PRIVATE PARTICIPATION IN MEXICO'S NATURAL GAS INDUSTRY

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There has been much speculation about Mexico's future participation in the North American natural gas market. Numerous studies take for granted that Mexico will continue being a net importer at least throughout the next decade.[1]

President Ernesto Zedillo made several decisions in 1995, however, that seem to question the consensus in entreprenurial, financial and academic circles. First, Petróleos Mexicanos (PEMEX) is allotting more resources to gas production and one of its priorities is to develop dry gas reserves. Second, legal and regulatory changes have been made to create a real market and open up all the links of the natural gas chain to private investment, except for exploration and production, which will remain in government hands.

Before focusing on the last two years (1995-1996), let us look at some of the main characteristics of the previous period. From 1988 to 1994, the government decided to make a transition to natural gas because of its environmental advantages, the existence of new technologies, the great potential consumption and the proximity of foreign supply sources at competitive prices. The possibility of large-scale imports accelerated consumption. The transition was slow because the government did not allocate enough funding to PEMEX or effect structural reforms at the regulatory level and in asset ownership.

The law was changed in May 1995 to allow private ownership in natural gas transport, storage and distribution.

The 1994-1995 financial and economic crisis brought the natural gas industry out of an impasse. There was great pressure from abroad to extend privatization to strategic sectors. Oil and natural gas were among the main commitments of Zedillo's administration. Already existing plans to open up the natural gas industry were brought up again.

The Regulatory Law for Constitutional Article 27 Regarding the Oil Sector was changed in May 1995 to allow private ownership in natural gas transport, storage and distribution. A decree was also issued to establish a shared market between PEMEX and private companies. Six months later, a regulatory institution was set up, together with regulatory instruments. Freedom to import and export was established to facilitate competition in a single-producer market.

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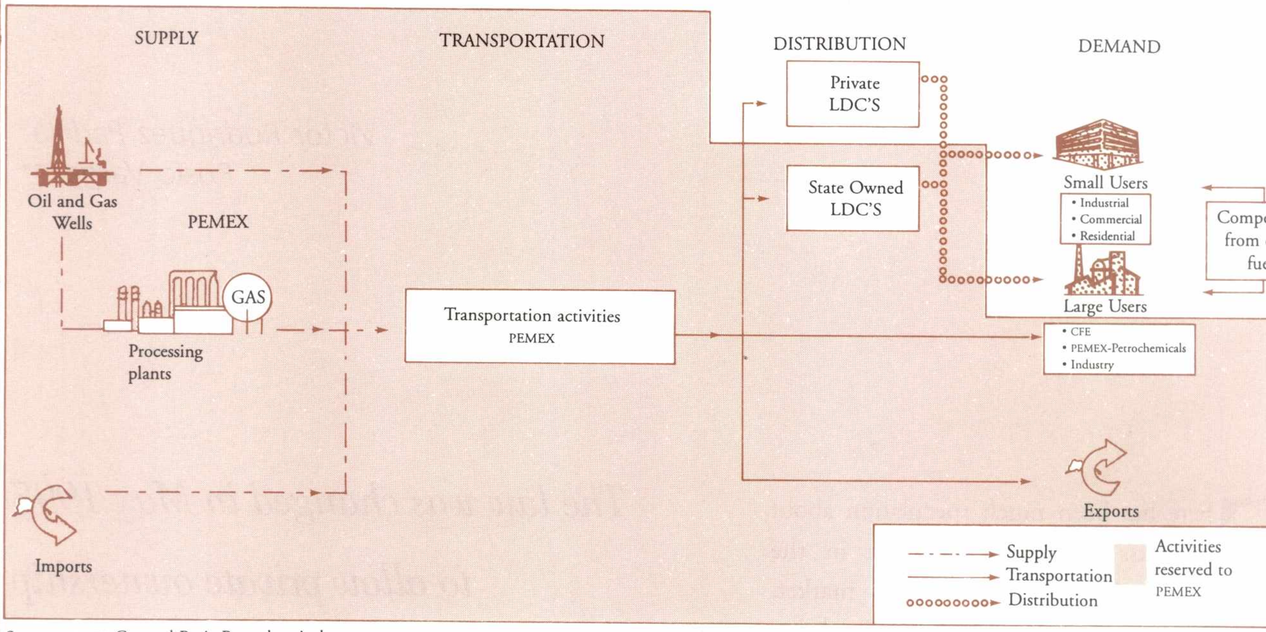
[1] M. Foss, et al., "The Economics of Natural Gas in Mexico Revisited," in *The Energy Journal*, No. 14 (3), 1993, pp. 17-49.

EXISTING NATURAL GAS INDUSTRY STRUCTURE



Source: PEMEX Gas and Basic Petrochemicals

As of mid-1995, the situation was the following: greater natural gas consumption was not affecting the crude oil export platform; Mexico's gas fields were developing quickly; private capital was being allowed to participate; and functions were being reassigned (PEMEX was in charge of downstream activities and private capital of upstream activities).

The government decided to increase production by intensifying exploitation of oil wells with high gas content in the Southeast. It also started developing gas fields in Mexico's Northeast, close to important consumption centers and in direct competition with Texan oil wells.[2] This was to prevent hard currency flight with the massive entrance of imports, foreseeable because of the potential demand and the indexing of natural gas prices to international prices.

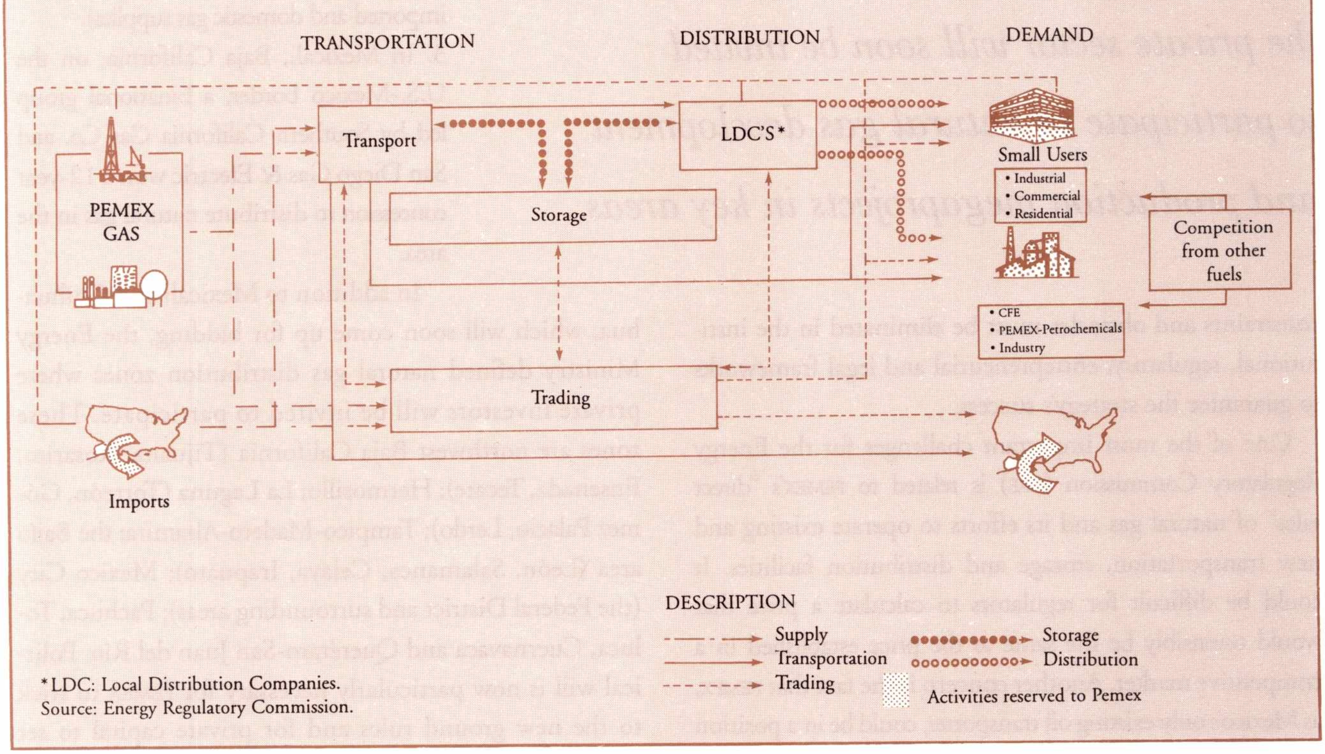
The strategic lines of action are as follows: 1) to concentrate PEMEX's attention and resources on basic activities; 2) to vigorously develop Mexico's gas fields; 3) to become efficient and competitive; 4) to allow and foster the private sector participation; 5) to promote dynamic complementation of the public and private sectors. PEMEX is in charge of developing the strategic activities of gas exploration, exploitation and processing, whereas the private sector is responsible for the secondary activities: transport, storage and distribution.[3]

This new strategy gives rise to difficult questions, and its viability depends on each participant's making the investment expected of it. This assumes that two conditions will be met: 1) that PEMEX will have the financial resources to maintain the crude oil production platform and to develop dry gas reserves; and 2) that private capital will consider the rules clear, profitability sufficient and the political risks acceptable, and that legal guarantees will be in place.

[2] At present, PEMEX is designing a proposal to fully develop Burgos Creek, located between Nuevo Laredo and Matamoros along the U.S. border, the proven reserves of which are estimated at close to 4.6 trillion cubic feet (Tcf) and the unproven reserves estimated at 6 Tcf.

[3] Ernesto Zedillo, "Iniciativa de Decreto que Reforma y Adiciona Diversas Disposiciones de la Ley Reglamentaria del Artículo 27 Constitucional en el Ramo del Petróleo," Cámara de Diputados, Mexico City, May 1995.

NATURAL GAS INDUSTRY LONG TERM VISION



*LDC: Local Distribution Companies.
Source: Energy Regulatory Commission.

It is impossible to know for sure how PEMEX will finance the development of non-associated gas fields.[4] Since the Finance Ministry tends to constrain financial operations for macroeconomic reasons, it is feasible that PEMEX will face more or less important difficulties in obtaining the resources it requires. However, the government has not closed all doors. Top energy officials have pointed out that the private sector will soon be invited to participate in natural gas development and production megaprojects in key areas such as Cuenca de Burgos or Sonda de Campeche under a service contract.[5] The official argument to propose this contract form is that there is no geological risk and that the Constitution prohibits concessions and risk contracts.

Regarding the predictable increase in domestic supply in 1995-1996, PEMEX Director Adrián Lajous has said that PEMEX may have balanced exports and imports or even produce a modest surplus for export. He foresees that as of 1998, once the new environmental regulations are enforced, imports will be needed temporarily until Mexico can expand its own production.[6]

Various official communiqués have also played with the idea of turning PEMEX into a net natural gas exporter in the next five years.[7]

What could the private sector role in this strategy be? In the 1993-2010 period, duct construction will require between U.S.$2.2 billion and U.S.$4.2 billion (at 1992 rates) which must come from the private sector. Several

[4] Non-associated gas fields are fields that yield exclusively natural gas and not oil. [Editor's Note.]

[5] Announced by Ignacio Pichardo Pagaza, then Energy Minister, during the Round Table on Energy Developments in Mexico, Mexico City, November 29, 1995.

[6] According to Pemex Gas and Basic Petrochemicals' most recent forecasts, imports are to increase, from 126 million cubic feet daily (Mmcfd) in 1994 to a maximum level of 713 Mmcfd in 1998; they will later decrease until they reach 641 Mmcfd in the year 2000 and 531 Mmcfd in the year 2005. If this happens, imports will go from 5.4 percent of domestic consumption in 1994 to 19.7 percent in 1998, finally dropping to 11.6 percent in the year 2005. See J.J. Bravo, "The Evolving Market for Natural Gas in Mexico," a paper presented at the Round Table on Energy Developments in Mexico, Mexico City, November 29, 1995.

[7] See the Energy Regulatory Commission (CRE) report, "La regulación de gas natural en México," 1995, CRE, Mexico City, November 1995.

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constraints and obstacles must be eliminated in the institutional, regulatory, entrepreneurial and legal frameworks to guarantee the strategy's success.

One of the most important challenges for the Energy Regulatory Commission (CRE) is related to PEMEX's "direct sales" of natural gas and its efforts to operate existing and new transportation, storage and distribution facilities. It could be difficult for regulators to calculate a price that would ostensibly be the same as the price established in a competitive market. Another concern is the fact that PEMEX, as Mexico's only existing oil transporter, could be in a position to completely corner distribution. "Moreover, because of PEMEX's existing depreciated pipeline system, potential investors may find it difficult to construct new facilities to compete against the price of PEMEX's authorized services. Thus, PEMEX's vertical integration could be protected by a significant barrier to the entry of any new transporter willing to serve that distribution market."[8]

Some of the current salient results in the Mexican gas industry are the following:

1. To date CRE has come up with two formal products. First, the Natural Gas Regulation and, second, the issuance of provisional permits to existing natural gas distributors and transporters.

2. Mexico allows third parties open access to transporting natural gas through its 9,751 km of pipelines in a four-step process that began September 1, 1996. This means unrestricted access to the pipeline systems located in Naco-Hermosillo, Ciudad Juárez and Piedras Negras, all cities in northern Mexico. This allows U.S. companies access to northern Mexico, where PEMEX cannot meet the demand. The final phase will begin in November 1997, with open access to the pipeline network to all users (both for imported and domestic gas supplies).

3. In Mexicali, Baja California, on the U.S.-Mexico border, a binational group led by Southern California Gas Co. and San Diego Gas & Electric won a 12-year concession to distribute natural gas in the area.

In addition to Mexicali and Chihuahua, which will soon come up for bidding, the Energy Ministry defined natural gas distribution zones where private investors will be invited to participate. These zones are northwest Baja California (Tijuana, Rosarito, Ensenada, Tecate); Hermosillo; La Laguna (Torreón, Gómez Palacio, Lerdo); Tampico-Madero-Altamira; the Bajío area (León, Salamanca, Celaya, Irapuato); Mexico City (the Federal District and surrounding areas); Pachuca, Toluca, Cuernavaca and Querétaro-San Juan del Río. Political will is now particularly necessary for PEMEX to stick to the new ground rules and for private capital to set itself up and grow. Nevertheless, there is good reason to think PEMEX will participate pro-actively:

1. The commitment to private investment in the industry originates at the highest levels of the Mexican government: the executive branch.

2. PEMEX Director Adrián Lajous and the director of PEMEX Gas both attended the November 8, 1995 ceremonies announcing the new regulations, demonstrating PEMEX's willingness to comply with the new rules.

3. The Zedillo administration has moved aggressively to eliminate goverment subsidies for liquid pressured gas (LPG), which competes directly with natural gas in many markets.

4. PEMEX is interested in complying with the new regulations: much of its gas system is under-utilized and expanding the natural gas market is possible through open access to third parties, which will also bring PEMEX more revenues.[9] The transition to natural gas is therefore likely to continue. VM

[8] David K. Shumacher, "Mexico's New Regulations: Largely Positive, a Few Questions," in *Natural Gas*, John Wiley & Sons, Inc., March 1996, p. 17.

[9] Luis Vázquez, "New Rules Set Stage for Mexican Natural Gas Industry," in *Natural Gas*, Wiley & Sons, Inc., February 1996, p. 11.