

THE OPENING OF THE ELECTRICITY MARKET IN EU

by

Mr. Spyros Vassos MSc.Eng

Director of transmission planning & performance

1. Introduction

One of the most important economic measures taken by the European Union (EU) in recent years was the creation of a single market for electricity and gas, based on the principles of transparent regulation and open competition.

With a combined annual turnover of about Euro 170 billion, investments of more than Euro 25 billion per year, and an installed capacity of almost 650 GW, the power sector is one of the largest sectors in the European Union Single Market.

An important factor behind the decision to liberalize this market was the realization that EU companies were paying up to 40 percent more for electricity and gas than their competitors in the USA, Canada and Australia. If energy intensive industries in the EU were to remain competitive in the global economy, energy costs had to be brought down through increased efficiency and more dynamic competition.

The Internal Market Directive for Electricity (96/92), which has triggered an unexpectedly rapid and far-reaching restructuring of EU power markets, entered into force in February 1999.

The Commission's approach to electricity liberalization has been to define a common set of regulatory principles, while leaving their detailed implementation to individual EU governments and the resolution of many technical issues to industry participants. In practice, the minimum standards set by the European Commission (EC) have led to a process of "*competitive liberalization*", as most countries have already fully liberalized their power markets or are committed to go far beyond the minimum standards set by the EC.

In early 2000, only one year after the Internal Electricity Market Directive became effective, its economic impact had already been significant. Throughout the EU, competition is eroding monopoly rents and lowering electricity prices for consumers. This trend shows price reductions in the individual Member States between 1996 and 2000. In most countries, prices have fallen further since, even though rising oil prices could reverse that trend. At the beginning of 2000, prices in Germany, for instance, had fallen by about 20 per cent for households and up to 60 percent for industrial users. As utilities are restructuring rapidly to save costs and compete, consolidation within national markets and across borders is accelerating.

2. Global trends in electricity sector

Energy markets worldwide are currently in the middle of a fundamental transformation, as a result of technological change and policy reforms. The objectives of these reforms are: to enhance efficiency, to lower costs, to increase customer choice, to mobilize private investment, and to consolidate public finances.

The mutually reinforcing policy instruments to achieve these objectives are the introduction of competition and the introduction of private participation. As a large number of developed and developing countries have successfully restructured their electricity markets, an international "*best practice*" for the design of the legal, regulatory, and institutional sector framework has emerged, it includes:

- the corporatization and restructuring of state-owned energy utilities;

- the separation of regulatory and operational functions, the creation of a coherent regulatory framework, and the establishment of an independent regulator to protect consumer interests and promote competition;
- the vertical unbundling of the electricity industry into Generation, Transmission, Distribution, and Trade;
- the introduction of competition in Generation and Trade and the regulation of monopolistic activities in Transmission and Distribution;
- the promotion of private participation in investment and management through privatization, concessions, and new entry; and
- the reduction of subsidies and tariff rebalancing in order to bring prices in line with costs and to reduce market distortions.

The electricity industry has gone through three major phases over the last century, and is now entering a fourth one. Until recently the power sector and other network industries (oil, gas, water and telecommunications) were considered to be “*natural monopolies*”. Due to technological progress and the development of new regulatory instruments, however, the introduction of effective market mechanisms is now possible.

The exact evolution of the industry has varied from country to country, but the following pattern in the development of the electricity and downstream gas markets has been observed.

Private sector investment and monopolistic market behaviour

The infrastructure investments in the late 19th century and early 20th century were largely undertaken by private companies. Private firms developed and commercialized the technologies for the production and delivery of electricity and natural gas. Local monopolies, and national and international oligopolies that used their market power to extract economic rents from captive customers, dominated the new industry. Delivery to users was generally confined to urban communities, with limited development of distribution grids in rural areas. There was little competition in the sector during this period of rapid innovation and industry expansion.

Public sector intervention and inefficiency

Around the time of World War II, a trend towards the nationalization of energy assets or at least strong government regulation of privately-owned monopolies became the norm, in an attempt to limit abuses of market power. In many countries, governments also played an important role in rural electrification, since returns were too low to attract private capital.

Throughout the EU and elsewhere, state-ownership of the electricity industry became the rule. Over time, however, public ownership and the absence of competition increasingly undermined effective management, innovation and operational efficiency. Governments used the power sector, like other state-owned industries, to artificially create employment and as an instrument to deliver hidden subsidies to parts of the economy.

Unbundling, competition, regulation and privatization

The economic costs of public ownership and monopolistic market structures became more and more apparent. In the 1970s the United States began to experiment with power sector reform. By the 1980s policy-makers in the EU, the Americas and elsewhere realized that electricity, natural gas and telecommunications were no longer natural monopolies.

Thanks to advances in technology, economic theory, and increasingly sophisticated regulatory instruments, it became feasible to introduce competition with the same effect as in other industries. Substantial improvements in operational and investment efficiency, the reduction of costs to end-users, an improvement of services, and a higher rate of innovation thus became possible. During the 1990s, electricity and natural gas sectors have been transformed through the overhaul of regulatory frameworks, the introduction of competition,

and increasing private participation. These policy reforms have been implemented in developed and developing countries alike.

Industry convergence and globalization

The fourth phase, which is now overlapping with the third, is characterized by convergence in the electricity, natural gas, and more generally the utility sector. “*Multi-utilities*” are being formed to offer comprehensive service-packages to clients and reap the associated economies of scope. As liberalization and privatization are taking hold, the industry is rapidly globalizing through international mergers and acquisitions, cross-border trade, and the creation of regional power pools. Another facet of the fourth phase is the emergence of a new “*service*” sector in the power industry, quite distinct from physical distribution, classified now as the “wires” business.

The trends outlined above have been global, but developments have been uneven across regions. North America pioneered reforms in the 1980s, but due to its federal structure has not yet completed the process in all states.

Except for the UK and the Nordic countries, Europe embraced reforms relatively late but vigorously so and is now arguably the fastest reforming continent. Latin America, the first developing region to liberalize and privatize its energy sector, has largely completed the reform agenda.

Many countries in Asia that introduced IPPs without liberalization, suffered from the consequences during the recent financial crisis, and are now moving toward the Latin American model

Probably, the two regions, whose developments are of the most significance, are Europe and Latin America. The countries of Latin America are 10 to 20 years ahead of EU states in terms of sector reform. They have experimented with different reform models and accumulated a wealth of experience, from which many states can benefit.

3. Electricity sector in the European Union

Power markets across the European Union (EU) are currently undergoing dramatic structural change triggered primarily by the European Commission Single Market Directive for Electricity (96/92). The directive, which entered into force in February 1999, obliges EU Member States to gradually open their power sectors to competition; to vertically unbundle the sector; and to ensure non discriminatory access to the transmission network.

In practice, the minimum standards set by the European Commission have led to a process of “*competitive liberalization*” across the EU, as most of the countries are going far beyond the minimum. In parallel, the trend towards privatization is gathering momentum, as an increasing number of EU governments are withdrawing from operational involvement in the sector.

Only one year after the electricity directive became effective, its economic impact had already been dramatic. In Germany, one of the most competitive markets in the EU, prices fell by about 20 percent for households and up to 60 per cent for industrial users. European cross-border mergers and acquisitions amounted to more than Euro 20 billion in 1999 alone, more than in any other region of the world.

In response to competition and new market opportunities, energy companies are restructuring, cutting costs, and offering improved services to customers. Modern power markets and innovative trading instruments are being developed across the continent and previously segmented national markets with a combined annual turnover of Euro 170 billion are integrating rapidly.

Similar developments are now under way in the market for natural gas. According to the Single Market Directive for Natural Gas, Member States (with the exception of emerging gas market countries Greece and Portugal) had to phase in competition as of August 2000. Like in

the case of the electricity directive, most Member States are opening a far greater share of the market to competition than required. The European Commission has estimated that 78 per cent of EU gas markets were nominally open when the directive became effective.

Energy markets across the EU are expected to be fully liberalized, privatized and integrated across borders within the next 5 years. European companies and households will benefit from lower prices, better services, and free choice between alternative providers. European utilities will be highly competitive as a result of cost cutting and consolidation. The EU Single Market for energy is expected to be the largest in the world, comprising not only the current 15 Member States, but also up to 13 accession countries, with a total of more than 400 million consumers.

In the last years, major changes have occurred in both the institutional framework and the organisation of the electricity sector all around Europe. As concerns the European Union the major issue has been the implementation of the Internal Electricity Market (IEM) Directive. The Directive, whose formal implementation started February 1999, integrated the huge evolution of the electricity sector already experienced in the last years in the EU.

The main provisions of the IEM Directive are as follows:

- A *full competition* in new generation capacity has been introduced. Two alternative procedures, both based on objective, transparent and non-discriminatory criteria are admitted Authorisation and Tendering.
- A gradual *opening of the generation market* to Eligible Customers, which are able to choose their electricity Supplier and have the access to the network, even if they do not own it.
- The creation of an independent *Transmission System Operator (TSO)*, which is the entity responsible for running the high voltage transmission grid.
- The *Third Part Access (TPA)* to the network can be Negotiated, Regulated and, as far as non-eligible customers are concerned, through a Single Buyer with repurchasing obligations.
- The electricity undertakings are required to provide, at least, a *Management Unbundling* of TSO from the other activities in order to increase transparency, to prevent cross-subsides and to identify eventual abuse of dominant position. Different degrees of unbundling have been selected by the Member States.
- The set up of an *Independent Dispute-settlement Authority* in order of assuring equal and fair application of the new market rules.
- Transitional measures of *Reciprocity* between member states can be applied in case of progressive opening, differences in market opening, imbalances in rights and obligations of the electricity companies.
- *Public Service Obligations (PSO)*, which must be objective, transparent, non-discriminatory, verifiable and published, allow for derogation from the directive provisions concerning construction of new capacity, TPA and construction of direct lines. PSOs include matters as the security and regularity of supply, the quality of the service, prices and tariffs, environmental aspects.

As concerns the remaining issues for a full implementation of the EU Internal Electricity Market (IEM), they deal with the cross-border trade, like tariffs and congestion management as well as other concerns, like energy taxes, renewables, environment, and others.

The current electricity and gas Directives provide for partial opening of European Union energy markets, extending customer choice to larger energy users. However, the ultimate objective of Member States, voiced at the European Council at Lisbon, is the development of a single internal market for energy in Europe with full market opening.