



The Restructuring of the Mexican Energy Sector

Héctor Olea

Chairman, Comisión Reguladora de Energía, Mexico

The expansion of energy sector infrastructure is a priority for the renovation of the Mexican economy. Industrial, commercial and residential users require a high-quality and competitively priced energy supply.

The energy sector plays a crucial role in the development of a competitive industry, the creation of permanent employment opportunities and an improvement in the standard of living.

The opening up of the natural gas industry by President Ernesto Zedillo has brought about a significant increase in competitively available gas. Today, the private sector constitutes an important force in the development of the natural gas infrastructure, which is of benefit to Mexican users. A regulatory framework that brings certainty to long-term investment has been the key factor behind the consolidation of the industry.

The private sector has also contributed to building new generational capacity through self-supply, co-generation and independent power production schemes (IPPs). The latter is the most important in terms of new capacity and investment. However, private participation in IPPs requires long-term power purchasing agreements, through which the government must underwrite the main risks of such projects.

As a result of the increasing private participation in energy infrastructure development, the Comisión Reguladora de Energía (CRE) has issued 139 electricity generation and import permits and 64 natural gas transportation and distribution permits during the last three years.

These permits account for investments worth some US\$4.7 billion to build and operate 7,290 megawatts (MW) of generating capacity and some US\$2 billion to build and operate more than 30,000 kilometres of pipeline.

Natural Gas Industry Structural Reform

In 1995, the Mexican government introduced far-reaching reforms in the natural gas sector, with the aim of attracting private investment and promoting efficiency in the industry. New legislation was enacted to open natural gas transportation, storage and distribution activities, as well as imports, exports and marketing to private participation.

As part of the legal reform, the responsibility for regulating the new natural gas industry was assigned to the CRE. Originally created as an advisory body to the Ministry of Energy in 1993, the CRE's role as the gas and electricity industries' regulatory agency was redefined in 1995 as part of the broader energy sector reform undertaken by the current administration. The CRE Act consolidated regulatory functions previously dispersed among several entities and enhanced the jurisdiction and institutional standing of the CRE as an independent regulatory body.

The government's roles of operator, owner and regulator were divided and clearly defined in order to establish distinct objectives for each institution, minimise conflicts of interest within them and avoid controversies resulting from concurrent roles. Furthermore, the CRE's autonomy allows:

- clarity and impartiality in the application of regulation;
- certainty and stability to encourage long-term investment;
- transparency in the making of decisions; and
- equity between investor and user interests.

The New Natural Gas Industry

The response from the domestic and foreign investor community to the natural gas industry's

Héctor Olea is Chairman of the Comisión Reguladora de Energía (CRE). During his first year as CRE Chairman, in 1995, he took a prominent role in the design of the natural gas industry regulatory framework. Since then, he has been in charge of carrying this framework into effect and has taken part in designing proposals for the structural reform of the electrical energy industry. In all, Dr Olea has 20 years of experience in the public sector. He has collaborated in the Presidential Advisor's Office, the Ministry of Finance and the Ministry of Trade and Industry. He was awarded the Tiacael Prize in 1983, the National Economics Prize in 1989 and the Chihuahua Prize in 1990 for his research work.

restructuring has been positive. Today, the private sector constitutes an important force in the development of natural gas infrastructure, which is of benefit to Mexican users. A regulatory framework that brings certainty to long-term investment has been the key factor behind the consolidation of the natural gas industry.

As a result of the 1995 reform, the ban on gas imports and exports by the private sector has been lifted and Petróleos Mexicanos's (Pemex's) role in the industry has been redefined, with gas exploration and production, processing and first-hand sales being the only activities reserved exclusively for the state-owned oil company. Pemex maintains the operation of the national pipeline system, but its distribution assets have been gradually sold to investors as part of various bidding processes for establishing new privately-held local distribution companies.

commercial and legal aspects that will regulate the relationship between users and Pemex. These conditions place Pemex on the same footing as private participants.

Electricity Industry Structural Reform

The current electricity industry structure is characterised by two vertically integrated state-owned monopolies. The Comisión Federal de Electricidad (CFE) and Luz y Fuerza del Centro (LFC) carry out, on an exclusive basis, the generation, transmission, distribution and sale of the electricity that is supplied as a public service, as set out in the Mexican Constitution.

Reforms to the Electricity Law in December 1992 created a limited opening for private participation in the sector from both foreign and domestic sources.

A regulatory framework that brings certainty to long-term investment has been the key factor behind the consolidation of the natural gas industry.

Natural gas infrastructure projects built by the private sector represent a new fuel option in over 90 municipalities within 21 states throughout the country, as well as the 16 political divisions of the Federal District. In particular, distribution permits entail the commitment to extend coverage to more than two million customers over the next five years.

Transportation projects, on the other hand, have triggered distribution projects in cities along pipeline routes, and open access is provided by transporters to their networks to further the general use of natural gas in Mexico.

A significant task for the CRE has been the issuing of Pemex's transportation permit as it evolved from an in-depth analysis of the system capacity and a careful analysis of the new rate schedule and general terms of service.

These terms define the conditions for open access, the provision of available services, the description of each of these services, the tariffs and the rights and obligations of Pemex, as well as other operational,

These reforms allowed participation in electricity generation to be made through self-generation, co-generation and the independent production of electricity (using IPPs).

The private sector currently operates 1,350MW of the total generating capacity (3.4% of the country's generating capacity) and is building power stations that will generate a further 1,088MW. Generation projects that already have the required permits but have not yet started construction account for 3,139MW of capacity.

In order to further structural reform in the electricity industry, President Zedillo submitted a proposal to Congress on 2 February 1999 to amend Articles 27 and 28 of the Constitution. The proposed amendment is aimed at increasing private participation and introducing competition in the different segments of the industry. This is designed to assure an adequate supply of reliable, high-quality and competitively priced electricity in the long term.

Structural reform must be carried out at the right time and in the right order. This will encourage the

private sector to provide the industry with long-term investment. The reform sequence may be summarised in the following steps:

- making policy decisions on the industry's long-term development;
- developing the legal and institutional framework necessary for implementing and supporting the structural reform process;
- encouraging the participation of the private sector in new investments in the industry; and
- carrying out the privatisation of public companies, as applicable.

The structural reform proposed by the government establishes the need for separating the existing CFE and LFC into specialised generation, transmission and distribution companies. The public sector would continue to have exclusive responsibility for the generation of nuclear energy and the transmission system's operation (ISO). The private sector would be able to participate fully in generation and distribution.

Competition would be introduced in those activities of the industry where it is possible, especially in generation and marketing. The activities that are still natural monopolies, such as transmission and distribution, would be subject to a system of economic regulation under a concession regime. Electricity distribution would be considered a public service.

The organisation of the new electricity industry will require significant changes to the current legal framework. It will be necessary not only to reform the Mexican Constitution and secondary legislation but also to issue a new Electricity Law and regulations.

The new legal framework would also establish the responsibilities of the electricity sector participants and define the powers of the Secretaría de Energía and the CRE, which would have important roles in the development of structural change in the sector.

In the case that Congress approves the Constitutional reform initiative, the government intends to organise the reform process in three stages in order to guarantee an ordered, smooth transition to the new electricity industry.

In the first stage, the CFE and LFC would be transformed into a number of specialised state-owned

companies, including several generating and distribution companies and one transmission company. This stage would also see the creation of a basic regulatory framework and the design of the electricity market, as well as the creation of a government entity responsible for system and market operations and a government entity responsible for nuclear generation.

During the second stage, which would see the beginning of operations in the electricity wholesale market, generation and marketing would be opened up to domestic and foreign private investment. Generators would be able to set up bilateral contracts with the new distribution companies and qualified users, with or without the intermediation of marketers.

Finally, the state-owned generation and distribution companies and transmission company would be progressively privatised.

Future Challenges

During the next few years, Mexico faces an unprecedented challenge: expanding and modernising the electricity industry to meet a demand that grows at an average annual rate of 6%. The electricity industry that Mexico needs in order to meet this challenge requires modifications to the current legal and institutional frameworks, which will allow the active participation of all sectors of the economy. Therefore, building consensus is essential for the consolidation of a new industrial organisation of Mexico's electricity sector.

Natural gas infrastructure will increase at a fast pace in order to support the building and operation of over 13,000MW of new generating capacity and the conversion to natural gas of existing stations with 4,000MW of capacity.

The emphasis placed on the activities of the industry by the CRE is now focused on inspections and review activities, which guarantee that permit holders comply with their obligations.

The CRE is optimistic about the structural reform process of the Mexican energy sector. Its expansion and modernisation are key requirements for the country's competitiveness and the economy's capacity to create jobs.

The Commission is willing to meet this challenge by giving its best effort and laying the foundations for Mexico's long-term sustainable development. ■