

THE FUTURE OF OIL IN MEXICO

/ EL FUTURO DEL SECTOR PETROLERO EN MÉXICO



Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

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COPING WITH ADVERSITY IN THE MEXICAN OIL
INDUSTRY: COMO PEMEX NO HAY DOS

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**ABOUT THE STUDY:
THE FUTURE OF OIL IN MEXICO/
EL FUTURO DEL SECTOR PETROLERO EN MÉXICO**

The energy industry plays an important role in the Mexican economy, and energy trade is a major component to the U.S.-Mexico relationship. The Mexican government relies on the oil industry for 35 percent of total government revenues, including taxes and direct payments from Petróleos Mexicanos (Pemex), the state oil company. Mexico is the third-largest foreign crude oil supplier to the United States. However, with declining production and rising demand, Mexico could become a net oil importer in the coming decade. President Calderón pushed for energy sector reform in Mexico, but more reforms will be needed for Mexico to reverse its current path toward importer status. This study identifies the dynamics of the political trends in Mexico that will impact future energy policy. The aim of this study is to promote a better understanding of the challenges facing Mexico's oil sector and to enhance the debate among policymakers, the media and industry on these important issues.

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Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

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Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

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Since its establishment in 2002, Oxford's Mexican Studies Programme has conducted research and promoted graduate teaching in Mexico's external relations; democratization and the functioning of democratic institutions in Mexico; and on various Mexican public policy issues, including economic and energy policies.

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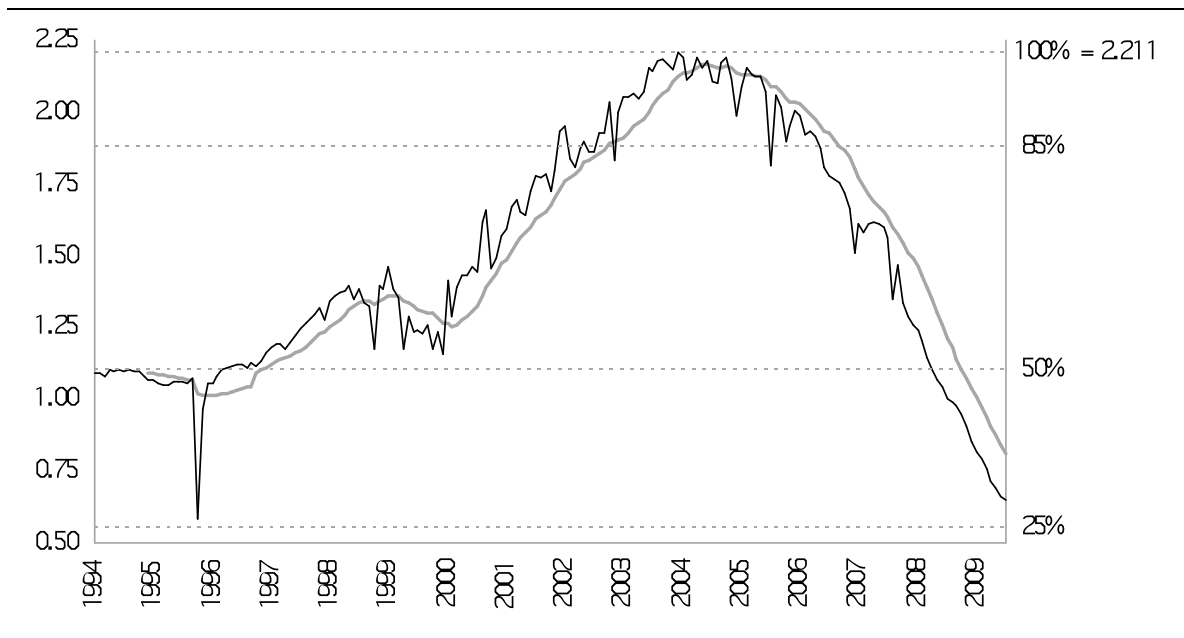
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I. Introduction

Between 1978 and 2004, Mexico received the benefits of a massive oil bonanza, essentially attributable to one hugely prolific offshore resource—the Cantarell oil field, one of the world’s top six mega-reserves, and the largest marine deposit in production. But peak production in Cantarell was followed by an unexpectedly rapid and clear-cut decline, which may perhaps have been slowed by good management but which almost certainly cannot be reversed (see Figure 1). So the biggest source of the current adversity in Mexican oil prospects arises from the geological difficulty, and rising economic costs, involved in stabilizing future output at current levels. Other authors participating in the study “The Future of Oil in Mexico/El futuro del sector petrolero en México” have presented alternative projections and possible corrective measures and, as always, there is a range of defensible views, from the relatively cheerful to the very gloomy. But no one disputes the essential point. The easiest phase of hydrocarbon extraction has passed. Between 1978 and 2008, Cantarell produced hydrocarbons worth about US\$440 billion at current prices. The other huge find of 30 years ago, Ku-Maloob-Zaap, is also mature, with about two-thirds of the reserves already produced.

Figure 1. Cantarell field: Monthly Crude Oil Production and 12 Months Moving Median (million barrels per day)



Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

Looking forward to the next decade and beyond, Mexico will need to innovate and reform, to mobilize additional financial human and technological resources, and adjust to more adverse geological conditions if it is to remain a major producer. The production techniques and institutional arrangements that may have been adequate to handle prolific output are unlikely to prove adequate for extending the life of a mature and declining resource base. In due course it may be possible to develop good replacement reserves (notably in deep water on the Mexican half of the Gulf of Mexico), but this is uncertain, costly, and will involve a long lead time. The prudent strategy is therefore to prepare for the careful management of a reduced resource base.

Responsibility for responding to these adverse upstream production prospects falls on the management of Pemex, in the first instance, and on the political authorities in the Mexican executive branch and Congress in the last resort. Among other issues, the conference on “The Future of Oil in Mexico/El futuro del sector petrolero en México” has covered recent attempts to reform the structure of the constitutionally mandated state monopoly producer and distributor, and to reshape the relationship between the public authorities and the state enterprise. Notwithstanding the possible benefits of these reforms, Mexico will also have to contend with relatively adverse conditions in these two crucial policy domains, as well as in terms of its geological endowments. This paper is concerned with how best to cope with the likely adverse policy constraints arising from Pemex’s unusually restrictive constitutional mandate; its still limited fiscal and operational leeway in relation to the federal treasury, the Energy Ministry, the Congress, and the presidency; and its constrained position in the international oil economy in general, and in relation to the U.S. energy market in particular.

One possible response to this catalogue of impediments and adversities could be to conclude that no adequate response can be expected until a further tightening of these constraints produces a catastrophe, or at the minimum, an unbearable crisis. There are parallels that can be drawn with other countries where such an impasse was necessary to force a complete change of course (Argentina’s YPF, for example). But this paper is focused on strategies for “coping” with adversity, rather than succumbing to it. There are several reasons for adopting this stance.

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

First, despite the adversities just outlined, not all the trends are negative. Some positive institutional reforms have already occurred, and more can be realistically envisaged within the next few years. The Mexican state has considerably more room to maneuver than was available to Carlos Menem's Argentina in the early 1990s. As Jaime Ros¹ underscores, the Mexican economy is large and diverse enough to potentially accommodate a controlled downsizing of the energy sector if the need arises. In short, a catastrophic crisis is far from imminent or inevitable, so it is worth examining less disruptive alternatives.

Second—and this is at least as important as the previous point—neither the current predicament of the Mexican oil industry nor the experience of other countries provides any assurance that the outcome of a really severe crisis would be a constructive new beginning. It is also possible for emergency conditions to persist over an extended period without generating an effective antidote (on some accounts that may be what is happening in Venezuela at present; this is certainly what the Soviet oil industry experienced for a decade or more after the late 1980s). And, in addition to the severe immediate costs of a crisis in such a key sector of economy, the long-term consequences can be to create animosities and entrench patterns of distrust and resistance that render long-term cooperative solutions more difficult. (For example, the crisis and collapse of YPF in Argentina may initially have paved the way for a free market solution, but it also sowed the seeds of resentment that led to the breaking of dollar contracts and the imposition of distorting price controls after 2001).

The first section of this paper focuses on Pemex as an outlier in the contemporary world oil industry, and attempts to identify the scope of improved “coping strategies” on the assumption that the constitutional framework of a state monopoly remains in place. But Pemex cannot cope alone; it requires facilitating conditions and constructive policy support from the state apparatus in which it would remain embedded. Accordingly, the second section of the paper considers why such support has been difficult to secure in the past, and how it might be upgraded in the future. In this context, the question of time horizons merits particular attention. The next major opportunity for a revised settlement between the enterprise and the government may not arise

¹ Jaime Ros, “The Macroeconomic Consequences of Falling Oil Revenues in Mexico: A Looming Crisis or a Mixed Blessing?” (paper prepared for the study “The Future of Oil in Mexico/El futuro del sector petrolero en México,” James A. Baker III Institute for Public Policy, Rice University, Houston, Texas, April 2011).

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

until 2013. At that point, it will be crucial to establish rules that not only incentivize good coping strategies but also provide enterprise management with enough stability to carry through their policies to the point of completion. The briefer and more speculative third section draws on comparative evidence from elsewhere, and attempts to pin down some crucial medium-term risks (and possible opportunities) arising from Mexico's overall economic situation and its geopolitical location. "Coping with adversity" is not just about managing the state enterprise in a responsible manner under steady state scenarios. It also requires the development of the strategic capacity to absorb shocks and to respond to unexpected openings. In the conclusion, therefore, the paper offers a preliminary set of suggestions arising for the project as a whole.

II. Como Pemex no hay dos (*There is No Other Like Pemex*)

This is not the place to elaborate on the historical and geopolitical factors that gave rise to the current structure and legal responsibilities of Pemex, and that make it both *sui generis* and very difficult to reconfigure. If the underpinnings to present arrangements were purely constitutional, then pragmatic reform would be relatively straightforward. After all, as David Mares and Carlos Domínguez² both point out, it has proved possible to reform the *ejido*, change Mexico's relations with the Catholic Church, and almost eliminate electoral fraud through constitutional reforms enacted in the 1990s.

Under current political conditions, a cross-party pact would be needed, but politicians facing the clear risk of a "worst case" scenario if they do nothing might well be capable of delivery of a constitutional amendment, if they were the only forces in play. Indeed, during much of that decade it was not implausible to argue that the son of the founder of Pemex, Cuauhtémoc Cardenas, could prove the key veto player. If his PRD had achieved the presidency and had deemed constitutional reform the best way to promote a successful left-wing government,

² Carlos Domínguez, "Beyond Efficiency: The Politics of Investment Policies in the Oil Industry," and David R. Mares, "Oil Policy Reform in Resource Nationalist States: Lessons for Mexico" (papers prepared for the study "The Future of Oil in Mexico/El futuro del sector petrolero en México," James A. Baker III Institute for Public Policy, Rice University, Houston, Texas, April 2011).

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

perhaps it might have played the “Nixon in China” card.³ But this is very speculative, and since that kind of PRD victory is no longer a prospect, we shall never know. As can be seen from the paper by Carlos Elizondo Mayer-Serra,⁴ the evidence that has accumulated over the past decade suggests that the political obstacles to rewriting Article 27 in a far-reaching manner are more embedded than initially supposed. At any rate, for the purpose of this paper “coping” with adversity is taken to mean within existing constitutional (and therefore institutional) restraints.

Pemex is deeply embedded in the Mexican institutional matrix, and we need to outline what structural constraints follow from that state of affairs, so long as it remains intact. One good way to approach this topic is to consider how Pemex differs from other state oil enterprises in the rest of Latin America and elsewhere. An important starting point is to recall that the Mexican oil industry has a history almost as long as the republic itself. Production first began in 1869, and by 1921 Mexico had become (fleetingly) the world’s largest exporter of petroleum and the second largest producer (after the United States). Production fell sharply thereafter, and Mexico was soon eclipsed both by Venezuela and then by new Middle East supplies, but the republic remained a substantial producer throughout the entire century. Although the original basis of the claim that “natural resources belong to the nation” concerned the extraction of subsoil minerals, and especially precious metals, this concept spilled over into the energy sector as it rose to prominence. The 1917 Constitution’s “Article 27” may have provided the main base for this, (Articles 25 and 28 also require consideration) but it was subsequent reforms to that article that created the present distinctive legal regime.

The most important of these reforms was enacted almost 70 years ago (November 19, 1940) just as President Lázaro Cárdenas was about to leave office, having nationalized the foreign producers in March 1938 and handed their assets to the new state company, Pemex, in June of that year. The 1940 reform was enacted in the midst of World War II, but before the United States had joined the war—so at the moment of greatest security danger but also before President

³ “Richard Nixon was the custodian of US anti-communism, who could therefore break the taboo on restored relations with Mao’s regime without risking the charge of “softness”. Similarly, the Cardenas family nationalized Mexico’s oil, and so could not be charged with a sell-out if they endorsed a constitutional reform of article 27.”

⁴ Carlos Elizondo Mayer-Serra, “Stuck in the Mud: The Politics of Constitutional Reform in the Oil Sector in Mexico (paper prepared for the study “The Future of Oil in Mexico/El futuro del sector petrolero en México,” James A. Baker III Institute for Public Policy, Rice University, Houston, Texas, April 2011).

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

Franklin Roosevelt overrode the sanctions promoted by his country's oil majors. This amendment to the Constitution banned all oil concessions in Mexican territory and provided for a regulatory law to determine how Pemex would discharge its new responsibilities.

For a while in the 1950s the government interpreted this law flexibly so as to allow foreign enterprises to enter into risk contracts to drill and extract hydrocarbons on behalf of Pemex (since its own capacities were insufficient). These contracts were to be settled in dollars rather than in oil, but they were highly controversial since nationalists believed that in practice they violated the reformed Constitution. Such objections were reflected in Article 6 of the 1958 Petroleum Law. Finally, in 1960, the current text of Article 27 was finalized. This was in the aftermath of the Cuban Revolution and at the high point of Eisenhower's efforts to bring down the Castro regime by ordering U.S. refineries not to process Soviet-sourced imports of crude. The text reads "no se otorgarán concesiones, ni contratos, ni subsistirán los que en su caso se hayan otorgado y la nación llevará a cabo la explotación de esos productos." (In English, it reads "No concessions or contracts will be granted nor may those that have been granted subsist, and the nation will carry out the exploitation of these products.")

For the past half century this has been the master text regulating Pemex's monopoly status, and it has become a constitutive element in Mexico's national mythology. As popular sentiment is mobilized around Mexico's centennial and bicentenary celebrations, and with the imminence of the presidential election of 2012, politicians with an instinct for survival are unlikely to start challenging the sanctity of this version of Article 27 at this time.

Other contributors to this project have discussed in detail just how distinctive and restrictive these constitutional provisions have turned out to be. So long as presidential discretion and judicial servility characterized the Mexican system of government, it was possible for the authorities to achieve substantial shifts in oil policy while apparently honoring the letter of the Constitution. But since entry into the North American Free Trade Agreement (NAFTA), and the shift from dominant party control to multi-party bargaining and power-sharing, Mexico's courts have become more of an autonomous source of authority, and the old political class has lost much of its capacity to impose arbitrary policy shifts from above. Consequently, the formal rules

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

of the constitutional regime have become more constraining, and this has accentuated the divergence between the Mexican state oil corporation and its Latin American and emerging market counterparts.

In Brazil, for example, although the rules governing Petrobrás' relationship with the state are still somewhat unstable, there seems to be a shift toward more public control following the last election. Even so, private shareholders (both national and foreign) still hold 52 percent of the total equity (although the Brazilian government owns a majority of the voting shares), and the quality of management decisions is monitored daily in international equity and bond markets. Petrobrás has shifted considerably toward operating more like a corporation that happens to have a majority government stakeholder as opposed to functioning as a state agency that happens to have some commercial characteristics and responsibilities. Among other things, it can enter into standard production sharing agreements with private oil majors; it generates large post-tax profits, part of which are paid out in dividends to all shareholders; and it pursues extensive commercial opportunities outside Brazil when the management deems these to be advantageous (including some deepwater interests in the Gulf of Mexico). Pemex differs from Petrobrás in all these respects, and is obliged to remain different so long as the present constitutional provisions remain in force.

One telling example of the practical significance of these contrasts concerns self-insurance. Until about a decade ago, Petrobrás, like Pemex today (and, incidentally, like BP after the dividend cut of 1992), went without third-party insurance against many of the biggest costs it could incur from catastrophic risks. State enterprises were seen as instruments of public policy, and if they caused damage or incurred liabilities as a consequence of promoting national development it was believed that the governments standing behind them would be bound to assume the consequences. This was what happened with the Ixtoc spill of 1979 in the Mexican Gulf, and it also explains why various pipeline explosions and other ecological disasters associated with Pemex were handled more as national security issues than as commercial costs.

Under conditions of authoritarian rule, such misadventures were often hidden from public view, and it was not unknown for the victims to face repression if they complained. With

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

democratization and economic liberalization this defensive secrecy and cross-subsidization became outmoded. A former president of Petrobrás once confessed to me that by far the most stressful part of his job was to cope with the transition period after the oil giant assumed commercial liability for catastrophic risks, but before its insurance cover came into force. Fortunately, there was no major spill or explosion during that two-year interval. The concept of enterprise risk management has been more strongly promoted in modern global corporations lately, especially in the wake of the Lehmann Brothers bankruptcy and BP's disaster in the Gulf of Mexico. The meltdown of Japan's Fukushima nuclear installation will reinforce this trend, but it has still to achieve full development in most national oil companies, and that includes Pemex.

Pemex has also shifted toward more commercial insurance of some catastrophic risks, usually a necessity when private contracting enterprises are involved. But so far, this shift has been incremental and uneven. It seems that there may still be significant self-insured legacy risks, especially for old onshore installations. The Pemex monopoly extends downstream as well as upstream. Whereas the exploration and production side has inevitably undertaken considerable investment, bringing in more modern technology and the services of world-class private contractors, there are other parts of this integrated system that have received far less attention. In December 2008 Pemex owned and operated 8,351 service stations, and a nationwide network of pipelines and distribution depots. As Carlos Domínguez⁵ reminds us, no new refinery has been built in Mexico for 30 years, and the current plant is, in his words, "obsolete." This infrastructure is inefficient, out of date, wrongly configured for future needs, and quite possibly dangerous.⁶ (Urban development since 1980 has often encroached on zones that were once reserved only for hydrocarbon infrastructure use). Of course, Pemex is not unique in these respects—certainly many installations in other parts of Latin America also fall below minimum modern standards—but the Mexican system has been patched and extended beyond its intended life span. There seems to be a considerable backlog of upgrading and modernization still pending. Domínguez reports that whereas the average integrated oil company invests 20 percent of its capital budget in upgrading refineries and pipelines, Pemex devotes only 8 percent to this purpose.

⁵ Domínguez, "Beyond Efficiency."

⁶ The 2008 Social Responsibility Report gives figures showing a better safety performance than before (and a big improvement compared to the 1996 Cactus Plant accident). However, it acknowledges substantial potential for serious mishaps. In particular, it notes that there are 1,432 clandestine taps that put pipelines at risk. It also warned against sabotage (p. 31.)

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

In addition to whatever insurance risks and infrastructure backlog Pemex may have accumulated, the state monopoly also continues to carry significant cross-subsidy burdens, derived from its corporatist past.⁷ These concern health care, education, housing, and community welfare obligations directed toward the municipalities where hydrocarbon production or distribution provides the key source of employment. During the heyday of the dominant party system, such liabilities were part of an implicit (or even to some extent explicit) social pact between the PRI and the oil workers, who were organized into 36 “sections.” As Carlos Elizondo Mayer-Serra⁸ records, these commitments were substantially scaled back after 1989. The number of union-member permanent posts in the enterprise fell from 183,000 in 1985 to 139,000 in 2005; and the old rule by which 2 percent of all Pemex contracts were awarded through the union was rescinded. Even so, Pemex remains more like a traditional state enterprise than a shareholder-oriented corporation, and the union and its members continue to possess residual entitlements (including one-third of the representation on the Administrative Council) on a scale that sets Pemex apart from most other state oil companies in the contemporary world.

One facet of this inheritance that could cast a long shadow over the future of the industry is the unfunded pension liabilities that the enterprise has accumulated toward its (still bloated) workforce. According to Jesús Reyes Heróles, the former director-general of Pemex, the latest estimates of the scale of the pensions deficit that will require government funding (taking into account the rising longevity of the beneficiaries) is about \$US60 billion.⁹

On top of these inherited burdens, Pemex is now beginning to contend with a series of additional global obligations, deriving from current agreements to tackle climate change. It is true that some aspects of the cap-and-trade system could benefit the company--it has 100 projects under consideration for funding under the Clean Development Mechanism of the Kyoto protocol, with five contracts already signed. There is a potential to generate US\$60 million per year in revenue

⁷ In 2008, Pemex funded 189 mutual benefit works in 56 municipalities. Its total of grants and donations for that year was 1.9 billion pesos.

⁸ Elizondo, “Stuck in the Mud.”

⁹ Interview, Mexico City, August 24, 2010. 2008 was a year of record sales owing to high oil prices. Total sales came to a record 1.330 billion pesos. EBIDTA totalled 970 billion pesos, also a record. But taxes and duties came to 770 billion. Even in this year the net loss of the enterprise was 110 billion pesos.

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

from these sources by 2012.¹⁰ But the investments required to make Pemex Kyoto-compliant are of a different order of magnitude. The main significance of this initiative is that the state oil monopoly will be coming under ever-increasing international pressure to raise its game as a clean energy producer (see Table 1) while remaining constrained by constitutional rules that slow down its ability to disengage from earlier “inward-looking” forms of cross-subsidization.

Table 1. Cantarell: Gas Released into the Atmosphere, 2005-08 (million cubic feet per day)

	2005	2006	2007	2008	2009
Anual	55	107	397	1 149	
I	46	45	156	1 031	922
II	67	79	218	1 054	978
III	66	93	457	1 090	
IV	40	210	749	1 420	

Source: Pemex, Institutional database (Base de Datos Institucional)

It would, however, be one-sided to devote this entire section to the costs bearing down on the company. Even the cross-subsidies required to balance the refining and distribution side of the business (given its monopoly status and associated obligations to guarantee the security of national hydrocarbon energy supplies) could in principle be affordable. In the same interview with Reyes Heróles, the former director-general pointed out that Pemex still generates the third-largest earnings before interest, taxes, depreciation and amortization of any oil enterprise in the world. According to the Fortune Global 500 ranking exercise, it was the 31st largest corporation in the world, with a turnover of US\$119 billion, in the 2009 table (using 2008 figures). After oil prices fell, its turnover the following year declined to \$80 billion, but it was still rated the 64th largest global enterprise. The above mentioned costs and backlogs would therefore be perfectly

¹⁰ Carlos de Regules, director of environmental protection at Pemex, interviewed in *Petroleo y Energía*, August 2010, pp. 26-7.

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

manageable if it were not for the fact that—at least until 2008— total taxation more or less equalled the pre-tax profits generated by the corporation.

The most important and distinctive feature of the Pemex regime, in contrast to that prevailing in most other state oil corporations, concerns the nature of the relationship between the enterprise, the federal treasury, and the various levels of relevant political authority (the presidency, Congress, and the state governors). The second section turns to that aspect of Pemex's distinctive institutional status.

III. Pemex and Post-Transition Mexican Politics

Since the PRI left Los Pinos in 2000, political power in Mexico has become more decentralized and more pluralist. Effective government can no longer be provided by diktat, but requires multi-actor negotiations, and the backing of stronger and more autonomous institutions. The revolutionary nationalist rhetoric that used to provide cover for forcefully one-sided policy decisions is no longer a unifying discourse.

This post-transition political environment creates both risks and opportunities for Mexican energy sector reform. In one sense it weakens Pemex, which had been the bearer as well as the funder, of Mexican statist aspirations. It raises the specter of deadlock and policy paralysis. On the other hand, at least in principle, more pluralist and negotiated forms of political decision-making could help Pemex cope with coming adversities. It all depends on the quality of new enterprise-government relations. Traditionally, Pemex management was subject to various forms of state regulation, including price controls, directed subsidies, intrusive and arbitrary forms of governmental intervention, labor union quotas, and unofficial forms of pressure (best illustrated by the “Pemex-gate” scandal of 2000, which resulted in the Instituto Federal Electoral (IFE) imposing a record fine on the PRI for illegal funding of an election campaign).

Since 2000, and perhaps more particularly since the 2008 reform, many of these discredited practices have been officially condemned and—to a lesser extent, but still significantly—reduced. For example, the 2008 Pemex Sustainable Development Report records various new

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

initiatives to guarantee external monitoring of management performance, including involving the Mexican chapter of Transparency International, and securing the approval of the United Nation's Global Reporting Initiative and the Extractive Industries Transparency Initiative. However, the report also acknowledges that "Pemex faces a lack of both internal and external trust and reputation."¹¹ Moreover, as Cristopher Ballinas¹² makes clear, the neutral arms-length system of energy regulation that theoretically accompanies a fully liberalized and marketized system has yet to gain traction. According to a recent analysis by Roberto Ortega, which takes into account the 2008 innovations, and compares Pemex governance with Organisation for Economic Co-operation and Development (OECD) standards of "best practice," the company's crucial budget and audit functions are severely limited. The government still does not allow the Administrative Council the autonomy it would need in order to give the enterprise strategic direction. Ortega sees the root of these problems as stemming from governmental distrust of the enterprise and its leaders, deriving from the notion that Pemex operates like an "independent republic." He adds that, indeed, Pemex is still subject to multiple internal power centers that interfere with its administration and management in pursuit of objectives that are not those of the enterprise. The consequence of all this is a perception of corruption, and an endemic tendency toward over-regulation of the company, together with chronic governmental interference in details of its decision-making.¹³

There is also room for debate about how far the new board structure (with four full-time professional board members added to the old 11-member system) really generates improved corporate governance. It is asserted that the 2009 Convenio with Mexico's petroleum workers' union, the STPRM, represents further progress in normalizing the relationship between the union and the management, but we lack detailed research on this matter. In any case, all such arrangements are provisional and could be overturned by the outcome of the 2012 election.

Here, it seems best to focus on a limited set of sub-issues concerning enterprise government relations where the broader tensions can be illustrated with specific examples, and where it might

¹¹ *Pemex Sustainable Development Report*, 2008, p. 15.

¹² Cristopher Ballinas Valdés, "Taming the Beast Within: The Mexican Energy Regulatory Commission" (paper prepared for the study "The Future of Oil in Mexico/El futuro del sector petrolero en México," James A. Baker III Institute for Public Policy, Rice University, Houston, Texas, April 2011).

¹³ Roberto Ortega Lomelin, "La gobernanza del sector y de Pemex" (working paper, April 2011).

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

be possible to come up with politically feasible suggestions for near-term improvement. The three topics selected for these purposes are the Pemex bond (as provided for in the 2008 law); the growing intervention in enterprise affairs of certain state governors; and the security of appointment of Pemex's top management.

The Pemex Bond

Although the reform law provided for the bond as a means of aligning the interests of ordinary Mexican citizens with the prosperity of the state corporation (as also discussed by Paul Segal¹⁴), so far no bond issue has been approved and the signs are that this aspect of the reform could prove a dead letter. According to my interview sources, President Calderón may have hoped that these bonds would be a good way to sell energy sector reform to the citizenry. A bit like the “Tell Sid” campaign to privatize British Gas under former Prime Minister Margaret Thatcher, it might induce those who purchased the bonds for self-interested reasons to develop an enthusiasm for a more entrepreneurial and market-oriented energy sector.

However, as we have just seen, Pemex is not a profit-oriented equity investment, and managed to make a loss even in 2008. The only way it could be marketed was as a bond and not a share, both because only the Mexican state can legally own the oil in the ground, and because the dividends potentially payable on efficient production and marketing of that oil would be determined by government policy, not managerial success at generating a surplus. From the standpoint of Pemex management it has been easier to borrow at fixed interest rates on the capital market than to manage a large customer base of small bondholders.¹⁵ From an investor viewpoint, it was unclear what security could accompany bonds, and why they would be thought to perform in accordance with the success of the business.

A great deal of time and consultancy money has been unproductively devoted to this issue. The Treasury tried to sidestep the idea of any direct link between the performance of the bond and the

¹⁴ Paul Segal, “‘El petróleo es nuestro’: The Distribution of Oil Revenues in Mexico” (paper prepared for the study “The Future of Oil in Mexico/El futuro del sector petrolero en México,” James A. Baker III Institute for Public Policy, Rice University, Houston, Texas, April 2011).

¹⁵ Pemex currently has no problem borrowing on capital markets. In 2004 it issued the first ever “perpetual” bond, carrying a dollar coupon of 7.75 percent. This was refinanced at a 6.6 percent coupon in 2010, and in 2011 Pemex is issuing a record volume of floating rate bonds.

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

results of the enterprise by proposing to index returns to the oil price. But for that purpose there is no need to involve Pemex at all. What the reformers in Pemex were hoping for was a financial instrument that would encourage bondholders to monitor the company's business plans and their execution. Such a market signalling device might bring pressure to bear against poor business decisions—including poor decisions foisted on the management through political interference. In short, the most substantial purpose of the bonds would have been to help the management keep intrusive government pressures at a distance. But if that is their purpose, then few Mexican politicians have so far proved interested in the scheme.

The Rising Power of State Level Politicians

This is a recurrent theme in all discussions of post-transition Mexican politics. It is not only the federal executive and Congress that regard Pemex as a power resource and a piggy bank. Governors (especially those in the oil-producing states) also have increasing leeway to pursue the same line of thought. Carlos Domínguez¹⁶ provides a vivid account of how this has played out in relation to the new refinery at Tula.

Consider also the following interview material concerning a refinery in the south of the state of Veracruz. This is one of the six ancient and obsolete refineries that were scheduled for a major and costly upgrade. In this case, a well-placed source reports that the program is a “disaster,” and is already two years behind schedule. Key pipelines for the transport of fuel oils have been delayed through constant political intervention. It is alleged that a local senator was able to create a parallel structure with 250 employees, all charged to the payroll of Pemex refinery. The “disaster” arises because this parallel structure is lacking competent managers, and has proved unconcerned by the risks to the reputation of the firm if the upgrade founders and the refinery is unable to meet the demands of its customers. According to this interview source, this state-level politically motivated obstruction has so far proved impossible to manage.¹⁷

¹⁶ Domínguez, “Beyond Efficiency.”

¹⁷ Interview with a senior Pemex source, Mexico City, August 2010.

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

Management Stability in a Reformed Pemex

Huge investment projects like the development of Mexico's deepwater offshore reserves, or the reconfiguration of its refineries, or even just the upgrading of its antiquated infrastructure, all require a great deal of preparation, planning, care in implementation, monitoring, and follow through. They are extremely management-intensive, and have decade-long time horizons. Moreover, the leadership of the national oil corporation is expected to balance the competing claims of these parallel undertakings. At the same time, it must conduct complex negotiations with private sector contractors, both domestic and foreign. It also needs to recruit, train, and motivate a large and diverse workforce. Then there are all the customers whose needs must be considered—not to mention a domestic and international regulatory environment that needs to be observed while business competitors are also watched and, if necessary, countered. These are among the obligatory tasks facing any commercial oil enterprise. On top of all that, a politically strategic national oil corporation also has to deal with a host of other governmental and public relations issues. The only hope of coping with all these pressures adequately is if a good management team can be assembled, allowed to work together, and given the security, tenure, and maneuvering room required to see its projects through from conception to implementation.

Under the old PRI regime, it was possible for a president of the Republic to recruit a director general that he trusted, and support him for a full six-year term. There was even a period under Pemex chief Antonio Bermúdez when the top leadership of the enterprise was entrusted with adequate powers for more than a single six-year presidency. But that has not been the pattern at Pemex since the advent of democratization. On the contrary, the director general may find himself serving no more than a precarious and brief term of office, during which he may be more or less continuously in contention with the treasury and the energy ministries, key figures in Congress, and the state governorships. That is the case even if he has the firm backing of the president. Midterm elections, cabinet re-shuffles, or shifts in power at the state level may throw up constant new challenges from the political class. Moreover, the director-general is by no means firmly in charge in his own enterprise. With a board of 15, including five union representatives, six busy national political figures, and four full-time professional insiders, there is no guarantee that the management team will be internally stable and united. In short, Pemex's management is vulnerable to buffeting by political intrusions from without, and lack of well-

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

insulated authority from within. All this will make it far harder for the enterprise to cope with foreseeable adversities.

Not all comparable state institutions are equally exposed. The Banco de Mexico has a governance structure designed to inspire confidence and secure stability and policy continuity across electoral cycles. The IFE was also built in a similar manner (although it has subsequently been weakened by congressional modifications to its autonomy). These were high prestige but also relatively well-focused single purpose entities. The question arises whether some features of their governance structure could safely be transferred to Pemex without creating an unaccountable and possibly irresponsible “state within a state.” That is one of the key issues that should be placed at the heart of any discussion of how Mexico can hope to tackle the energy policy challenges that loom ahead without lapsing into a full-scale crisis. The concluding section returns to this issue, taking into account the prospective external economic and geopolitical context that is also likely to shape and constrain the scope of any such reform.

IV. The External/Geopolitical Context

Looking to the medium-term future there are two main potential external sources of adversity that could add to Pemex’s problems and make it harder for the management to cope with all these foreseeable internal difficulties. The international economy (and, more particularly, the crucial North American component of the global system) could take a further turn for the worse. International security concerns, revolving both around Middle East-sourced terrorism and associated energy security, as well as Mexican-centered organized crime, could impose further risk management challenges to the state oil enterprise. Of course, both these sources of concern apply to Mexico as a whole, and not just to the energy sector. But Pemex is strategically located close to the action in both scenarios.

The papers by Joe Barnes and Isidro Morales¹⁸ provide a firm context for assessing these challenges, and they again suggest that rather than envisaging catastrophes, it is more appropriate

¹⁸ Joe Barnes, “Oil and U.S.-Mexico Bilateral Relations” (paper prepared for the study “The Future of Oil in Mexico/El futuro del sector petrolero en México,” James A. Baker III Institute for Public Policy, Rice University,

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

to identify strengths and weaknesses in Mexico's capacity to respond to relatively adverse conditions. That fits with the main thrust of this paper, which is to focus on proposals that can strengthen the Mexican energy sector's capacity to cope with a more difficult—but still manageable—policy environment. Although these economic and security dimensions may well overlap, it is convenient in this section to treat them as separate concerns.

Two major general considerations should guide any analysis of Pemex's external vulnerability.¹⁹ First, the more oil policy becomes a bone of contention in Mexico's domestic political conflicts, the harder it becomes for the national oil sector to fend off threats from without. If doctrinal disagreements over resource nationalism were to escalate into a major party political confrontation with polarized position-taking in the 2012 elections, that would undermine Pemex's capacity to negotiate with external partners on advantageous terms, and would weaken the morale and reputation of the corporation. These are already recognized as weak spots in the company's position, and public policy should aim to rectify, not exacerbate, this problem. The Venezuelan example shows how much damage can be done if domestic political polarization destabilizes a national oil corporation; by contrast, the Brazilian example demonstrates how the construction of a broad base of domestic support can reap major benefits for such an enterprise.

The second general consideration also follows from this example. If Pemex is to have a strategic role in helping Mexico address an uncertain and potentially perilous international environment, its management will need not only a broad base of domestic support but also an extended time horizon. International partners require confidence that commitments entered into under one presidential administration can be relied upon to continue in force for long enough to deliver intended results. This does not require absolute inflexibility—all enterprises engage in fine-tuning and even contractual renegotiations as conditions change—but it does highlight the advantages of strong institutional structures and orderly rules of the game. If Pemex could edge forward on these criteria, that would reinforce Mexico's capacity to cope with any adverse

Houston, Texas, April 2011) and Isidro Morales, "The Energy Factor in Mexico-U.S. Relations" (paper prepared for the study "The Future of Oil in Mexico/El futuro del sector petrolero en México," James A. Baker III Institute for Public Policy, Rice University, Houston, Texas, April 2011).

¹⁹ The Dominguez paper contains one interesting indicator of Mexico's potential external vulnerability. It gives comparative figures on each country's dependence on imports of oil products as follows: United States, 9 percent; Canada and China, 12 percent; Brazil, 13 percent; India, 15 percent; Mexico, 22 percent.

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

external shocks either economic or security-derived. All those who defend the current constitutional framework need to recognize the importance of these two general issues.

The following summary observations aim to flesh out this point:

1. Mexico never joined Venezuela and others in the decision to create OPEC, and it remains advantageous to stand aside from international commitments of that type. The Mexican government's efforts to promote international agreement on how to mitigate climate change (as in the November 2010 UN climate change conference in Cancún) offer a more appropriate strategy of international insertion into global energy negotiations.
2. If oil prices remain at their current levels—and especially if they surge to new peaks again, as in 2008—a prudent national interest energy strategy might be to revive the proposal (which is currently in abeyance) to create a domestic energy stabilization fund. (In practice, as explained by Paul Segal,²⁰ the high world prices of 2008 gave rise not to a stabilization reserve, but rather to a domestic subsidy to gasoline and diesel consumers equal to no less than 1.8 percent of GDP). It might seem difficult to persuade current policymakers to forego a short-term financial advantage, but from a long-run strategic viewpoint, the benefit to Mexican society of spending an unreliable windfall is much more than offset by the eventual cost of an austerity crisis precipitated by another oil price downturn without a cushion. This lesson from 1985 should not be forgotten.
3. Taking a medium- to long-term view of Pemex's vulnerability, now is the time to start putting aside resources for the training and recruitment of the next generation of Mexican oil specialists. This should be linked to a strategy for enhancing the country's research and development capabilities in the energy sector. Long lead times are involved, but Mexico's competitors are laying the foundations for internationally competitive enterprises decades into the future. This refers not just to China and India; to take another example at random,

²⁰ Segal, "El petróleo es nuestro."

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

Petrobrás President Sérgio Gabrielli is quoted as saying he is “preparing to hire and train 250,000 new workers, giving them basic schooling if necessary.”²¹

4. If Mexico’s counter-narcotics strategy is really in the process of escalating into a multiyear full scale “war” against the drug barons, as my colleague Joaquín Villalobos eloquently asserts,²² then current security problems concerning clandestine taps on pipelines are likely to be overtaken by much bigger security threats. The country’s energy infrastructure is highly exposed. Currently Pemex reports illegal diversions of large quantities of fuel from its pipelines (over 200,000 barrels a month, in January and February of 2011, 29 percent of which was stolen in Sinaloa alone). Colombia’s experience with constant pipeline sabotage may be pertinent. At any rate, Pemex needs to give careful attention to its security arrangements, if it is to sidestep this non-energy source of perturbation, and retain the leeway needed to pursue a strategic vision of how to promote Mexico’s hydrocarbons industry.

V. Conclusion: How Can Pemex Cope with These Adversities?

1. Assuming that the main contours of Mexico’s national oil regime remain in place over at least the next *sexenio*, reform initiatives could focus on proposals that upgrade and perfect the existing institutional structure and that therefore conform to the spirit of the existing Constitution. Even so, some revision might be involved (Article 27 has already been revised 16 times).²³
2. A key implication of the existing policy framework is the assumed perpetuity of the state-owned enterprise as custodian of the permanent rights of the Mexican people over their subsoil resources. This is in marked contrast to the logic of corporate organization in the private sector, where any enterprise, however large and successful, can be taken over when

²¹ *Financial Times*, “Special Report on Energy,” November 1, 2010.

²² Joaquín Villalobos, “La guerra de México,” *Nexos*, August 11, 2010.

²³ The crucial issue involving constitutional change could be whether or not a more autonomous and secure Pemex management would be allowed to enter into partnership agreements with third parties to carry out economic activities that the state enterprise was not capable performing efficiently on its own. For some, this is a fundamental stumbling block. For others, it merely brings Pemex into line with all other state oil companies, even including CubaPetrol and the Iranian National Oil Corporation.

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

a majority of the shareholders so decide, or put into bankruptcy if creditors call in their loans. Pemex is far from unique in this respect: Quite a few major national resource enterprises (including Statoil in Norway and even Codelco in Augusto Pinochet's Chile) display the same basic features. Within Mexico such a respected and essential major financial enterprise as the Banco de Mexico is assumed to exist in perpetuity and be free from the possibility of bankruptcy. If it is the will of the Mexican people to organize hydrocarbon production according to this principle, the question then arises: How can the management of such an enterprise best be both empowered and constrained to achieve the economic objectives assigned to it, without the disciplines arising under the private equity market system? The Energy Sector Reform law of 2008 constituted a serious recent effort to answer that question in the context of contemporary Mexico. It has considerable limitations, as indicated above, but it also provides some foundations on which further incremental reforms could be developed.

3. Management must be held accountable, but it must also be given the freedom of action and the security of tenure required to deliver a long-run energy strategy. This is particularly crucial for Pemex, given the complexity and interconnectedness of the strategic choices it now confronts, and the long time scales most of those choices require. In recent years, the Mexican legislature has shown creativity and wisdom in creating governance structures for other major state institutions—such as Banco de Mexico and IFE—that achieve a reasonable balance between autonomy, accountability, responsiveness to collective expectations, and relative insulation from the pressures of the short-term electoral cycle. Pemex is, of course, a different type of institution, and direct transfer of governance models developed elsewhere may not be appropriate. However, the present arrangements are clearly sub-optimal, so there is an urgent need to design a more robust governance structure for the enterprise. In many areas, policy initiatives taken in 2010 will not show fruit until 2020, and need to be stabilized across the six-year electoral cycle.
4. A more authoritative and secure management team must nevertheless work closely with the elected political authorities, and requires effective monitoring and, indeed, some degree of political supervision. The present system requires leading political figures to devote

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

considerable time and energy to attend Pemex board meetings, an arrangement that seems unlikely to maximize efficiency either for them or for the board. It should be possible to secure comparable levels of external advice and support through different channels. At present, the two competing energy regulators do not regulate very convincingly, which may explain why it is felt that so many other outside authorities need to be involved in internal decision-making. The relationship between the Secretaría de Energía and Pemex management could also be more clearly defined. On major issues, the president of the Republic is bound to become involved, but a stronger division of labor with clear dispute resolution mechanisms would minimize the involvement of Los Pinos on issues of lesser importance. The same principles could govern the relationship between Pemex management, Congress, and the state governors. The underlying aim should be to build up a trusted, responsive, and transparent system of management at Pemex. That could diminish fears of information asymmetry, and help to consolidate a broad base of political support in favor of an agreed long-term national energy strategy.

5. No doubt the most sensitive area of energy policymaking concerns budgetary control, and the terms on which fiscal resources are accumulated and distributed. It is hard to overstate the importance of achieving a step-change in this area of rule making. If Pemex management is ever to be charged with designing and implementing the medium- to long-term solutions that Mexico's national energy requirements foreshadow, it will need enhanced financial authority and discretion. The terms on which the Secretaria de Hacienda could concede such leeway are bound to be a major source of political concern. Various models deserve consideration, but for the sake of clarity, one will have to suffice here. At present, when "public sector revenues" are totalled, the government includes all the sales of both Comisión Federal de Electricidad (CFE) and Pemex in the federal budget. It would only require an amendment to the budget law (and not to the Constitution) to correct this misallocation. Instead, as the owner of the energy resources the government would receive a dividend from Pemex, together with whatever other tax revenues were payable. This is how Petrobrás appears in Brazilian public accounts, for example. Of course, the issue at stake here is not just one of accounting practices. This reform would also require the government to define a suitable overall tax regime for the public energy enterprises. But management would

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

become clearly responsible for the investable surplus that remained, and would come under clear incentives to allocate company resources according to its best estimates of efficient returns. On this basis, it would also become possible to fulfill one of the currently unrealized promises of the 2008 Energy Reform—Pemex dividend-bearing bonds could be sold or otherwise distributed to Mexican citizens, and their market performance would vary in accordance with judgments about the success of management strategies. The people of Mexico could acquire a direct stake in the national oil enterprise.

6. It is evident that Pemex is an unusual enterprise with multiple production priorities and substantial social obligations. There needs to be a clear mandate determining how decisions are made—for example, between spending on new refineries and upgrading obsolete pipelines; between deepwater prospection and secondary and tertiary recovery from established fields. These are complex and difficult choices that require a high level of professionalism and clear internal decision-making procedures. Our sense of the likely pressures facing the Mexican oil sector in the coming decade is that earlier conditions of bonanza are unlikely to repeat themselves, and that the enterprise should brace itself for an extended period of tough choices and difficult tradeoffs. It might strike lucky on some deepwater discovery, but even if so, a long time would elapse before the benefits came through to the bottom line. More likely the management will need to focus on prudently extending the life of its already mature assets, minimizing risks of adverse surprises, and setting aside resources for research and development that will give Pemex a chance of remaining an effective international producer and competitor a generation ahead. Considerable effort must also be devoted to managing climate change regulations, enhancing energy efficiency, and promoting a “greener” economic structure in the future. A strong and independent management is needed to tackle these tasks.
7. Finally, it is clear that these issues extend well beyond Pemex. Mexico as a whole will need to change its fiscal system, and raise revenue from other sources to offset those Pemex can no longer be relied upon to supply. There are also national security implications of the energy sector’s vulnerability that require broader consideration. The transparency and managerial autonomy required for Pemex is also missing in other areas of the public sector,

Coping with Adversity in the Mexican Oil Industry: Como Pemex no hay dos

and in the national economy as a whole. Beyond doubt, the search for national consensus around long-term strategic development goals is a priority that extends well beyond the energy sector.