of abundance according to journalist Tina Rosenberg, who discusses this issue in an article entitled "The Dangers of the Petrocracy" (*The New York Times*, November 4, 2007).

The countries that depend on oil fare particularly badly in terms of their poor population. Infant mortality, nutrition, life expectancy, literacy, and education all suffer. In oil-producing countries where "petrocracy" reins, all those indicators tend to be disappointingly unsatisfactory.

However, in well-organized countries with a highly-educated population, a diversified economy, and little inequality in terms of the distribution of wealth like Norway, petroleum revenues constitute a source of public wealth. This is so even though StatoilHydro is state-owned enterprise. Transparency and accountability make all the difference. This is true in the case of Norway and also in Brazil, after the 1993 transformation of Petrobras undertaken by President Fernando Henrique Cardoso.

- Models of oil exploitation
- World oil prices
- The dangers in being an oil country
- Measuring the functioning of companies: active drills
- StatoilHydro
  + Industrial policy
  + State-run oil industry
  + State savings
- Petrobras
  + Making an oil company efficient
  + Development of technology, finding reserves, and deep-waters
- Ecopetrol
  + Facing delays, inefficiency, dependence, and corruption
  + Non-voting shares with entitlement to dividends

According to Ramón Espinasa, former chief economist at the Venezuelan oil company, PDVSA, and an energy consultant with the Inter-American Development Bank (IDB), the difference lies in how the ownership monopoly is applied for developing this natural resource.

In Latin America, there are countries that reserve ownership rights over crude, but where these rights are exercised via state-owned companies governed by private law and which are authorized to enter into any kind of agreement. This is the case of Petrobras, Ecopetrol, and Petroperú. The situation in these countries differs from those countries where the state-owned company acts as both judge and jury, playing the double role of asset manager and producer of crude, such as in the case of Pemex, PDVSA, and Petroecuador.

To characterize these two kinds of state ownership, the policy of Group I could be considered "development-oriented" whereas the oil policy of the countries in Group II could be classified as "profit-oriented."

To demonstrate this point, Espinasa analyzes the number of active wells a company has as a means to measure its monthly activity. In companies that are development-oriented, modification of the legal framework and the creation of autonomous regulators translate into a visible increase in the number of active wells. This occurred in Brazil in 1998 and in Colombia in 2003. In contrast, in the profit-oriented model, the number of active wells fluctuates considerably, presumably linked to variations in price.

From these behaviors, it can be deduced that in the development-oriented companies, drilling and the accumulation of knowledge and experience are constant and ongoing and, therefore, these companies will probably be more successful over time. If the hypothesis concerning the effect of price in the profit-oriented companies is true, these companies would be at a disadvantage in lean times and would take longer to reap the benefits of booms.

In a comparative study of the different models, the Latin American models and the model of the Norwegian company StatoilHydro were frequently referenced during the debate about the presidential energy reform bill.

Mexico is far from abandoning the traditional Mariachi cry: "¡Como México, no hay dos!" ("Mexico has no equal!"). It is important to understand the theory of national uniqueness as a part of the struggle to find a 21st-century Mexican identity. This comparative politics is a useful exercise; at the very least it has sparked an analysis and discussion of oil in Mexico in an international context.

Brazil and Colombia have similar dualities. However, both countries have been able to resolve these dualities when it comes to petroleum and have been able to showcase the entrepreneurial spirit they want their national companies to adopt.

Based on the analysis of international models, what is proposed is that Pemex move toward that group of state-run companies where the objective is to stimulate investment, drill, and develop reserves in competition against other oil-producing states. In other words, the presidential initiative seeks to turn Pemex into a Petrobras or a StatoilHydro.

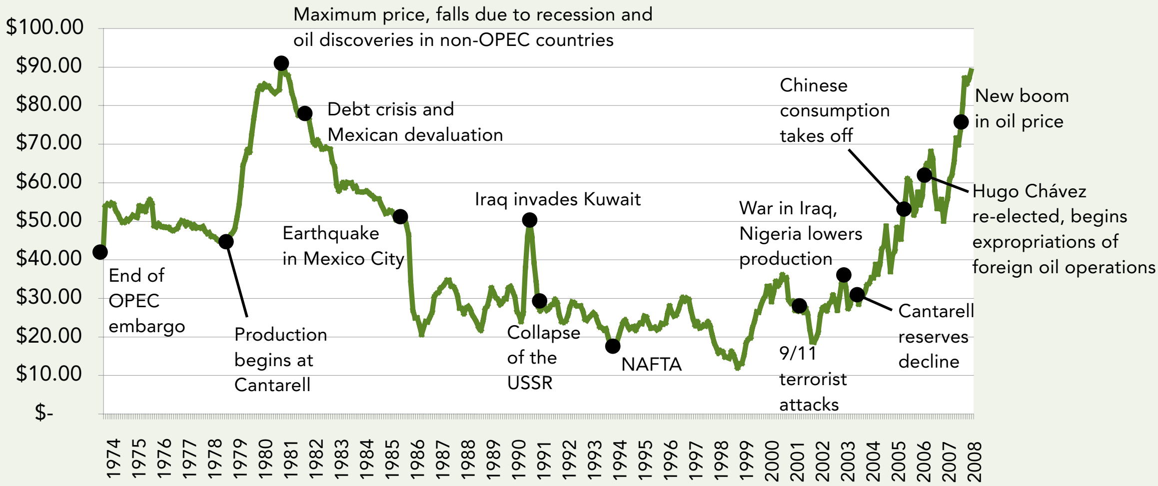
## STATOILHYDRO: AN INDUSTRIAL POLICY WITH ANOTHER NAME

Let us imagine that for every Mexican, the government had 70 thousand dollars saved to ensure their future, tucked away in a fund financed by oil revenues. Let us also imagine that 7 million Mexicans had jobs thanks to the development of the state oil industry. This is not something taken from science fiction. Norway achieved this for its 4.5 million inhabitants in just a little more than three decades; it turned the oil industry into the engine of the national economy.

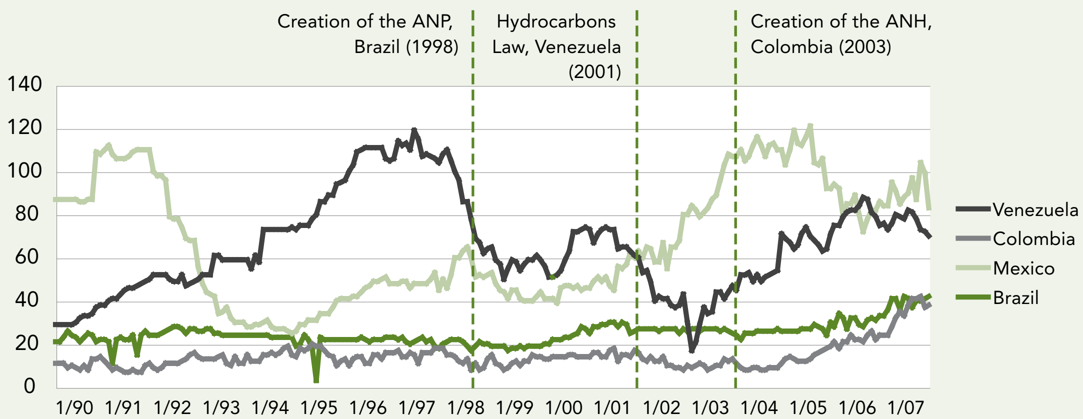
Therefore, it is not surprising that Senator Francisco Labastida Ochoa (PRI)—current chairman of the Senate Energy Committee, one-time presidential candidate, former governor of the State of Sinaloa, and cabinet secretary—imagines elements of this model when he considers the best way to restructure Mexico's energy sector.

Pemex has to make deep changes in order to boost the low purchase index, provide impetus to the industry, and encourage research and productive chains. "There are no fatal deadlines, but the sooner we do it, the better," Labastida says.

## International Oil Prices, 1974-2008 (Price Per Barrel)




## Number of Drilling Operations (Monthly), January 1990-November 2007




- In Brazil, when the ANP was created, there were 22 active drill sites. Today there are 42.
- In Venezuela, when the Hydrocarbons Law was enacted, there were 65 active drill sites. Today there are 70.
- In Colombia, when the ANH was created, there were 10 active drill sites. Today there are 38.

Source: Created with data provided by Espinasa, "Institutional Framework and the Performance of State-Run Oil-Producing Companies," Inter-American Development Bank.

Norway's oil history began in the early 1970s. Following the discovery of the Ekofisk 23 oilfield in 1969, the government created the Statoil in 1972. This company, along with two other Norwegian companies, Hydro and Saga, obtained preferential treatment, but did not block foreign companies' access to the oil market. In opposition to the isolationist responses that were fashionable then, the Norwegian government encouraged and promoted business relations with foreign oil companies in order to learn from their experience and knowledge because exploiting the oilfields in the North Sea required complex technology. StatoilHydro was a state-run company from its inception until 2001. In 2001, the government authorized the sale of 18.5 percent of the stock and this percentage has risen to the current level of 37.5 percent.

The basis of the model was to favor the state-run oil industry not to sell crude but to maximize the value added of exports. The results of this combination of proper management by the government and the efficiency of the company are obvious:

- Oil accounts for 25 percent of the GDP;
- It accounts for 36 percent of the government's revenues;
- It represents 24 percent of total investment;
- It constitutes 51 percent of total exports.

Additionally, oil finances the fund for future generations. This fund presently stands at 325 billion dollars, which, when divided by the country's 4.5 million inhabitants yields the 70 thousand dollars per person mentioned above.

## PETROBRAS: PROOF THAT GOD IS BRAZILIAN

Brazil has historically had a powerful role, yet energy was thwarting their best-laid plans. This is no longer the case.

Following several nationwide blackouts, after it was thought that the great Brazilian industrial machine could not continue to grow for lack of energy, Brazil carried out industrial reforms and in only five years, the state industry increased its market value to 15 times what it had been.

This was by no means an easy feat. There were 53 protest marches across the country in an attempt to halt the new regulation. It looked like the Brazilian President, Fernando Henrique Cardoso, would be beaten, but his oil reform bill was finally passed in 1997.

The Petroleum Act, Law 9478, regenerated Brazil's entire hydrocarbons sector through two approaches. The first was the opening up of the energy sector to private capital while maintaining control of the majority of voting stock. Secondly, two regulatory agencies were created: the National Energy Policy Council (CNPE) and the National Petroleum Agency (ANP). With Cardoso's bill, Petrobras became a financially viable company.

Cardoso's political bravery in projecting an image of the country's oil company as a company with a mandate to do business and not a mere national symbol, entirely changed the situation. With domestic and foreign investment, Petrobras became the world's eighth largest public company in terms of market value. This success has been due to the continued emphasis on becoming increasingly efficient in every sector: refining, drilling and production, pipelines, terminals, and regional management. The results are clear: there has been a consistent rise in production from 870 thousands of barrels per day (tbd) in 1997 to 2,090 tbd in 2007.

Despite presidential turnover, Brazil has continued to prosper. A left-wing trade unionist, Luis Inácio Lula da Silva, was elected president in 2002 and re-elected in 2006. Under his leadership, Brazil entered into partnerships and developed technology for deep-water drilling as joint ventures.

On November 8, 2007, the discovery of the Tupi oilfield was announced. Petrobras estimates this oilfield to contain five to seven billion barrels of oil. Some months later, there were two more finds: the Jupiter and Carioca oilfields. The British publication, *The Economist*, and the rest of the world had no choice other than to proclaim that "God is Brazilian."

## ECOPETROL: FROM MAGICAL REALISM TO EARTHLY CAPITALISM

There is a considerable gap between the Colombian reality of Gabriel García Márquez's magical realism and President Álvaro Uribe's capitalism. It is the gap between premodernity and modernity.

In Colombia, the history of oil began with a folkloric scene. A businessman by the name of José Joaquín Bohórquez founded a riverboat freight transport company called Bodegas del Socorro. However, since business was slow, he organized an expedition to search for ivory palm, rubber, and copaiba, never imagining that he was about to discover Colombia's first source of oil.

In 1917, the Tropical Oil Company drilled the country's first oil wells. Only six years later, that company would be taken over by a subsidiary of Standard Oil, which was responsible for drilling until 1951. In 1951, the government returned the maritime concessions to the state and formed Ecopetrol, Colombia's state-owned oil company.

Decades later, the Colombian petroleum sector found itself faced with the following series of problems:

1. State fiscal dependence on the contributions of Ecopetrol;
2. Absence of reinvestment in the state-owned company;
3. Lack of transparency and accountability owing to the dual function of the government as both regulator and owner.

In 2003, the government decided to restructure the hydrocarbons sector in an attempt to deal with these problems. Ecopetrol was incorporated as a public company, the stock of which was wholly owned by the government. The National Hydrocarbons Agency was established as the body in charge of administering the country's oil resources, freeing the company from that responsibility.

Three years later, Álvaro Uribe's government offered "oil stocks" to the Colombian people. With this move, Ecopetrol became consolidated as a mixed-system public company since 20 percent of its stock was sold to the general public.

The first two stock offerings were exclusively for Colombian citizens and were subject to very specific regulations concerning the number of shares that could be acquired by private individuals and companies.

Thus far the Ecopetrol stock is being well accepted by the Colombian people. The stock has doubled its initial value and as of April 25, 2008, almost half a million public shareholders began to receive their first dividend payments.

## WHAT EXACTLY DO YOU MEAN BY "UNDERSTAND?"

Language shapes what we perceive. Language creates frameworks of reference for us. Therefore, it is worthwhile to search for the meaning of words in political debate. In the opinion of Dora Pellicer, a specialist in the language of policies, the semantics of oil and energy reform is not based on the linguistic referencing of dictionaries but rather on the desired effect of the words expressed and repeated.

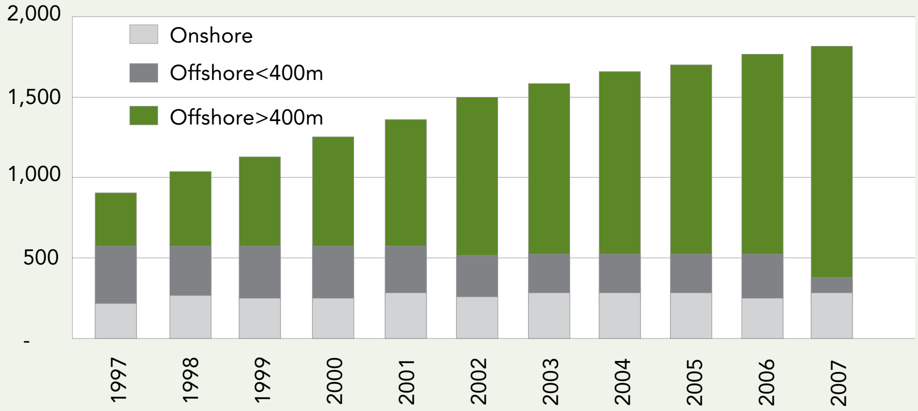
"What do you mean by 'understand'?" said the chairman of the Senate Energy Committee, Francisco Labastida Ochoa, to a speaker when exchanging views on exploration in shallow waters. Labastida is the epitome of a professional politician who realizes the importance of language. Labastida is measured and technical in his use of language. Others in the PRI, such as Manuel Bartlett, use language more crudely.

While one calls for the "modernization" of the energy industry, the other uses words that give the impression of acceptable reasons for civil unrest. Yes, but no. This confusing language is typical of the 70 years of PRI rule.

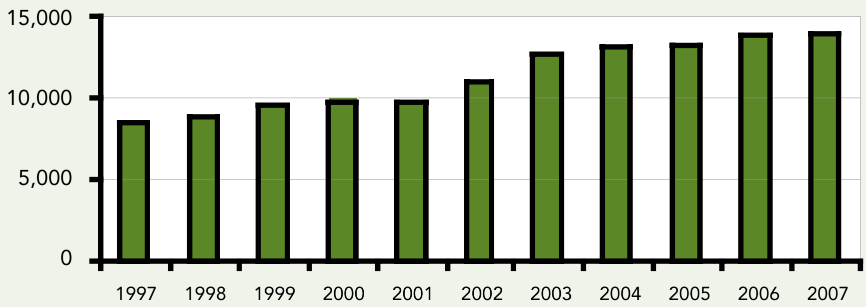
Andrés Manuel López Obrador opened the door to a necessary critique of the presidential bill but undermined it with semantics that lean more towards criticism than explanation. "Traitors to the Nation" is the epithet used by López Obrador to describe those who presented the bill as well as those who argue for the need for a rational debate on oil.

In the article "Country or Colony," López Obrador (*Reforma*, February 18, 2008) expounded his "energy-strengthening policy" by proposing the modernization of Pemex, without the intervention of "national or foreign private capital." His package of denunciatory terminology and recommendations harkens back to previous

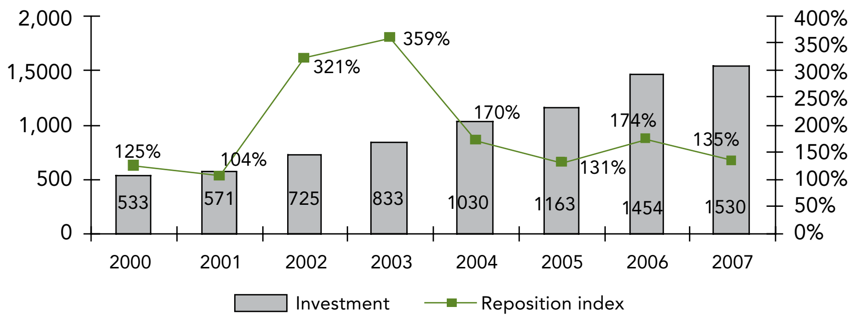
### Domestic Production of Crude Oil : Petrobras (tbd)




### Hydrocarbon Reserves (Millions of Barrels)



**Investment in Exploration and Reserve Reposition Index (Millions of Dollars)**




Source: Presentation by Marcela Della Nina and Pedro Martínez Lara, "El Sector del Petróleo en Brasil," March 14, 2008.

proposals about "trimming the budget set aside to guarantee the privileges of the upper bureaucracy."

Both López Obrador and the PRD legislative leaders insist that Mexico must not stop creating its own technology and that one percent of GDP must be channeled to science. They propose investment in three new refineries and stress that Calderón's reform does not mention wind energy, which should be increased fivefold, albeit without the participation of foreign capital.

It is worth noting the change in linguistic style between the López Obrador who was a presidential candidate in 2006 and the López Obrador of the opposition in 2008. In the second phase, we see a discourse of total rejection, compared with the pragmatic style of making proposals during his presidential run. An example of the latter discourse is the following: "But neither should we rule out the participation of domestic investors in the expansion and modernization of the energy sector or related activities through mechanisms of transparent association between the private and public sectors, provided that this is permitted by the constitution" (*Un proyecto alternativo de Nación* [An Alternative Project for the Nation], p. 42).

This is not unlike the course that President Calderón has taken. However, López Obrador's current political strategy, according to secret recordings of his encounters with people in his own party, is to buy time by exerting pressure through civil demonstrations, rather than through dialogue. This tactic is in line with his guiding principle: "To hell with the institutions."

Calderón's position lies between acknowledging the past and a desire to change the future. "It has been an industry that spawns other industries," he says, referring to Pemex. "It has been fundamental to the growth of the country's manufacturing sector and the well-being of families." He then launches into series of negative terms referring to the need for change, a transformation in which he never mentions the word "privatize," but he emphasizes that "the challenge facing Mexicans is to transform Pemex to make it more and more efficient, stronger and less dependent."

This is a name-calling contest in which the constitutional president and his party repeatedly use the word "violent" to refer to the PRD congressmen who sequestered the podium in Congress in response to orders issued by the person they call the "Legitimate President" (López Obrador), who, in turn, rails against the "traitors." Words fly back and forth, which is why it is important to remember that the meaning of words can be distorted by politicians who manipulate them. These games of semantics, however, do not contribute to an understanding of the situation at hand, much less to the construction of a deliberative democracy.

## TERRORISM AND OIL: WILL THERE BE BLOOD?

Just as in *There Will Be Blood,* the Upton Sinclair novel about the beginning of oil exploration in the United States, there are two groups that want to see blood flow and may be a threat to the future of Pemex. One of these is a terrorist group and the other guerrillas.

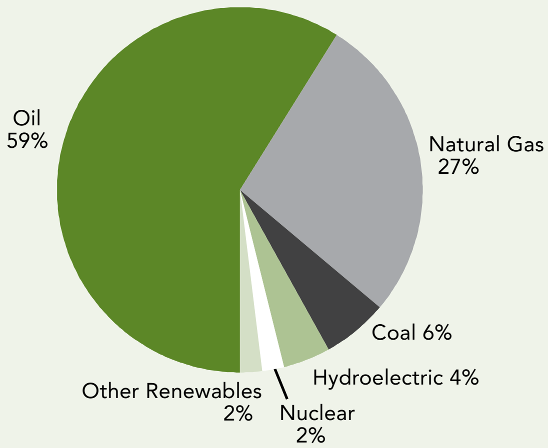
In 2007, Al Qaeda, the fundamentalist Islamic group that perpetrated the September 11, 2001 attacks in the United States, issued a warning through its electronic magazine *Swat Al Jihad* (The Voice of the Holy War) that anyone supplying oil to the United States would be a valid target. Mexico ranks among the three leading suppliers of oil to the United States.

"We have to understand that the U.S. has channeled vast resources into developing alternative energy sources. In the long term, oil will disappear in the Middle East, and production will be concentrated in Canada, Mexico, and Venezuela. This is why the oil interests in all the zones benefiting the US must be hit. The goal is to reduce or cut off the supply by any possible means. Oil targets include wells, pipelines, loading facilities, tankers, and anything that could curtail supply. The instructions issued by Sheik Bin Laden are clear and direct: threaten U.S. oil interests. The holy warriors are asked to correctly follow these guidelines, collect complete and accurate information, and to select specific targets very well in order to complete the planning, preparation, and execution activities," warned the February 8, 2007 publication.

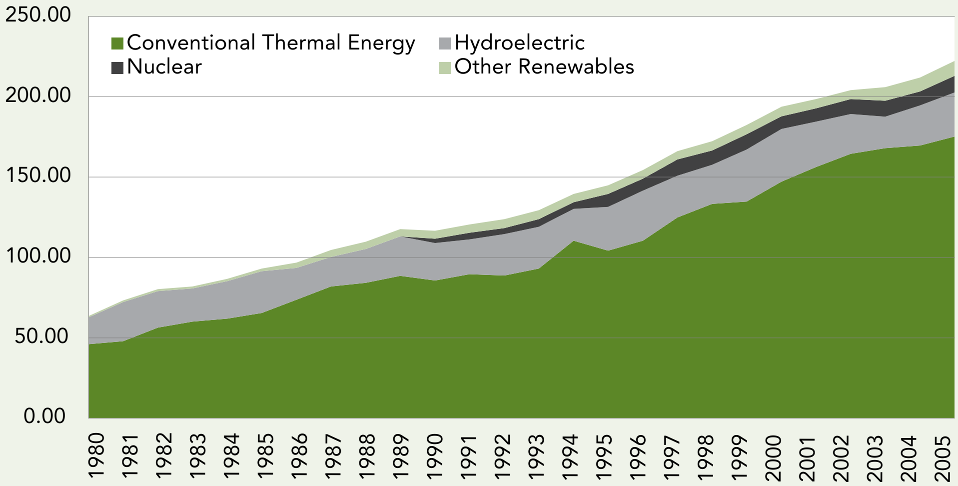
That same year, the Popular Revolutionary Army (EPR) sabotaged two Pemex facilities. The worst attack, on July 10, 2007, interrupted the gas supply to important industrial zones in the country. The economic losses amounted to hundreds of millions of dollars.

Also using its website, *El Insurgente,* the EPR claimed responsibility for what it called "self-defense arising from the detention and disappearance of our comrades." The group claims that in May 2007, two of its members, Gabriel Alberto Cruz Sánchez and Edmundo Reyes Amaya, were kidnapped, and their whereabouts are still unknown.

## Total Energy Consumption in Mexico, by Type, (2005)




## Generation of Energy in Mexico by Type (Billions of Kilowatt Hours)




Source: "International Electricity Generation Data- Mexico," Energy Information Administration, Mexican Ministry of Energy, At the same time, a group known as the "bombers" (because of their skill in handling explosives) re-emerged after having been silent for many years, with attacks on a previously unimaginable scale. "Everything that has and is still being done by those who currently wield power will eventually be submitted to the final judgment of a revolution that evolves dialectically in quality and capacity," the group's text states referring to Pemex. "The time will come when they have to answer for their crimes and betrayal, for the vile and shameless way in which they hand over the nation's wealth, its assets, to the interests of foreign capital or the oligarchy."

As can be expected, in the official blog of the leftist Popular Assembly of the People of Oaxaca (APPO), an organization formed in response to the unstable political situation in the state of Oaxaca in 2006, there are many negative comments on President Calderón's administration. The negative tone increases even more when referring to the alleged privatization of Pemex: "Let them privatize Machu Pichu, let them privatize the Sistine Chapel, let them privatize the Parthenon […] let them privatize the Andes mountain range, let them privatize the water and the air, the clouds that floats by […] privatize the States, hand everything over to private companies to be exploited. […] There lies the world's salvation. […] And while you are at it, privatize the whore who gave birth to them all."

The obvious passions triggered by the issue emphasize the pressing need to insert transparency into one of the murkiest areas of state activity in order to disarm potential extremist groups, which have given rise to civil wars in other parts of the world.

In Michael Ross' essay "Blood Barrels" published in the May-June 2008 issue of *Foreign Affairs*, he cautions that even though the world is a more peaceful place than it was 15 years ago, the oil states hold a growing percentage of the world's high- or low-level conflicts. This is the case of Nigeria, Thailand, Algeria, Colombia, Sudan, and, of course, Iraq. "Among developing countries, a nation that has oil is more than twice as likely to experience domestic unrest as one without oil," Ross argues.

Ross's recommendations to avoid the "oil curse" are multifaceted. Among other things, he encourages transparency. The national budgets of the oil states tend to be unusually murky, which undermines confidence in the state and fosters conflict—hence the suggestion in the United Kingdom to strengthen the "Extractive Industry Transparency Bill," an effort by non-governmental entities started in 2002 and expanded by Prime Minister Tony Blair to encourage oil and mining companies to "reveal what they pay" for renewable energy and governments to "disclose what they receive."

## ALTERNATIVE ENERGY: WE WON'T BE WEARING GREEN

Although green is the color of Mexico's national soccer team, it does not characterize the country's energy sector. In Mexico, just four percent of electric power comes from renewable sources. Furthermore, the bill presented by President Calderón to Congress does not deserve to be called energy reform because it focuses almost exclusively on transforming Pemex and includes no proposals to promote alternative energy sources.

According to observations made by analysts such as Juan Pablo Osornio de Lamat of the Center for the Research and Exchange of Culture, Mexico has made slow progress in comparison to other countries in substituting renewable energy for non-renewable sources.

Additionally, there has been no substantial change in the last two decades in power generation using renewable energies. The increase has been insignificant in comparison with the electric power generated through conventional methods.

Wind power is the paradigmatic example of Mexico's backwardness in tapping renewable resources. Output depends on the La Venta Power Station in Oaxaca, with an installed capacity of 84.875 MW. Mexico has large tracts of land that are suitable for the installation of wind turbines, especially in the Isthmus of Tehuantepec, which could produce seven percent of the nation's electric power needs, according to estimates. In the international sphere, wind power has grown impressively; in 2007 the generation of electric power was more than five times higher than what was available in 2000. This trend was not followed in Mexico.

Bio-fuels are another renewable source of energy that has seen substantial growth internationally in recent years. Nevertheless, Mexico has lagged behind here too. Indeed, the February 1, 2008 Promotion and Development of Bio-fuels Law is the first piece of national legislation to foster the production and consumption of bio-fuels. Ethanol has become the new "star" of renewable energy, but the use of certain bio-fuels has led to major shocks in the food commodity markets, as seen in the inflation trends throughout the world. The international prices of corn and wheat, in particular, have been increasing, which is partly due to their use in the production of ethanol. The issue is still being discussed in Mexico and there is no production underway.

## FINAL REFLECTIONS

By October 2008, the Mexican Congress had passed a less ambitious version of Calderón's energy reform package. The approved bill gives Pemex more financial and decision-making autonomy, which will allow it to meet some of its financial challenges. Pemex's board of directors will also gain four independent members (out of eleven), which could increase transparency and improve governance. The reform is certainly a first step in the eventual overhaul of Mexico's energy sector, but from the nature of the negotiations in 2008, it is clear that any wider reform will be complicated by the passionate debate in Mexico over oil.

Talking to Mexicans about energy implies recognizing how emotionally charged the topic is. Not much is said about the future, and a lot is said about the present and past. Some see oil as the proud symbol of an independent country, while others consider it as a wasted and corrupting resource. Political parties are quick to blame each other for the problems of declining reserves and increasing dependence on oil revenues, yet the will to profoundly change the way Pemex operates is more difficult to find.

Will Mexico look to examples like Petrobras or StatoilHydro if policymakers chose to take on an ambitious reform of Pemex? Will they include more proposals to develop alternative energy sources? While there is no "one size fits all" approach for oil exploitation and management, Mexico could adapt certain policies from other countries. But for the reasons detailed above, the challenge is daunting.

For now, the immediate question of the reform package is resolved. The reform that was passed, while not on the grand scale proposed by President Calderón, marks an important first step in the energy debate. But a larger reform looms in the distance, and it remains to be seen whether there will be the political will to tackle the reform anytime soon. The passions involved in that reform will be even more intense than those we have seen in 2008. Thus, in Mexico's case, it remains to be seen whether oil will be blessing or a curse for the country. The 2008 debate just adds one more chapter to the history of oil in *Mexico lindo y querido.*

The Red Mexicana de Energía is a group of experts, scholars and representatives of civil society organizations that seek to promote a national dialogue about the challenges confronting the Mexican energy sector. As Mexicans, we recognize that our country's energy situation is worrisome and know that alleviating it requires creative and innovative approaches. To develop these ideas, we encourage the responsible exchange of information through conferences, roundtables, and publications such as this one.

We are proud to collaborate with the Woodrow Wilson Center to publish this report that provides the reader an opportunity to explore the nature of President Calderón's legislative proposal and the subsequent reaction of different political groups. The report balances the hard data (the statistics) and the "soft" data (the impact of various political forces) to demonstrate how the oil question in Mexico is not just about reserves and export values. Rather, there are deeply-held, emotional opinions from all sectors of society. The report emphasizes the need for changes in the financial, administrative, fiscal, and legal structure of the energy sector, but leaves room for each reader to form his or her own opinion.

The Red Mexicana de Energía works to promote interest and dialogue on the energy sector in Mexico; we hope that this report encourages that engagement. We invite you to provide us with your feedback and become familiar with our work by visiting our website at www.remexen.org.

*Duncan Wood*

Director, Red Mexicana de Energía

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