

THE PORTUGUESE ELECTRICITY MARKET IN THE EUROPEAN UNION: AN UNTENABLE MODEL?

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A implementação do Mercado Interno de Electricidade evidencia que, de uma forma geral, o grau de realização está no bom caminho já que alguns Estados-Membros excederam mesmo os valores mínimos acordados, o nível médio de abertura do mercado ronda os 60% - ou seja, muito superior aos 25% impostos pela Directiva Comunitária 96/92 - tendo a maioria dos países optado pelo Acesso de Terceiros à Rede (ATR) regulado. Neste contexto, o sector eléctrico português, enquanto sistema misto com parte dentro do sector público e um sub-sistema paralelo privado, parece difícil de manter. O forte grau de liberalização actual do sector em Espanha parece vir a comprometer ainda mais a manutenção do modelo adoptado. Neste artigo, são discutidos os principais vectores desta problemática no âmbito europeu e, em especial, dos problemas que se adivinham.

The implementation of the European Electricity Market gives a good overall impression: some Member States exceed minimum values, the average market opening is about 60%, much more as requested by EC Directive (25%) and the majority of countries opted for regulated TPA. Among the european variety, the portuguese electricity sector shows a low liberalisation degree, remaining a mixed system comprising a public sub-system and an independent electrical system. This feature together with the strong liberalisation degree of the spanish system seriously compromises the maintenance of such a model. This paper briefly describes the design and functioning of the portuguese electricity market and discusses its main features and rules in the european present situation and possible scenarios.

PALAVRAS-CHAVE: electricidade, desregulação.

KEYWORDS: electricity, deregulation.

1. INTRODUCTION

Market reforms are being introduced everywhere in the electricity sector and are radically changing this industry.

The European Parliament and Council Directive (96/92/EC) implementation seems to be on a good way. Some member states exceed minimum values, the average market opening is about 60%, which is much more as requested by the Directive (25%) and the majority of member-states opted for regulated Third Party Access (TPA). However, several possible problems may compromise the Internal Electricity Market (IEM) goals, namely those related to different market conditioning, to transmission system, to system operators, to the need for harmonisation concerning green power and to stranded investments, which can distort competition.

Meanwhile, the EC seems to be confident on the Directive to act as a trigger and that Market forces can help to overcome those many "teasing" problems.

In this liberalisation wave, the portuguese mixed electricity system may face serious problems to be fully integrated, namely with the spanish system, which had previously a similar structure but that is now far more liberalised: on a 1 to 12 scale, the spanish system would be 11 against 1 to the portuguese system.

This paper does not pretend to give a detailed overview about the above critical issues, nor does it attempt to formulate definite answers. However, it is an attempt to present a critical analysis of the portuguese model and recent reforms, specially in relation to the spanish case.

2. THE LIBERALISATION PROCESS: FROM 1975 TO 1995

Since 1975, the portuguese electricity industry has gone through dramatic changes. The restructuring process started with the nationalisation of 13 independent concessionaires in 1975, followed by a merger into a fully integrated monopolist company called "Electricidade de Portugal,

EP" (EDP) in 1976. EDP was in charge of all the electricity transmission and distribution in mainland and accounted for 95% of total production (generation).

Thirteen years later, Decree-Law nr. 189/88 of 27th May became the first significant liberalisation measure, opening the electricity sector to small private (hydro and cogeneration) power producers and requiring EDP to buy power offered to it at a regulated price. Next December, Decree-Law nr. 449/88 permitted the access without restrictions of private parties to generation, transmission and distribution of electricity for public consumption. In fact, it amended Decree-Law nr. 46/77, which had barred private business activity from important economic sectors, including electricity.

From 1991 to 1995, legal reform and industry restructuring were pushed forward. By Decree-Law nr. 7/91 of 8th January, EDP changed from a public utility into a (state-owned) joint-stock company. The unbundling of EDP is quite clear on Decree-Law nr. 99/91: the National Transmission Grid is individualised as a concession and it is pointed out as technical manager of the Public Supply System (SEP – Sistema Eléctrico Público), then being quite evident the separation of three main activities of the electricity sector: production, transmission and distribution. In 1994, Decree-Law nr. 131/94 of 19th May unbundled the company into smaller companies directly or indirectly 100% owned by EDP, corresponding to the following business activities: Production (only one company CPPE – Companhia Portuguesa de Electricidade, S.A.; small hydro and eolic plants being owned by smaller specific companies); Transmission (one company REN – Rede Eléctrica Nacional); four regional distribution companies (EN – Electricidade do Norte, S.A.; CENEL – Electricidade do Centro, S.A.; LTE – Electricidade de Lisboa e Vale do Tejo, S.A.; SLE – Electricidade do Sul, S.A.); and ten service companies.

In 1995, the government introduced a mixed system, maintaining a core area within the public sector and stimulating simultaneously, a parallel system of private supply from both domestic and foreign entities. A legal package (Decree-Laws nr. 182 to 188/95) published in July defined the new structure and organisation of the national electricity sector.

Meanwhile, the privatisation model proposed by the Social-Democratic governments till October 1995 was turned primarily to CPPE, the production company of EDP Holding Group. However, the Socialist Party victory in October 95, deeply changed the previous philosophy of privatisation. Instead of CPPE-oriented, privatisation has been oriented to EDP Holding Group, a clear option for a national, large, vertical group (Soares, 1998).

3. THE MARKET ORGANISATION

The main features of the National Electrical System (SEN) have not changed since 1995. *Figure 1* shows the market organisation and how it works.

The National Electricity System (SEN) has two sub-systems: the Public Utility System and the Independent System. The former must satisfy demand under the principle of a uniform tariff on mainland, which moderates the application of market rules. It also has centralised planning. The latter, has no responsibility for public service and comprises two sub-systems:

- the Non-binded system (SNV)
- the Independent producers

The Non-binded System (SNV) operates by market rules and comprises producers, distributors and (non-binded) clients. Non-binded producers and clients are allowed to use the Public Utility System Grid by means of a fee. Non-binded producers over 10 MVA, which are linked to the Public System, must be under central dispatch. Non-binded distributors must have High or Medium Tension wires connecting (non-binded) producers to (non-binded) clients, both of them not physically connected to the Public System.

MARKET ORGANISATION

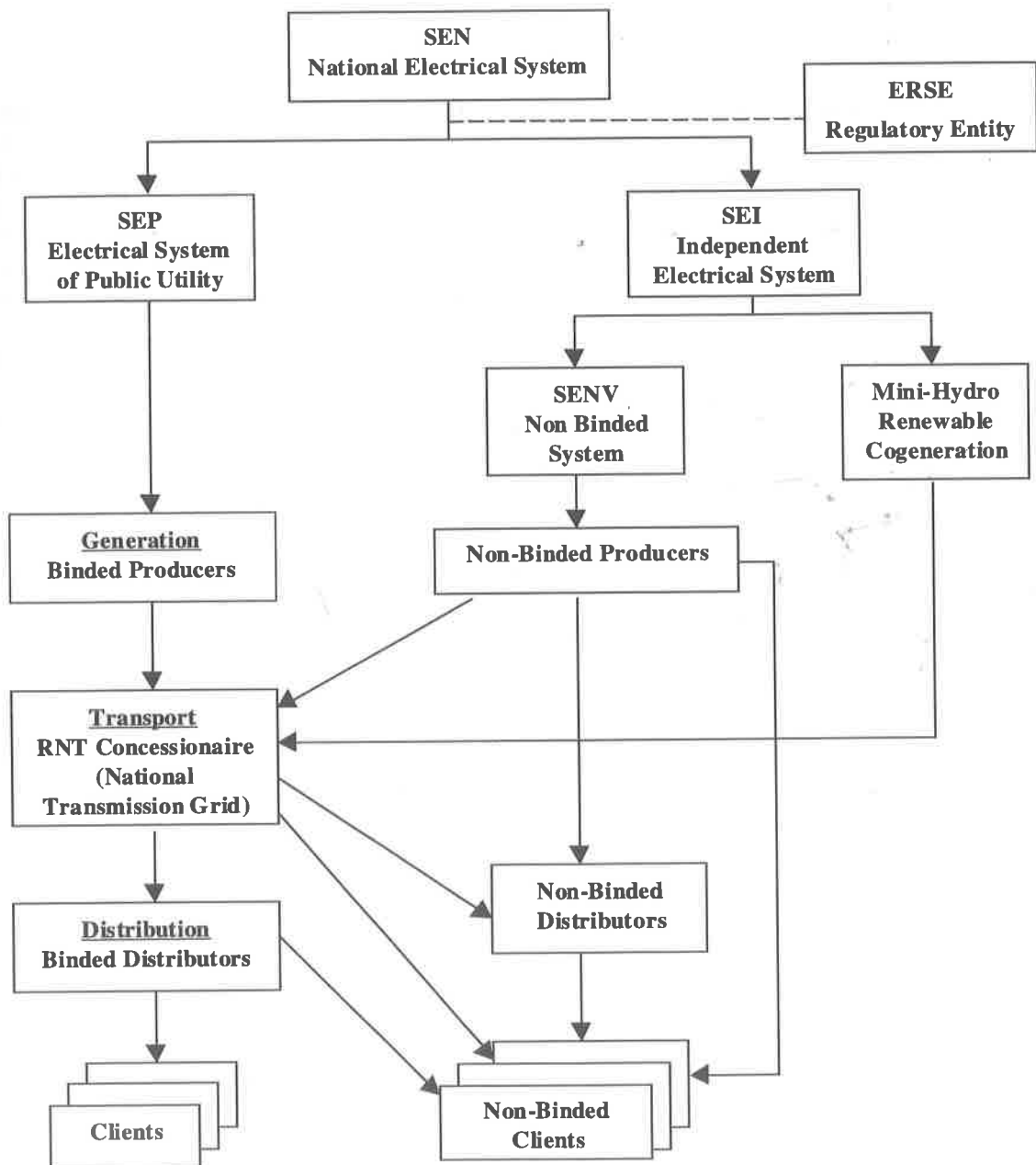


Figure 1 – The Portuguese Electrical System

Until September, any client could join the non-binded system since a minimum consumption of 100 Gwh/year was granted, on Medium or High Tension. However, by the new Regulation, ERSE – the Regulatory Entity, may revise this limit every three years, taking in account the market opening as a result of 96/92/CE Directive of 19 December. In fact, the minimum amount will be related to the minimum consumption forecast for the next 12 months after the formal demand of non-binded client statute.

Independent producers include hydroplants up to 10 MVA, renewable energy sources and co-generation plants.

Changes have also been introduced in 1996 on Planning. In the former project, the Planning Entity should be appointed by the National Transmission Grid Concessionaire and by entities with distribution binding licences. Meanwhile, since 1997, the Regulatory Entity is active and carries out regulation, and the General Department of Energy (Direcção – Geral da Energia) has planning competencies and performs consulting and selection of new generation operators.

Electricity and services supply to network users can be made either by:

bilateral physical contracts

short – term contracts (1 year)

offer system

Bilateral physical contracts concern electricity supply and electricity demand whose amounts, prices and conditions are agreed (in the contract).

On short-term contracts, the offer manager participates to offer agents, the electricity (and system services) purchase and sale offers.

According to the offer system, the Offer Manager – the National Transmission Grid (RNT) concessionaire – matches daily purchase and sale offers (both of electricity and system services) and establishes a daily contract program based on the Dispatch Regulation, promoting trade relationship between the Public System (SEP) and the Non-binded System (SENV).

Daily offers are communicated by RNT concessionaire to the System Manager who will be in charge of its management. The Offer Manager also receives short-term offers of purchase and sale and makes them accessible to all offer agents, through the promotion of short-term contracts. It also receives information about physical amounts established on bilateral contracts and transmits it to the System Manager.

Non-binded producers having thermoelectric units over 10 MVA linked to the Public System Grid must present annual declarations of energy sale to the offer manager, where sale prices of the electricity produced beyond that agreed on bilateral physical contracts are clearly stated.

But non-binded producers may also have better sale conditions than those stated on their annual sale statement, through a daily statement of energy sale to the Offer Manager.

Also non-binded producers with hydroplants over 10 MVA linked to the Public System must present a sale declaration to the Offer Manager, concerning electricity that they can supply beyond that agreed on bilateral physical contracts. To do that, they may use either the annual sale declaration or the daily one.

In the same way, annual declarations of purchase may be presented by offer agents and by the MT and HT licensed distribution entities on the sphere of their free part, to the Offer Manager. The offer agents can also propose purchase offer without price statement. A daily declaration of electricity purchase may be presented.

4. THE SPANISH MARKET STRUCTURE

The spanish electrical power industry is the fifth largest in the European Union with 43,549 MW of installed capacity and 162,034 MGh demanded in 1997.

The December 94 Law was the first step towards the liberalisation of the spanish electric power sector. Almost two years later, in November 1996, an Electric Protocol was signed by the main electric utilities and the Government. This Protocol required a higher level of liberalisation than the EU Directive. This process was finally completed in 1997 with the 1997 Electricity Act that introduced a gradual liberalisation of the generation and distribution of electricity while transportation remains regulated. During a transition period, which began in 1998 and will last five years, tariffs are going to

be regulated and the existing firms will receive a fixed amount of money for those costs incurred during the regulation period that were not optimal in a more liberalised framework (Cost of Transition to Competition – CTC).

Under this liberalisation process, an electricity pool, which started operating in January 1998, is organised as a double auction where agents can make both buying and selling bids. However, during the transition period, the incentives of the generating firms are somewhat distorted because the repayment of their CTCs is affected by the difference between the pool price and the tariff (Diaz and Marim, 1998).

The Spanish electrical system comprises:

- generators
- independent power producers (co-generation, renewable, etc)
- distributors
- transmission companies
- suppliers
- the system operator
- the market operator

Third Party Access (TPA) was established in the 1994 Law and reiterated by 1997 Electricity Act regarding transmission and distribution networks. As natural monopolies, transmission and distribution remain regulated activities. REE – Rede Eléctrica de España is the main owner of the Transmission Grid. Open access to networks under regulated prices applies to the qualified operators⁶¹.

The electric companies are currently vertically integrated⁶². According to the 1997 Electricity Act, the companies carrying out regulated activities – like economic and technical management of the system, transmission and distribution – cannot perform generation or retailing activities. Although the unbundling of regulated and non-regulated activities must be accomplished before the end of 2000. However, ownership unbundling will not be required.

There is a high degree of horizontal integration of the generation activity, which can bring about market problems. Therefore, the regulator is concerned about this issue.

The whole market is organised in several markets:

A daily market based on a mandatory bid regime for units whose installed capacity is larger than 50 MW.

A market of bilateral physical contracts has also been established.

A first version of the intra-daily market was introduced on 1/4/1998.

A retail market has been created as well. Supply, which is separated from distribution activity, is the sale to “qualified” consumers. Distributors sell electricity to clients who want to remain under regulated tariffs.

A System Operator is in charge of the operation of security aspects in the transmission grid.

A Market Operator was also created. It settles transactions in the electricity pool, matches operations, in the wholesale market and settles payments between agents.

Both the Market and the System Operators shareholding structure may be formed by any individual or body corporate provided that their total direct or indirect stake in the company's share capital is no greater than 10%. The total sum of the direct or indirect stakes of agents carrying out activities in the electricity sector must be no greater than 40%⁶³.

Since June 1998, all electrical utilities are private: Hidruña, Unelco, Enher, Viesgo, ESE, FECSA, Endesa, ERZ, GESA, U. Fenosa, Iberdrola, H. Cantábrico. The largest (operating revenue, earnings before tax and trading results) are Endesa and Iberdrola. The State maintains a 25% of capital in REE, the grid operator.

A future market has not been excluded, but it has been not yet considered.

The establishment of new generation capacity is free. The planning process, except for the transmission activity, is not mandatory. Consumers recording annual consumption over 15 GWh are qualified customers and they may purchase electricity via a regulated tariff or from the organised

⁶¹ Open access can only be limited for security or lack of capacity reasons.

⁶² generation and distribution

⁶³ These shareholdings may not be syndicated under any circumstances.

wholesale market or from a free retailer. Also rail transport installations owners (including metropolitan railways) are considered qualified consumers.

From 1st January 2 000 onwards, 15 GWh level will be reduced to 96 GWh. Until 2 007, this level will be progressively reduced. From then onwards, all consumers of electric power shall be regarded as qualified customers.

The Spanish power sector is regulated by the National Electricity Regulatory Commission (CNSE) created by the 1994 Electricity Act, and the Ministry of Industry and Energy at national level, and the autonomous regions at a regional level. CNSE is responsible for competition supervision in electricity markets and may act in relation with mergers and restrictive practices on competition.

5. SOME CONTROVERSIAL ISSUES

Like for other European liberalisation processes, only a small number of qualified Spanish consumers – from 600 companies that could do it – have already chosen their supplier.

According to some representatives of Spanish electricity companies, the most significant issue of this liberalisation process is the revision of the tariff structure. An effective commercialisation of electric power requires a tariff structure that reflects real costs. In fact, there are some aspects that have not been solved yet, but that are crucial in these kind of liberalisation processes, namely: the determination of the electric power distribution reward model and the decrease of tariffs concerning grid access.

It must be noticed that consumers have got a large (eventually, the largest) benefit from liberalisation, but only indirectly.

Instead of being the result of liberalisation, tariffs decrease has been the consequence of an agreement between companies. However, shareholders represent a very serious lobby against further decreases. This also applies, of course, in the Portuguese case.

Another controversial issue is the opening of the Spanish market to foreign electrical companies. Three companies seem to be well positioned: French EDF, Portuguese EDP and Morocco ONE. But also American ENRO, which will probably become the fifth company in the electrical power market. American AES Corporation has also presented a project to install a combined-cycle plant in Cartagena next to an ENRON plant of the same type. National Power has entered into negotiations with Italian EDISON to buy 25% of UNIÓN FENOSA production business. Indeed, the Spanish market seems attractive (Soares

On the other side, electrical power generation is starting to exceed demand, which together with the Protocol, which was the basis of the liberalisation process, can explain the tremendous need of Spanish companies to grow outwards.

6. CONCLUSION

Partnership between Portuguese EDP and Spanish companies (Iberdrola) is already real both in the Peninsula but most of all in South-American privatisation process of electrical utilities.

Both systems have particular challenges and problems and they are quite different from one another. Beyond dimension and supply structure (hydro, nuclear, coal, fuel, co-generation, renewable), we also face two completely different liberalisation models.

The Portuguese EDP has one of the best strategic positions on domestic market among European electrical companies, mainly because the liberalisation level is still rather cautious.

However, the Regulatory Entity (ERSE) performs a very risky task, as it may be caught in Capture Theory – like situation: the regulator may be captured by the system it is supposed to regulate, due to the hegemonic position of the main operator.

While in Spain, prices may change intra-daily, in Portugal prices are subject to the Tariff Regulation published by ERSE (which establishes both criteria and methods to determine tariffs and prices) or the Commercial Relations Regulation also published by ERSE concerning supply of special regime producers to the Public System and guarantee supply contracts between RNT Concessionaire and Non-binded System entities.

The (natural) expansion of spanish electrical companies into the portuguese market and the opening of spanish market to the portuguese producers, requires a complete change of regulation concerning the access regime and interconnections.

The Portuguese Regulation published last September has been a definite step to solve problems concerning technical and commercial conditions of access to interconnections. From the portuguese side, there will be no more trammels to the relationship between producers and purchasers of both markets.

It will be quite interesting to see what is going to happen in the next year, both on the spanish side regulation, and on what kind of dynamics will emerge from two such different electrical systems. In fact, interconnections between Spain and France seem compromised, which may become an extra pressure to get portuguese clients, what means a serious competition threat to the much less liberalised and less competitive portuguese electricity system.

Will it be possible to sustain a system where domestic clients are not completely free to choose their suppliers due to the coexistence of a Public System and a Non-Binded System? We don't believe so. Then, the portuguese mixed system should be faced as a transition model.

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