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Exploration risk, business development and energy policy in Mexico

Field Report

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Exploration risk, business development and energy policy in Mexico

This report examines cultural factors that affect discussions in the public and private sectors about energy topics in Mexico. The report considers the use of quantified data and the issues of language and corporate culture. In relation to styles of communication, the report notes differences between the sensibilities found in Mexico City and those found in Monterrey, the U.S. and Europe. In relation to quantified data, the report notes that data in the oil sector are typically not comparable with data in global databases. These and other factors make exploration costly and business and energy-policy development problematic.

March 13, 2007

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Summary

In this report we consolidate observations about a) exploration risk in Pemex, b) business development in the energy sector and c) the policy environment in Mexico City. We find common threads in cultural, linguistic and political features that, in combination, increase the risk in exploration and business and policy development.

The report was prompted by the visit to Mexico City of high-level delegations from the U.S. and Canadian governments for a meeting on March 5, 2007, of the North American Energy Working Group (<http://www.eia.doe.gov/emeu/northamerica/engnaewg.htm>).

The report draws on a number of disciplines from the social sciences: political science, cultural anthropology and descriptive linguistics.

The picture of Mexico that emerges from the analysis is one of a rigid society in which the freedoms of speech and information in the energy sector are sharply curtailed. The numbers, statistics and quantified data of the public sector in general tend to be of the sanitized sort that provides little, if any, insight into industrial issues or policy options. The picture takes on added complexity when discussion in the public sector takes place by means of a language full of euphemisms, circumlocutions and diminutives.

These elements impede not only public oversight of the energy sector but the very search for new oil and gas deposits. If "the diversity of ideas [and backgrounds] finds oil," a national and corporate culture that represses disagreement and restricts the hiring of exploration professionals to citizens with similar backgrounds, then the results are certain: lower-than-expected exploration results with increasingly expensive marginal barrels of new oil discovered.

Time, however, is not on the side of the status quo: by one estimate, presented on March 7, 2007, at a closed-door briefing to delegates of a minority party, by 2012 oil production in Mexico will fall to 2 million b/d, down 1/3rd from the official Pemex forecast, and down by 50% from the estimate for oil production in 2010 that was released by the NAEWG in 2002 (Table 1).



This report examines cultural factors that affect discussions in the public and private sectors about energy topics in Mexico. The report considers the use of quantified data and issues of language. In relation to styles of communication, the report notes differences between the sensibilities found in Mexico City and those found in Monterrey, the United States and Europe. In relation to quantified data, the report notes that data in the oil sector are typically not comparable with data in global databases. These features make exploration, business and policy costly and problematic.

INTRODUCTION

At a workshop in Mexico City on March 5, 2007, of the newly formed Mexican Energy Network (www.remexen.org), disagreement broke out about the future of Petróleos Mexicanos (Pemex). There was even disagreement about its status as an oil company. For one panelist, "Pemex is a decentralized agency of the federal government with certain commercial attributes, but its essential role is that of a tax collector, accomplishing for the State what, historically, the State has been unable to accomplish for itself."

Other panelists added to the list of functions performed by Pemex: regional development, foreign policy and national and energy security, among others. Unspoken was Pemex's role as an icon of economic independence, a topic that had been touched on, albeit in a negative light, by David Davidow, a former American ambassador to Mexico.

One Mexican speaker, Jorge Chávez Presa, a former congressman, launched into the traditional, and, in Mexican terms, orthodox argument that about the expropriation of the international oil companies in 1938: the actions of the oil companies in refusing to accept the ruling of the Supreme Court in a labor dispute left the Mexican government with no option other than expropriation. That, in 2007, the speaker should have used just one of his allotted 20 minutes in dragging up an event of 70 years past speaks, pointedly, to the cultural framework in Mexico in which energy policy is discussed.

Commenting on the presentations of by previous speakers on the oil industries of Norway, Canada and Brazil, one Mexican academic, Víctor Rodríguez Padilla, all but ridiculed the appropriateness of the business models of these countries for Mexico; indeed, the ambassador in his opening remarks had commented that in the oil business there is no "one size fits all."

In these exchanges about oil policy an outside observer might infer that Mexican speakers, some of them at least, are angry about something; but, if so, what is it?



The roots of these emotions and disagreements go deep, psychically and historically, and they are both cultural and political in character. The business or public-policy entrepreneur who comes to Mexico with a product, service or idea to sell will end up tripping over these roots--unless, that is, he makes sufficient mental space available to avoid needless misunderstandings.

In this report, we wish to examine, selectively, aspects of the cultural landscape in Mexico's energy sector.

BACKGROUND

Sociology of knowledge and the culture of exploration

The discipline in the social sciences known as "sociology of knowledge" describes the social context in which human thought takes place. Developed by German sociologists in the 1920s, the concept was reinvented by American sociologists in the 1960s, notably by Peter L. Berger, Thomas Luckmann and Thomas Kuhn. The latter's *Structure of Scientific Revolutions* (1962)--and still in print--argued that new ideas came about as a result of the creative thinking of minorities (and, often, by a single nonconformist) against the established thinking of majorities. It was Kuhn who introduced the term "paradigm shift" into modern social science. For Kuhn, it was Copernicus who led the first scientific revolution.

Kuhn argued that science advances by a dynamic in which a minority--sometimes, as in the case of Copernicus, of just one person--challenges the views of the majority and, eventually, prevails.

It would seem that petroleum exploration would lead to new discoveries almost automatically as a result of the application of advanced technology; the reality, however, is quite different. Successful oil and gas exploration is often--perhaps mostly--the result of disagreements among earth scientists.

In June of 2006 an interesting discussion of this point took place during a automobile trip from Campeche to Cd. del Carmen between a Pemex engineer and an American consultant: their idea was to print posters that read, in both English and Spanish, the following (for Pemex) radical idea: "A single disagreement between two geologists may lead to the discovery of a new oil field."

A new oil field, in itself, is not a new commercial discovery, as engineering and logistic questions come in at once to determine its production economics. In this process, there are multiple review processes to assure some measure of democratic process (thereby implicitly acknowledging the importance of minority views).



Not all IOCs are equally democratic in their corporate cultures. An engineer who now builds custom homes in West University Place recalls that "I had the experience--if not the pleasure--of working in the exploration company in Houston of [one of the IOCs]. "It was a very top-down organization, with long hours and high stress. It caught my attention that the technical people were from all over the world--India, UK, Australia. 'Gringos,' it seemed, were in the minority."

The sociological explanation (as distinct from an economic one) for the existence of so many small oil exploration companies in the U.S. and Canada doubtless can be traced to disagreements. Exploration professionals left their former employers and started up their own companies on account of disagreements over the interpretation of geological and geophysical data.

If a "coefficient of diversity" existed in relation to professional staffing in an oil company, Pemex and the IMP would have low scores, as, in practice, only Mexican professionals are hired, and, of these, most are graduates from the same universities and had the same professors. (Of some 35,000 full-time, nonunion employees in Pemex, there may be none whose native language is English.)

As for disagreements, the rule in Mexico's oil sector is either silence or the street. Silence usually wins, as there are few opportunities for exploration professionals to find work outside of the public sector, meaning Pemex and the IMP (Mexican Petroleum Institute); but, as one Pemex professional notes, "if you leave Pemex on bad terms, they will block you from finding employment in your field anywhere else in Mexico."

"Northern" vs. "Southern" speech in Mexico

Not everyone in Mexico speaks Spanish in the same way, and the difference goes far beyond differences in accent: the differences are also political and cultural in character.

Where, in the northern industrial axis of Monterrey, "Los Regios" speak "like Yankees," in the political axis of Mexico City the "capitalinos" (and, more generally, the population of the Central Plateau) speak like white southerners of a bygone period in American history.

Where the Spanish of northerners is straightforward (like that of Americans and Spaniards) the Spanish of southerners is more like that of Rococo architecture set to speech. Where, in a restaurant, a northerner would ask, directly, for a glass of water, "un vaso de agua," a southerner would hear this as something bordering on being rude. He would ask for "un vasito de agua." The second request, with the nuances translated, means something like "Could I trouble you for the favor of a small glass of water?"



Where, in Monterrey, a hotel guest would be asked to sign his name on the registration card, but in Mexico City he would be asked for the "gift" of his signature (*¿No me regala su firmita?*).

One speculation heard in Mexico City is that this pronounced tendency to adorn everyday language with extra courtesies is a cultural trait of self-effacement inherited from the ancient peoples of Mesoamerica, especially from the Nahuatl-speaking Aztecs.

REPORT DISCUSSION

We shall examine first how the "southern" speech of the public sector in Mexico affects discussions of business and policy development. We shall then examine how the statistical information provided by the government and state energy companies affects the understanding of business and policy opportunities. From this, we want to gain lessons and be able to look ahead into future developments.

Language in Mexico City

The accent of Mexico City is known throughout the Mexico, a country of many regional accents. One distinguishing feature, for example, found especially among the educated classes is a tendency to use the nonstandard "iese" conjugation of the imperfect subjunctive of a verb, giving, for example, "hubiese" instead of the standard "hubiera."

THE "COURT SPANISH" OF OFFICIAL MEXICO

Politicians in Mexico City are tireless in inventing or reviving new terms that, in effect, create a private language among elites: Consider two terms that have been commonly heard since the 1990s among politicians and government officials: "insoslayable" and "coadyuvar." When a Mexican Ph.D. candidate from Monterrey who was enrolled in a biostatistics program at the University of California, Berkeley, was asked in the mid-1990s about the meaning of the first word, she replied "I don't know what it means; it is one of those new words invented by the PRI. *I don't even want to know what it means.*" ("Insoslayable" means something that should not be postponed; "coadyuvar" means to support, contribute or collaborate in something.)

The most famous (and probably apocryphal) anecdote about the peculiar speech of government officials was also from the 1990s where, the story goes, an official came to a rural area of Chiapas, a region of widespread and severe poverty. In front of an assembly of indigenous peoples, he announced, "It is my duty to inform you that in the entire Republic of Mexico you have the highest level of backwardness (*el más alto índice de retraso*)." Baffled by the embedded double negatives, the Chamula Indians



loudly applauded.

Academic economists in Mexico never use the term "mistake" in describing government policy (as it might cost them their jobs). Instead, they will describe a failed policy as one that "the negative collateral effects were greater than those that had been anticipated."

In the writing style of the public sector, the passive voice is king. A description of the current situation in the oil sector might begin with "It has been observed that both the volume and quality of future oil production will fall." Many such observations take place, but no one, it seems, wants to be identified as the actual observer. (In the same spirit Pemex Powerpoint presentations characteristically omit the name of the person or office that prepared the document.)

TABOO TOPICS

Mexico as a country is also famous for what it will not speak about. Again, there is an analogy with the regional tension observed in the United States between the northern and southern regions of the Eastern seaboard. In the history departments of northern universities there are courses on the civil war of the 1860s; but in the same departments of southern universities this period is taken up in courses on "the war between the states." The dimension of "civil," as in civil rights, is suppressed.

In the American South of first half of the nineteenth century, slavery was "a peculiar institution," not a racist system of economic exploitation as it came to be seen in the North.

Quickly moving the clock forward 150 years, on March 7, 2007, the front page of the influential *Reforma* carried the headline "'Bush advocates opening the energy sector," a report on comments made by President George W. Bush in an interview in preparation for his trip to Latin America. The comment made the headlines because it was one that no Mexican president, governor or cabinet minister would dare to make—their private views to the contrary notwithstanding. On March 13, on the occasion of President Calderón's meeting with President Bush, in Mérida, it was important to *avoid* discussion of the oil sector.

This taboo that governs the behavior of the president of the country also affects the level of government three and four levels below. President-elect Felipe Calderón's transition team received numerous briefings on the energy sector. One of these, the PowerPoint slides of which were shown to a private audience on March 6, 2007, described how, in the oil sector, in the coming years production and oil quality would be lower, implying lower exports and lower tax revenue. The presentation stopped short of a list of options, and, even if such a list would have been presented, the



opening of the energy sector as advocated by President Bush would not have been included.

The transition team also heard from Pemex; the story that was told was optimistic. True, production would not go up to 4.0 million b/d as had been announced in the early period of the Fox administration, and, true, the super-giant field Cantarell was in decline; but production would remain above 3.0 million b/d throughout the Calderón term of office. The policy option of private capital in exploration and production was omitted.

And the same story continues. In a briefing to a private audience on March 7, 2007, a Pemex official described how in deepwater in depths of 500-1,500 meters, there was technology available in the "oil Walmart of Houston." Beyond 1,500 meters, he acknowledged, such technology was unavailable. The underlying assumption was that Pemex would proceed on its own, without any involvement of international companies.

The list of taboo topics goes beyond the matter of private investment in the upstream or, in the power sector, private generation for a wholesale market. The corrosive role of the labor unions in the oil and power sectors is off the table both for journalists as well as company managers and public officials.

In this way, not only are topics for discussion left off the table of public debate, but the topics that remain are treated with indirect, formalistic and slippery language.

HUMOR AS INDIRECT COMMUNICATION

Humor is another mode of indirect communication in Mexico. Topics that are too sensitive to be discussed openly or directly can be addressed through humor. This subject has received academic attention by Samuel Schmidt in his 350-page study of political humor in Mexico (*En la mira: El chiste político en México* [Taurus, 2006]).

One joke even pokes fun at the Mexican habit of indirect communication (while simultaneously poking fun at stereotypes of other nationalities): The story goes that an agency of the United Nations carried out a survey of the views of delegates from several countries on the topic of world food supply. The survey question was this:

Sir (or madame), would you please give us your opinion, and speaking frankly, about the shortage of aliments in the rest of the world?

It turned out that none of the delegates from Africa, Europe, the U.S., Cuba, Argentina or Mexico could answer the question, as there was some element that caused them to stumble. The Africans were puzzled by "aliment," the Europeans by "shortage," the Americans by "rest of the world," and the Mexicans by "speaking frankly." (We omit the



replies of the other delegations.)

(Humor, in Mexico as elsewhere, serves to connect people where formal language fails. But there are several caveats: In Mexico City, among men, there is a species of humor, known as the *albur*, that traffics in sexual innuendo, but such humor has no place in an organization that follows Western rules. Similarly, although among Mexicans it is common to refer to people by reference to their physical features, especially height, weight, skin tone or ethnicity; the use of such language in the workplace could be litigable in the United States as a practice of discrimination and harassment. It would not be litigable in Mexico, however.)

Numbers of the federal government

Mexico has an international reputation among bankers, economists and business analysts of which few Mexicans are aware. Outsiders think of Mexico as "the anti-quantitative society." We may take Pemex debt as an example: the seemingly parenthetical comment in the international press "that Pemex bonds are regarded as having sovereign guarantee" strikes at the heart of the matter. In its expanded form, the comment reads "most analysts pay only lip service to Pemex's financial statements, as everyone knows that the Mexican government--and behind it, the American government--will not let Pemex default on its loans. Hence, they are doubly guaranteed."

Pemex's dismal balance sheet is really not comparable with that of other oil companies, as it cannot post among its assets the discounted value of the sale of future production from proved reserves. Pemex is always near or in "technical bankruptcy," but this is an optical illusion derived from the peculiarities of Mexican law which designates the State, not Pemex, as the owner of the said proved reserves.

PERCENTAGE CHANGE--SAY AGAIN?

There is another face of this anti-quantitative bias in the way the government treats the prices of its goods and services, typically as a change in percent. If it is true that the average attained educational level in Mexico is the third grade, and if the mathematical concept of percentage change ($(B-A/A) \times 100$) is not explained until sixth grade, then it follows that all public announcements that report changes in the price of government-controlled items such as corn, eggs, milk and gasoline in percentage terms are incomprehensible to most Mexican adults. On one occasion a taxi driver in Mexico City was asked by a passenger what he understood by a change in 3% in the price of milk (a topic that had just been discussed on his radio). He said, confidently, that if the price were 6.3 pesos/liter, then the new price would be 6.6. He added, as if intuiting that there might be something more to it, "That's how Mexicans understand it-who knows how mathematicians think of it."



A career Mexican official in one of the embassies in Mexico City recalls that, in series of job interviews, he asked applicants to express 50% as a fraction. "Most of the applicants, who were high-school graduates, had trouble with this simple conversion. I blame the poor quality of the educational system."

STATISTICS LITE IN MEXICO

At a conference held at Rice University in Houston on March 1-2, 2007, the results of a two-year study of thirteen national oil companies were presented. Pemex was not included in part because the lead researcher could not find enough data to measure the efficiency of capital invested. In other words, he could not meaningfully correlate financial data with production data. Money is spent and, later, production follows; but there is no audit trail.

10-year forecasts of the Energy Ministry

The problem of sanitized data appears in publications of the Energy Ministry, which, annually, publishes a 10-year forecast for selected areas: natural gas, electricity, petroleum products and LPG. (Tellingly, for the most controversial topics, exploration and production and petrochemicals, there are no forecasts.) These documents are almost never consulted, despite their attractive appearance. Why? The underlying assumptions are of a static legal and policy framework. Said more broadly, the ministry is not authorized to speculate on what might happen to markets were the legal and regulatory frameworks liberalized.

An example of an area needing liberalization would be the status of petroleum product pipelines, a topic mentioned by Pemex in the press briefing held by the director general on Feb. 7, 2007. The director noted the fact that while private pipelines for natural gas have been legal since 1996, pipelines for petroleum products must still be owned by the State. "The result is that we pay 9 times higher to move gasoline by tanker trucks than we would by pipeline."

Distortions in Mexico's trade statistics

Statistics on the Mexican economy in the trade account show a different kind of distortion: In 1991, the government, as part of its public relations effort to promote support for a free trade agreement with the United States, modified its chart of accounts so that what used to be "border assembly transactions" would henceforth become part of the general trade account. The effect was dramatic: the millions of components that were imported temporarily by the maquiladora industry were now to be treated as Mexican imports; and the billions of dollars that left the country as assembled products were now to be regarded, statistically, as Mexican exports. Mexico overnight became the second-ranked trading partner of the United States.



Who was the first? Canada, for the same illusory reason: the Canadian government had long before constructed the optical system to treat the importation of components for the automobile plants, for example, as Canadian imports (and a similar treatment for exports).

The problem here, as explained in articles published in *Comercio Exterior* (October 1989 and May 1995), is that by statistically merging the activities of Mexican and Mexico-sited international assembly plants, the government and society can no longer measure the strength of the economy. The largest variable in the trade account other than oil and oil products is associated with the transactions of assembly plants whose interactions with the Mexican economy historically have been less than 5%. Is the Mexican part of the Mexican economy growing or contracting? No one knows.

If you could take away the activities of the international assembly plants, Mexico's trade could fall by 75%. (Chinese exports would similarly fall if two categories were excluded: intrafirm transactions and merchandise that violated intellectual property rights.) Mexico, instead of being the third-ranked trading partner of the U.S. would rank something like 12th, if not lower. Intuitively, it should be clear that if intra-firm transactions are excluded, the largest trading partner of the U.S. is Japan, followed by Germany, UK and France.

Corporate politics in the public sector

"The perfect dictatorship" was the description that the Peruvian novelist (and future presidential candidate) gave to Mexico's political system in the early 1990s on the occasion with a meeting with President Carlos Salinas. (The novelist was invited to leave the country the following day.)

Behind this comment was the observation that although everything in Mexico seemed to obey the logic of an open, democratic society, in reality Mexico operates like a closed, autocratic state. Although this way of putting this is no longer valid for Mexican politics at the national level it still applies in pockets of the public sector and in departments of the state energy companies.

"Where I work," one manager commented, "there are no incentives to say 'no.' There are no incentives to disagree with my chief."

In the context of the truism in the international oil industry that "'a diversity of ideas finds oil," such restrictions on intra-office debate and discussion will mean fewer barrels discovered at higher costs.



Lessons for business and policy development

Here we cannot offer any systematic or comprehensive lessons, but only selected ones.

GAYOK'S FIRST LAW

In relation to this tendency in the public sector to use circumlocutions, double negatives and obscure, Elizabethan-era terminology, a Mexican executive of an American transnational commented in a conversation on March 4, 2007, that "We do not have an efficient way of saying 'no' in our personal relationships and business dealings. Everything is papered over with half-promises and intentions known not to be real. We say, meeting someone with whom we have only slight interest, 'Let's get together and have lunch sometime soon. I have your business card and email, right?' Both parties know that no such lunch meeting will ever take place, and the comment is understood as a pleasantry, a courtesy, if you will."

There is a popular romantic song in Mexico in which the line appears: "You told me yes, but you haven't told me when." This line has entered into popular speech, going back decades. In the mid-1980s, in the office of Mexico's trade commissioner in Los Angeles, an assistant entered the office asking for advice about a request that had been received. The commissioner paused, then replied, "Tell him yes, but don't tell him when."

This double language was not lost on Ted Gayok, Valero's country manager in Mexico City in the early 1990s. Charged with the development of an MTBE project with Pemex, he soon discovered that what seemed to be agreement was only the acknowledgment of having heard his expectations. After upwards of \$30 million in fruitless development costs, he formulated an axiom, Gayok's First Law. It reads: *In Mexico, never take "yes" for an answer.*

IMPROVING NONVERBAL COMMUNICATION

Body language is very important in business and political circles in Central Mexico, more so than in the provinces. Men and women in Mexico City (but certainly not in Monterrey) obligatorily kiss each other on the cheek (as do women) when they meet and depart. Men routinely give each other bear hugs. Views on politically hot topics are often exchanged through jokes, a technique that allows the speaker to distance himself from the point of view expressed.

In addition, there is an unpublished list of topics that should not be discussed in public in Mexico. Some Mexican participants in the workshop of March 5, mentioned above, objected to the comments by the one American speaker that Mexico's attitude toward



the international oil industry betrayed a lack of self-confidence. An example of inappropriate protocol took place during the 2006 energy trade mission to Mexico of the State of Texas. One official on the program was the secretary of state, who, invariably, was introduced as "the 106th Secretary of State of Texas"--his eager, sycophantic staff forgetting Mexican sensitivity to the fact that the *first* secretary of state was one of the leaders of a still-unforgiven rebellion in 1836 that resulted in Mexico's loss of its northern province.

For northerners, be they from Monterrey, Washington, D.C. or Oslo, such forms of communication are likely to be alien, and the skill sets have to be learned. Progress in learning nonverbal skills in the rarified business and policy atmosphere of the Mexican heartland will be rewarded by being taken more seriously by officials, colleagues and employees. It will mean not being seen as a business or policy tourist.

WIN-WIN PROPOSALS

Any business or policy proposal that, to succeed, will require a change in law or policy, will meet with skepticism and open or veiled resistance by any employee on the federal payroll. Why? Mere participation in the conversation taints both parties with the rumor of subversion of the status quo, a rumor that could damage one's employment or even career.

Managers in the state energy companies, as well as government officials, are likely to be responsive to proposals that describe avoided costs as a benefit to be obtained from the adoption of a proposal. One example was a proposal made to Pemex early in the Fox administration to supply 50,000 b/d of gasoline to Monterrey from a refinery in Corpus Christi. The developers showed in convincing detail how much money would be saved on each gallon of product by sending it by pipeline rather than by a tanker vessel from Houston. Discussions progressed smoothly until the point when planners in the refining subsidiary disappeared into a fog of explanations about not yet being able to quantify future regional demand for gasoline (a prerequisite for justifying a long-term contract).

WHY SALES DON'T CLOSE

Some sales efforts fail to close because of the manner in which they are presented. A sales presentation to a Pemex audience that starts off with an indictment of company practices on the grounds of inefficiency or corruption is likely not to go far--even though every word may be true.

A different kind of sales resistance occurs when the nature of the business or policy proposal requires that the person to whom the proposal is being made is required to carry it upstairs to his boss in order to close the sale. It's simply not in the nature of the



culture of the public sector to carry business or policy proposals up the chain of command.

A third form of sales resistance occurs when the product, service or policy idea to be purchased or accepted would risk negative publicity in the national media. Here, subtle issues may enter in, such as labor and congressional relations and institutional and national self-image.

Outlook for politically sensitive issues

Here we mention just two of the many topics that are under discussion in Mexico's energy sector that have political, institutional or cultural sensitivities.

RESERVE REPLACEMENT RATIO: THE CANTARELL EFFECT

At a briefing on March 7, 2007, to a small group of delegates most of whom had an affiliation with a minority political party in the Congress, the Pemex speaker addressed the controversial subject of reserve replacement from a new angle. The "Cantarell Effect," he said, "distorted Pemex's discovery record. Cantarell, one of the world's three supergiant fields, has a tremendous effect on everything we do. Take away Cantarell, and Pemex's reserve replacement record for oil will be 80% and for gas 90%."

The implication was that, by this measure, Pemex was a much more successful exploration company than one would suppose from looking just at the gross statistics of reserve replacement that in 2006 included Cantarell's 2.0 million b/d. From the government's point of view, however, this statistical observation can carry little weight, owing to the need to have Pemex's exploration results keep up Cantarell-equivalent production.

PEMEX TECHNOLOGY ALLIANCE WITH OTHER NOCs?

The press and some government officials have promoted the story that it would be convenient for Pemex to enter into a "technology alliance" with other national oil companies (NOC), but not with the super-major companies. This idea supposes that other NOCs would be more understanding of Mexican sensitivities in oil and gas matters. (Indeed, at the seminar on NOCs on March 1, 2007, cited above, a speaker from a Chinese company made the argument that, for being an NOC, he expected to have better commercial relations with other NOCs.)

In Mexico, Statoil and Petrobras have been mentioned as likely NOCs who could have a philosophical alignment with Pemex. President-elect Felipe Calderón made a visit to Brazil to speak with authorities from the government and executives from Petrobras



about the feasibility of some form of alliance.

From the perspective of IOCs, however, the idea that any oil company with deepwater expertise would "help" Pemex as a function of cultural affinities is risible.

DEEPWATER DEVELOPMENT OF CROSS-BORDER FIELDS

A public policy issue of increasing importance concerns the diplomatic, legal and business framework for the development of possible cross-border oil and gas fields between Mexico and the United States. The maritime treaty between Mexico and the United States signed in 2000 provides for a sixty-day response period to any request for consultations about matters dealing with oil and gas in the geographical area covered by the treaty (a presently unpromising area known, variously, as the Western Gas or Doughnut Hole).

Pemex in its business plans for the period 2007-09 includes the objectives of drilling a well to establish the existence of commercial petroleum deposits and promoting a diplomatic dialogue in which a protocol for the "unitization" of the two parts of a given cross-border field may be negotiated.

Pemex's recent deepwater wells in the area known as Coatzacoalcos Profundo have cost upwards of US\$80 million each, wells that, unfortunately, have not yet discovered oil in commercial quantities. (The deepwater Lakach field may have in excess of 1 Tcf of recoverable natural gas, which could make it a candidate for commercial development.) For any kind of substantive negotiations to take place with the American authorities or with the U.S.-side lessees (who, often, are not American), Pemex will have to have a successful well in Perdido; but the drilling of the first well may not take place for years.

Pemex is understandably reluctant to upstage the Energy Ministry by going public with these policy objectives. The Energy Ministry, in turn, owing to the still-delicate position of the Calderón government, wants to soft-pedal the importance of this policy issue. "Don't make it seem like it's something we're in a hurry about," one official told an analyst in relation to a report in preparation about the issues of the development of possible cross-border oil and gas fields.

PEMEX AND CFE AS SELF-REGULATED COMPANIES

Both Pemex and CFE are, in practice, self-regulated, and there is no authority that requires more than perfunctory public oversight of their operations. A Mexican economist working in the oil sector in a private company observes that, in Spanish, there is no direct translation of the English "accountability." "The closest term we have," she adds, "is 'rendición de cuentas,' which, literally, means the submission of



accounts," implying that this term only faintly captured the full resonance of "accountability." In the case of Pemex, there are no shareholders to whom such "accounts" could be submitted, a situation that would change with the floating of a portion of Pemex's assets in an international stock exchange.

Pemex and CFE issue their own public tenders and make their own awards for projects that they themselves have decided to move forward; Pemex's Multiple Service Contracts and the CFE's LNG projects in Altamira and Manzanillo. The Energy Regulatory Commission (CRE) approved the paperwork of these two LNG terminals, but the wisdom of the project itself was not under review.

Some of this could change if the Congress approves a new law for the CRE. The new law would require the CFE to provide data with enough granularity to permit an economic analysis of the efficiency of its operations. One example: CFE reports data on its production costs, but on closer inspection, such data includes extraneous costs not directly associated with production, such as "non-technical losses" (theft) and the bloated pension liabilities of a politically untouchable labor union. The CRE would like to have electricity rates based on true industrial costs, and let the government provide subsidies, as it deems necessary, to cover the other categories of expense.

OBSERVATIONS

In 1947, George Orwell published his famous essay, "'Politics and the English Language," in which he argued that the lack of precision in the use of language carries a price measured in the deterioration of democratic values. (Orwell's essay is widely available on the Internet.) As we have seen, there are patterns of imprecision of both an institutional and cultural kinds that pervade the energy sector in Mexico.

The Investor Relations Office of Pemex's Finance Department works tirelessly to provide analysts with numbers they can use; an example is the practice of holding quarterly conference calls in both English and Spanish. In practice, however, the information provided by this office is only as good as what is given to it by the operating units whose apparatchiks are experts in sanitizing data.

The unwillingness of executives from the state energy companies to publish statistical data that are comparable with data from the global oil and power industries may have cultural as well as political motives. In spite of the creation during the Fox administration of the IFAI (a freedom of information agency), the government has not proactively required the state energy companies to provide full accountability for their prices, products and operating practices.

Stepping back, we cannot say, for lack of comparative data, that government information in Mexico is more opaque than that found in other countries. Our point is



that in Mexico this opaqueness itself is part of the political system and is part of the status quo that keeps Mexico from benefiting from comparisons to the global economy. At present, such comparisons are mostly cosmetic.

This opaqueness comes at a high cost to both Mexico and the state energy companies. Consider that on the New York Stock Exchange the value of the ADS shares of Statoil, an NOC whose major shareholder is the Norwegian government, increased by a factor that approached 6.4 during the period from Oct. 15, 2001, and May 5, 2006. A similar story could have been told of Pemex, had the idea proposed during the Fox administration of floating 20% of the company's assets moved forward.

It is also possible for international governments to be too sensitive to Mexican arguments about the political untouchability of the energy sector. In the conference on NOCs at Rice University (mentioned above), Amy Jaffee, a fellow at the Baker Institute, observed that "the U.S. government did Mexico no favors in 1993 when it yielded to the demands of the Salinas administration that energy had to be kept off the negotiating table." She added that the U.S. Government could have offered a "deal-breaking proposal" for Pemex to float 15 or 20% of its assets in the New York Stock Exchange. "Pemex and Mexico would be much better off today had such a proposal been accepted and implemented."

CONCLUSIONS

As we have seen, there is no single structured curriculum for learning the culture and language, verbal and nonverbal, of the public sector of Mexico. It would seem that the curriculum has to be addressed on the run, as targets of an unexpected learning opportunity. Choosing to ignore this curriculum, by intent or neglect, carries a high cost, both for Mexicans as well as for all others.

We have identified five cultural traits that affect exploration risk, business development and energy policy in Mexico:

- 1) The customary use of euphemistic and ambiguous language in Pemex and, in relation to energy policy, in the public sector in general.
- 2) A corollary is the sharp restriction of speech in relation to the discussion of options that would involve equity investments by the private sector or a sharp reduction of union rights or the number of unionized employees in the state energy companies.
- 3) The customary use of sanitized data. The statistical parameters of the energy sector in Mexico are mostly *sui generis* for which, therefore, comparable international data do not exist. In the reports of Pemex's financial statements there are occasional references to a "Mexican GAAP," but the idea is self-contradictory, as there should be



nothing peculiarly "Mexican" about cost accounting for international lenders and analysts.

4) A top-down, command model in Pemex coupled with the custom of drawing on a narrow pool of qualified professionals in oil and gas exploration. This corporate culture, combined with the fact that Pemex is a technology-follower in most areas of its industrial activities, further limits exploration professionals in their search for significant commercial deposits.

5) The status of Pemex as a self-regulated agency of the federal government may be seen also in the fact that there are no petroleum engineers employed full-time in the Energy, Finance or Economy ministries nor in the CRE.

All of these traits come at a high cost to Mexico, and, indirectly, to Mexico's trading partners and bankers.

George Baker

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Table 1. Mexico Energy Supply (1980 – 2010)*Outlook for 2010 was optimistic for oil supply*

	1980	1990	2000	2010	-----MEI analysis -----		Outlook for 2010	
					% variation		MEI vs. NAEWG	
					1980-00	2000-10	Vol.	% var.
Petroleum Production (1,000 b/d)								
Crude Oil	1,936	2,548	3,012	4,024	56%	34%	2500	-38%
Natural Gas Liquids	193	422	438	592	127%	35%		
Natural Gas Production								
(Billion Cubic Feet)	1,299	1,333	1,713	3,184	32%	86%		
(Billion Cubic Meters)	37	38	48	90	30%	88%		
Billion Cubic Feet/day	3.559	3.652	4.693	8.723	32%	86%	6.000	-31%
Coal Production								
(Million Short Tons)	4	9	16	24	300%	50%		
(Million Metric Tons)	4	8	14	22	250%	57%		
Electricity Generation ¹								
(Terawatthours)								
Coal	-	8	19	20	-	5%		
Petroleum ²	37	67	104	93	181%	-11%		
Natural Gas ³	7	8	23	164	229%	613%		
Nuclear Power	0	3	8	10	-	25%		
Renewable	18	28	39	43	117%	10%		
Hydro	17	23	33	35	94%	6%		
Geothermal ⁴	1	5	6	8	500%	33%		
Total	62	114	193	330	211%	71%		
Electricity Generating Capacity ¹								
(Gigawatts)								
Coal	0	1	3	4	-	33%		
Natural Gas ³	2	3	6	19	200%	217%		
Petroleum ²	7	12	14	20	100%	43%		
Dual Fired	-	-	2	3	-	50%		
Nuclear	0	1	1	1	-	0%		
Renewable (including hydro)	6	9	11	14	83%	27%		
Hydro	6	8	10	13	67%	30%		
Geothermal ⁴	0	1	1	1	-	-		
Total	15	25	37	61	147%	65%		

¹ Electricity generation and capacity include only the public sector.² Petroleum plants use a combination of one or more hydrocarbons.³ Natural gas electricity generation and capacity include combined cycle gas turbine units.⁴ Geothermal electricity generation and capacity include wind power in 2000 and thereafter.



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PRODUCT NOTES: MEXICO ENERGY INTELLIGENCE

The Mexican operating environment is one in which only the State is a market actor; only the State is at the check-out counter when the first sale of hydrocarbon or electric energy takes place. Everyone else is a contractor or supplier. To the extent that competition occurs at all, it is between suppliers or industry groups for contracts, protection or favors.

This situation is changing: Mexico now recognizes it has major energy issues going forward; the future may bring about an evolution toward real energy markets in Mexico, markets in which, as in Canada, there are hundreds of private companies involved in the production of oil and gas and in its processing, refining and transportation to market. The “Mexican North Sea” may become a reality; but this change will not happen overnight.

In the meantime, the operating environment, due diligence by actors and observers requires multiple interpretations of current data, events and trends in order to gain a broad perspective. Because some of these interpretations are mutually exclusive, none may be considered definitive.

The reports of MEXICO ENERGY INTELLIGENCE® (MEI) are intended to enrich the understanding of managers and market and policy analysts by offering fresh and independent insights that are driven by academic-style discipline, scenario analysis and a long-term historical perspective. Reports draw on our in-house databases, field interviews and published data. Our reports are intended to increase the ability of managers, public officials and organizations to make decisions in relation to public tenders, trade, investments, country risks and public policy.

Our experience in Mexico is that of the two dimensions of business, policy and economic development--opportunity and risk--analysts are likely to give more attention to opportunity than to risk. This inclination is found no less in Mexican policymakers than in project managers of Mexican and international companies. We therefore attach greater importance to the understanding of risk than to the quantification of opportunity. We point to decisions by organizations--whether to actor or to wait--the consequences of which were poorly understood at the time. In Mexico, people, institutions, policies and markets are invisibly connected--hyperlinked, as we think of it. One of our goals, then, is to make this hyperlinked network visible to the reader. In these and other ways we contribute to the market reorientation of Mexico's energy sector.

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