



THE NEW SPANISH ELECTRICITY ACT AND THE INTRODUCTION OF A COMPETITIVE ELECTRICITY MARKET IN SPAIN.

1.- INTRODUCTION

In January 1998 Spain joined the group of countries who have already reformed their electricity sector. In November 1997 the Spanish Parliament passed the new Spanish Electric Power Act. The Act lays the foundations for industry, in accordance with international experience and going well beyond the guidelines of the European directive on the internal electricity market.

The 1997 Electric Power Act leads to major changes in the rules that govern how the sector operates. In addition to opening up the sector to free competition, it modifies the sector's business and organisational structure, requiring the legal unbundling between regulated and unregulated activities and promoting the entry of new players on the scene. All these changes will be phased in gradually during a transitional period, establishing a 10 year deadline for a complete liberalisation of the electricity sector. Lastly, the Act redefines and reinforces the role of an independent regulatory authority, which will referee this new game in which players will have to abide by new rules.

This paper briefly describes the reform plans involved in the development of the 1997 Act, focusing attention on the restructuring and privatisation of the sector, the institutional design (bulk market, access to the grids and retail market), the adopted period established for the transition to a fully liberalised market, tariffs path, explicit stranded costs recognition, etc.) and the role that the regulatory authority will play throughout the process.



2.- RESTRUCTURING AND PRIVATISATION OF THE SPANISH ELECTRICITY SECTOR

The main feature of the Spanish electricity sector reform, as envisaged in the new Electric Power Act, is that it changes the rules of the game by introducing competition into the sector, and by making the necessary changes in the sector's structure in order to do so. Regulated and non-regulated activities are clearly divided. Regulated activities include transmission, distribution, Market Operation, System Operation and supply to non eligible consumers, and non-regulated activities include generation and retailing.

At present, Spanish electricity companies are vertically integrated (see figure 1) - generation, distribution - and the new Act implies that generation and distribution activities will have to be legally unbundled before the year 2000, going beyond mere accounting separation. Nonetheless, the Government could require companies to advance such unbundling to 1999 and, in any case, it does require that the accounts of both businesses be kept separately. Therefore this separation is restricted to the activities, not the ownership, so the same shareholder can have interests in regulated and non-regulated activities concerning transmission, most assets are owned by a separated company.

To complete the vertical restructuring of the Spanish electricity sector, the Act creates two new independent Agencies, the Market Operator and the System Operator. The Market Operator will be responsible for the economic management of the system, matching supply and demand on the bidding market, while the System Operator will be responsible for the technical management of the system, maintaining the levels of quality and safety.



The law requires that these new two institutions be independent from utilities. Any entity may form part of its shareholding structure, provided that it does not own more than 10% of the share capital, either directly or indirectly, and provided that the electricity companies do not own more than 40%. Transportation and system operation are two activities clearly separated by the law. Nonetheless, a transitory provision allows REE, the company that owns most of the high voltage grid and which in the previous regulatory framework managed and operated the system to act as the System Operator and manage the transmission network under the new regulatory framework. A brand-new company has been created to fulfil the role of Market Operator.

Unlike the vertical structure, there will be no changes for the time being in the horizontal structure, in spite of the present high level of concentration within the sector. As a matter of fact the Government's privatisation plans will not be used to reduce the concentration within the electricity sector.

One of the key objectives behind the sector's reform is to reduce the State's role in the electricity sector. The Government's plans include reducing public participation in the Spanish electricity sector, thus transforming the ownership structure of Spanish electricity companies. Proof of this has been the sale by the state of 25% of the capital of Endesa at the end of 1997, one of the largest operations of its type in the history of the Spanish Stock market. This process will continue in 1998 with the sale of the rest of the share capital of Endesa and with the reduction of the State's presence in the transmission company (REE) and the System Operator .

3.- NEW REGULATION OF THE ELECTRICITY INDUSTRY

Liberalisation of the electricity supply industry involves turning generation and retailing into competitive activities, and allowing free access to the transmission grids



and distribution, even though these will remain regulated activities. Also, qualified consumers will be given the right to choose their own electricity company and to access the networks to buy electricity. Each of those aspects of the new regulation will be examined in turn

3.1. Generation : Competitive Wholesale Market

Under the sector's new regulatory framework, generation activities will be completely liberalised. Unlike the previous regulatory framework, new players will be allowed to enter the market, complying with a series of environmental and legal requirements and being granted authorisation.

Electricity generation on the bulk electricity market is governed by competitive mechanisms. The main feature of this market is its institutionally flexible design, given that transactions will be conducted in one of two ways : either in an organised way through what is known as the electricity pool, or bilaterally between two parties. The general structure of the market is described in figure 2.

The bidding market is a centrally-managed system in which the players on the production and demand side of the market put forward bids to sell and buy electricity. This market is actually formed by two sub-markets, the daily bidding market and the intradaily bidding market. On the daily bidding market, electricity is exchanged by means of an auction procedure, in which sellers and buyers send in their bids to sell and buy electricity for each of the 24 hours of the next day. The Market Operator is responsible for matching up the selling and buying bids sent in by the different players.

There is also an ancillary service market, which is a transaction mechanism used to guarantee adequate supply. This market is run by the System Operator, in this case Red Eléctrica de España, S.A. (REE), which is responsible for guaranteeing quality and safety, and for co-ordinating production and transmission.



Generators are remunerated in line with the system's marginal price, which emerges after the Market Operator has matched all bids. They also receive a capacity payment to remunerate the guarantee of supply actually provided to the system, and a price for the ancillary services supplied. Demand and market prices for the first months of operation of this market are summarised in figure 3.

The new Act allows different types of bilateral trading, although in practice there are two basic types: financial and physical contracts. The Act also envisages the possibility of a standardised futures market being set up when the new system has begun operating. All Pool members, regardless of whether or not they are physically supported by generation or consumption units, will be entitled to the use financial contracts. However, only producers or qualified consumers, i.e., players with the physical capacity to produce or consume electricity, will be allowed to be party to physical bilateral contracts. Transactions subject to bilateral trading contracts will not have to go through the Pool, although the Market and System Operator must be notified about the amounts involved in order so that they can be taken into account in the schedule.

Apart from the aforementioned physical bilateral contracts, the exceptions to the supply market include Special System generation, co-generation, renewables and generation on the islands and areas outside the mainland, in other words, the Balearic Isles, Canary Islands, and Ceuta and Melilla.

Finally, the new organisation of generation in the Spanish electricity system includes liberalisation of international electricity exchanges. To date, these exchanges have been handled centrally by REE, basically through long-term contracts with France, and short terms operations with France and Portugal, performed to maintain the quality and guarantee of supply in the system. Under the new regulatory framework, market players will be free to accomplish international electricity transactions, either through



the Pool, or by means of bilateral contracts. The exchanges still in force in the long-term contracts signed by REE will be excluded from the competitive bulk market, and will be paid at the price stipulated in the contracts. Any exchanges that the System Operator has to make in the very short term in order to guarantee supply will also be excluded from the competitive bulk market.

Despite being liberalised, international agents must be authorised by the Ministry of Industry and Energy. Even so, according to the Directives, the Ministry will only be able to refuse permission if there is a lack of reciprocity.

3.2 Transmission and Distribution

Transmission and distribution are natural monopolies, and these activities will remain regulated in the new environment in which the Spanish electricity sector will operate in the next few years.

The regulations governing these activities will include remuneration to allow operators to recover their investments costs, and the costs of operating and maintaining the facilities. However, the main new regulatory development in these two activities is that the Act guarantees all authorised agents third part access to the transmission and distribution grids. In accordance with the provisions of the European directive on the internal electricity market, the Act provides for free access to the grid, on payment of a Government-approved fee, which will be the same throughout the country, only differing in terms of voltage levels.

3.3 Retail market

Another feature of the liberalisation of the Spanish electricity sector is that it seeks to promote competition in the last phase of the electricity business : supply and sale of electricity to the end consumer.



To do so, first of all the Act introduces eligibility into the system, allowing consumers to choose their electricity supplier. This element of reform, which can also be found in all the countries that have already liberalised their electricity sector, will be phased in.

The following table shows how the retail market will be opened up to competition, starting in 1998. Demand will be liberalised gradually, starting with the largest consumers, i.e., those with an annual consumption of more than 15 GWh. By the beginning of 2007, all consumers will be entitled to choose their supplier.

Table 3
Free Choice of supplier in the Spanish electricity sector

DATE	CONSUMERS
1.1.1998	Consumption \geq 15 GWh
1.1.2000	Consumption \geq 9 GWh
1.1.2002	Consumption \geq 5 GWh
1.1.2004	Consumption \geq 1 GWh
1.1.2007	All

The Act differentiates an activity that did not exist as a separate activity in the previous regulations, and formed part of distribution: retailing. Retailers will be the newcomers to the electricity sector, and will buy electricity and sell it to qualified consumers.

To date, the only players in the regulated retail market have been the traditional distributors, with the incorporation of electricity retailers marking the free entrance of new players. Even so, retailers will have to apply for administrative authorisation and in doing so specify the geographical area where they intend to operate.



These new retailers will compete with the traditional distributors in selling electricity to qualified consumers, but with one transitory exception. Distributors will have the monopoly of selling electricity to captive consumers, i.e., the consumers who cannot choose their supplier from the very outset of the reform. In exchange for this captive market, distributors will have to meet all new supply needs in the geographical area in which they operate.

4.- THE TRANSITIONAL PERIOD

The objectives of the new Act, namely to reorganise the Spanish electricity sector and set up a competitive market, will be phased in. Market players have been given a transitional period of 10 years, from 1998 to 2007, to adapt to the new environment. This transitional period has been included in order to guarantee the financial stability of the sector's companies and also to allow consumers to gradually increase their option to choose the electricity supplier that best suits each one, and to guarantee that consumers can choose a regulated tariff.

During the transitional period, companies in the sector will be entitled to payment of "costs of the transition to competition" (CTC). This fixed remuneration, which will come out of the electricity tariff, must be paid by all electricity consumers

without exception, including those who are entitled to choose their supplier. The CTC will allow companies to recover a maximum of almost 12 billion Euros, and is defined as the difference between the revenues obtained by the companies through the tariff and the mean remuneration obtained from the market, including the guarantee of supply and complementary services. If the price on the bulk market exceeds the established ceiling, the balance of transition costs pending recovery will be reduced by the same amount. In comparison with other potential systems to collect the "stranded costs" ("vesting"



contracts, implicit charge over the transmission rates, etc.) the Spanish System has the clear advantage of its transparency.

In accordance with a previous agreement signed between the Ministry of Industry and the utilities, the so called "Protocol", and, in order to allow consumers to benefit from the reform, tariffs will gradually decrease during the transitional period. In 1998 tariffs have gone down a 3,63% and a decrease of at least 1% is planned for the years 1999, 2000 and 2001. This measure is unprecedented in the history of Spanish electricity tariffs and it consolidates the process that began in 1996, when tariffs were frozen and 1997, when tariffs were cut by 3%, after decades of systematic rises (see figure 4).

It should be emphasised that the aforementioned tariff cut objectives could be larger if certain variables, such as the growth of demand or interest rates, fare better than forecasts. As a matter of fact, the cut actually applied in 1998 was 1.63% higher than initially forecast. In the year 2002, when the operation of the new model and the situation of the sector have been tested, the Government will decide the rates until the year 2007, which is the end of the transitional period.

Other transitory provisions will also allow other parts of the system currently unaffected by the principles of competition, such as electric power generation on the islands and outside the mainland, to adapt to the characteristics of a incentive base regulation.

5.- THE ELECTRICITY INDUSTRY REGULATOR

The new regulatory framework for the Spanish electric power sector set out in the 1997 Electric Power Act goes one step further in the sharing of regulatory powers



and duties between the Ministry of Industry and the National Electric Regulatory Commission (CNSE).

The CNSE, which was created by the LOSEN in 1994, has been operating since 1995 and is the first independent regulatory authority of the Spanish electricity sector. This regulatory commission was set up to perform a series of duties within the framework of the previous electricity Law, LOSEN, which represented a different model of regulation to the one that will eventually be adopted (even the original name of the regulatory body was slightly different¹). Under the new Electric Power Act, some of the powers and duties of the regulatory commission has been adapted to the new model of regulation, while some of its existing powers will be reinforced.

As of 1998, the CNSE will be governed by a Board of Commissioners consisting of a Chairman and eight Members (as compared to only six members under the previous law). The Chairman and the Members are appointed by the Government from among persons with acknowledged professional ability, after appearing before Parliament, this appointment will last for a six-year term which may be extended for another six years. Nevertheless, the Commission will partially renew its members every three years.

Pursuant to Article 7 of the Act, the CNSE is supported by a Consultative Council, which will act as the advisory body to the Commission. It is formed by representatives of the sector, the Government, the Autonomous Regions and other social agents. The main objective of the Consultative Council is to report on the activities carried out by the National Electric Regulatory Commission when performing the functions assigned to it.

¹ The authority used to be called the *Comisión del Sistema Eléctrico Nacional* (CSEN), but now is the *Comisión Nacional del Sistema Eléctrico* (CNSE).



In general terms, the main duties of the CNSE are to ensure that activities in the sector are carried out in the framework of free competition, with transparency and objectivity. In practice, these objectives follow the functions assigned by the Act.

Broadly speaking, the CNSE has been assigned regulatory, consultative, arbitration, inspection, disciplinary and executive functions. Nevertheless, compared with other independent regulatory bodies, the CNSE only has a proposal role with respect to tariff setting.

6.- FINAL CONSIDERATIONS

From the previous exposition we can deduce that four basic principles are guiding the profound changes in the Spanish Electricity regulatory framework which has culminated in the 1997 Electricity Act:

- **Competition**, obtained through the introduction of a spot market open to supply and demand bids, the explicit recognition of physical bilateral contracts and the delimitation of a gradual process of consumer eligibility. This process goes beyond the minimum levels required for the European Union Electricity Directive, establishing the eligibility of all the consumers by 2007.
- **Transparency**, derived among other things from an incentive-based regulation of non competitive activities (distribution, transportation and non eligible consumer retailing), the explicit recognition of a maximum amount of Stranded Costs to be recovered by the utilities during a ten year transition period, the design of published tariffs for a regulated system of access to transport and distribution networks and the appointment of the CNSE as the independent regulator of the system.
- **Consumer benefits**, in the long run derived from the positive effects of the competitive market on service price and quality for eligible consumers, and



obtained in the short run from a decrease on monetary terms in the regulated tariff. This decrease was initiated in 1996, under the framework of a previous Law which led to the creation of the CNSE, and it has been extended by the new Electricity Act to the first part of the transition period (1998-2001).

- **A smooth transition:** during the years to balance the radical character of the regulatory change.

FIGURE 1

STRUCTURE OF THE SPANISH POWER SECTOR

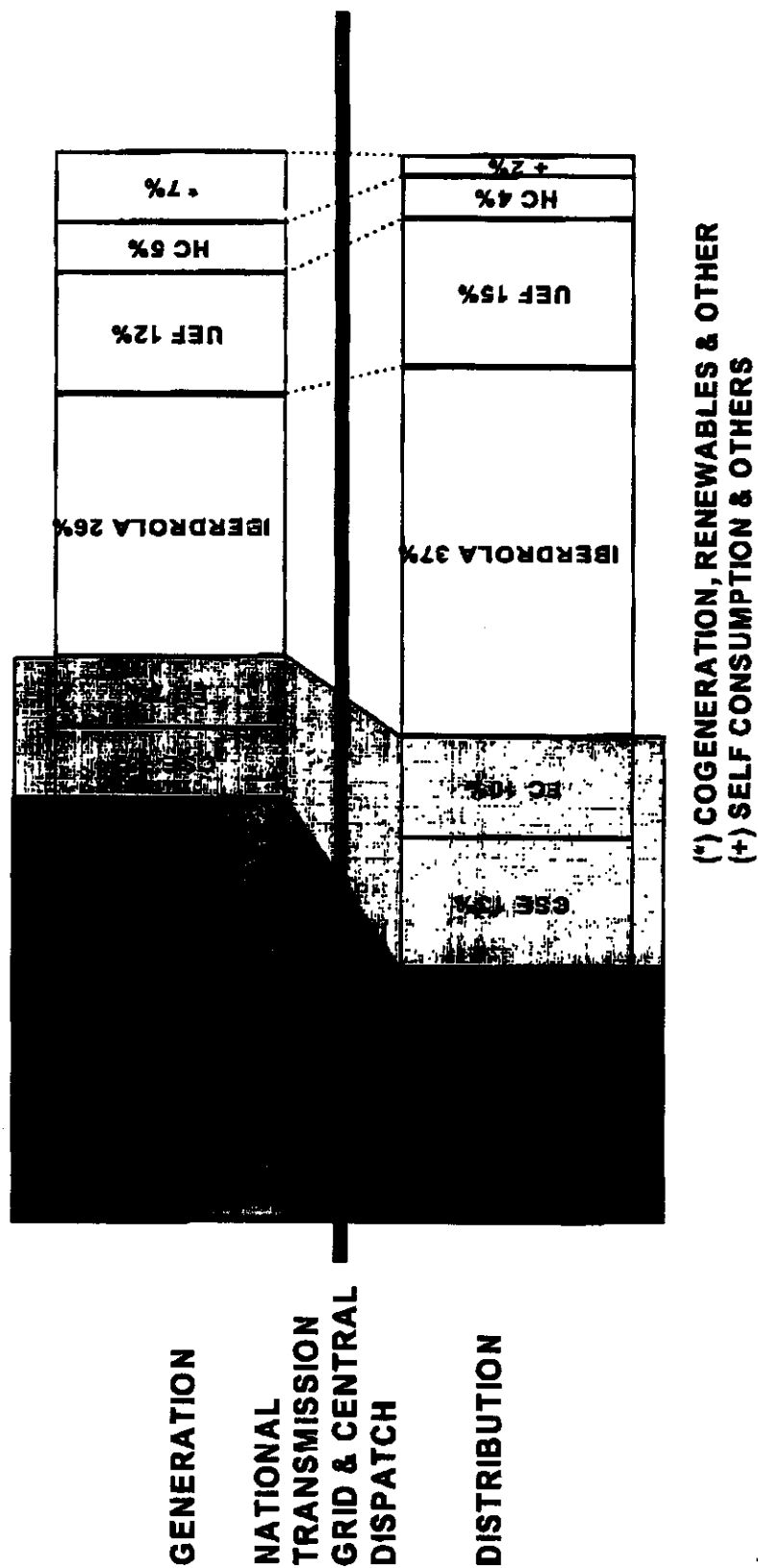
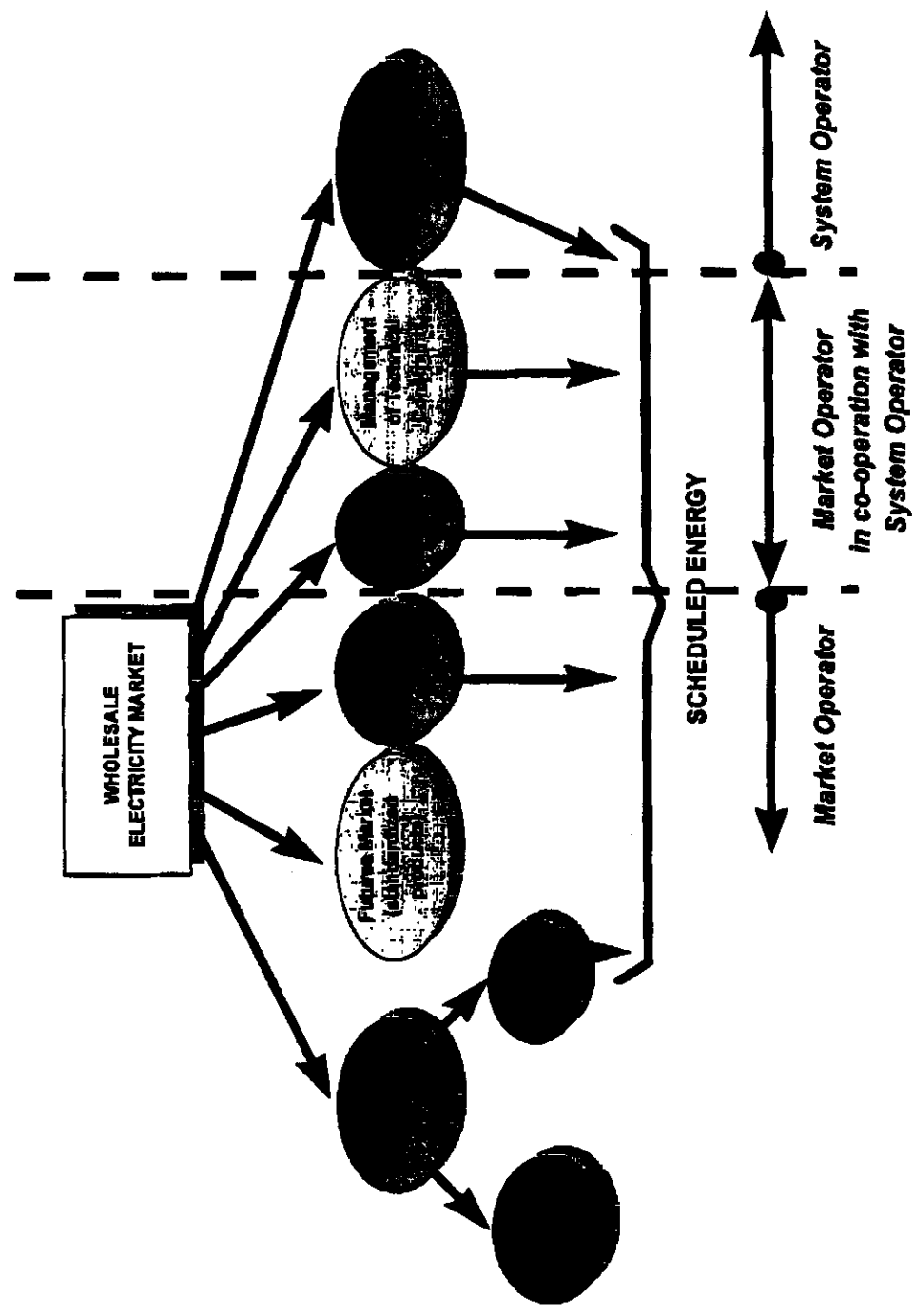
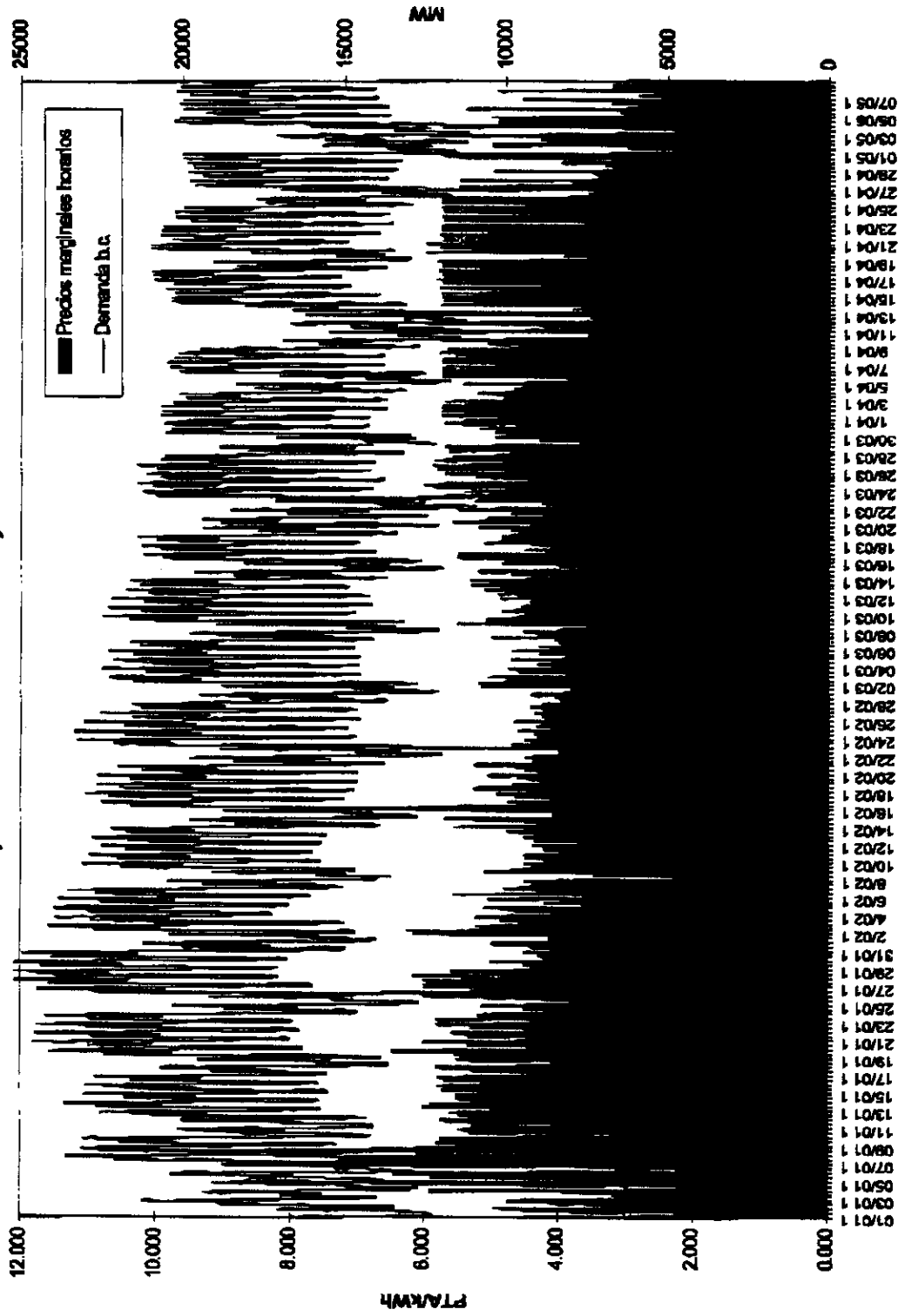


FIGURE 2



Demanda h.c. y precios Despachos del 1 de enero al 8 de mayo de 1998

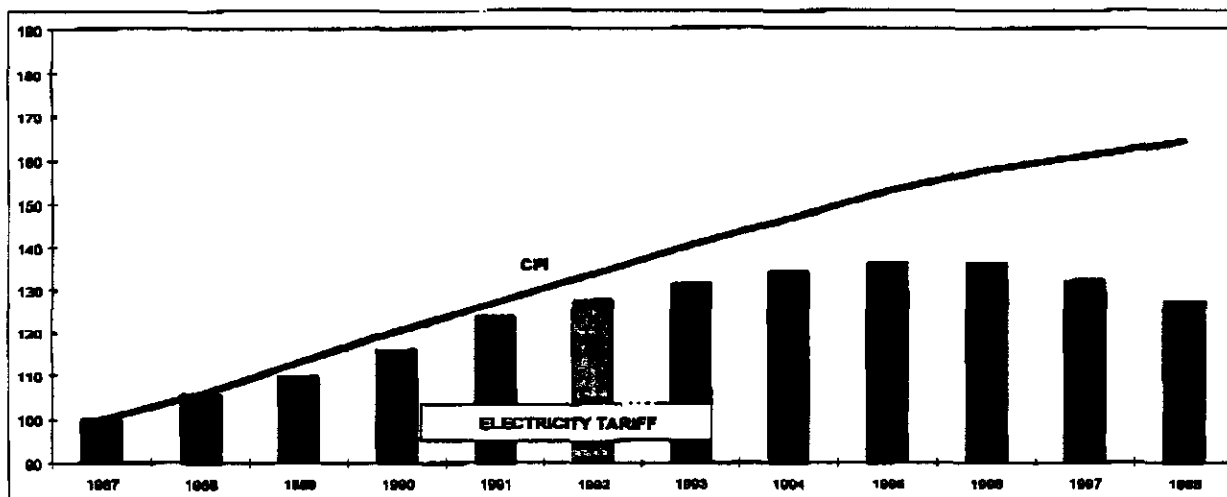


Fuente: Comisión Nacional del Sistema Eléctrico (CNS)

FIGURE 3

FIGURE 4

**SPANISH ELECTRICITY TARIFF AND CONSUMER PRICE INDEX
INDEX 1987=100**



Sources: Tariff Acts, INE and CNSE.

General Consumer Price Index (INE).

Electricity Tariff Index is obtained by applying the official tariff variations.

Tariff Trend: tariff variation checked according to $CPI \times X$.

$X = 1,5$: difference between tariff and CPI. Annual average percentage increase in the period 1986-1995.

SPANISH ELECTRICITY TARIFF (%)

In nominal terms

	1996	1997	1998 (F)	ACCUMULATED
MEAN	0	-3,0	-3,83	-6,5
HOUSEHOLDS	0	-1	-3,0	-4,0
INDUSTRY	0	-5	-4,2	-9,0
CONSUMER PRICE INDEX	3,2	2,0	2,1	7,5

In real terms

	1996	1997	1998 (F)	ACCUMULATED
MEAN	-3,1	-4,9	-5,6	-13,0
HOUSEHOLDS	-3,1	-2,9	-5	-10,7
INDUSTRY	-3,1	-7	-6	-15,3