CHAPTER 3.

OVERVIEW OF REGULATION IN THE EU AND EUROPEAN COUNTRIES ON THE VERGE OF EU MEMBERSHIP

3.1. Energy policy in the EU and sources of the internal energy market

Since the birth of the European Community, energy has always been considered an essential element in the region and, in fact, two of the three treaties of the fifties were directly related to the energy sector[1]. However, a common energy policy for the energy sector, based on a general system applicable to all other sectors, was not immediately put into place.

It was not until the publication, in 1988, of the Commission's white paper on *The Internal Energy Market*, and the signing of the European Union Treaty in 1992, that there was serious talk of the need for a community energy policy aimed at:

- greater security in terms of supply
- reducing prices
- respecting the environment

The working paper of the Commission, entitled *The Internal Energy Market* was the first step towards the extension of the internal market to include the energy sector. That document made reference to the advantages to be derived from the establishment of an internal market: reduction in the cost of access to energy and reduction in the price of using such energy; it also established the cost of non-European energy in the energy sector at 0.5% of the Community's GDP.

The study also identified the major obstacles to the establishment of the energy market and the major lines of action to be undertaken to eliminate barriers to its creation. Among those obstacles, one of the most important was the establishment of monopolies for the distribution of gas and electricity, which limit competition and create cautious markets. With regard to coal, the major problem was state aid, and in the petroleum sector the study highlighted the need for the harmonisation of special taxes levied on petroleum products.

These were some of the lines of action suggested for the elimination of barriers to the creation of the energy market:

- elimination of technical barriers in the manufacturing of energy systems
- opening up of public contracts
- harmonisation of indirect taxes, and
- investment in a European network structure

The last series of actions undertaken by the Commission for energy were the publication of the green paper entitled *For An EU Energy Policy* and the white paper entitled *An Energy Policy for the EU.*

These documents set out a plan of actions with certain guidelines for the energy future of the EU and for the establishment of an energy policy for the community[2].

In spite of the Commission's efforts, no common energy policy has, to date, been put into place and the bulk of such policies is still the responsibility of each Member State, who plan their own lines of action and intervention according to the specific structural characteristics of their economies and the dynamics generated by pressure groups, without losing sight of their respective obligations regarding public services and general economic interests.

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[1] The Treaty of Paris, signed in 1951 established the European Community for Coal and Steel. The EURATOM Treaty signed in 1957 created the European Community for Nuclear Energy.

[2] Three principles are established for community energy policy to look at. The first referred to the need for an energy policy geared towards the objectives of competitiveness, security in supply and environmental protection. The second focused on the consideration of integration of the energy market as a crucial factor for community energy policy. And the third pointed to the freedom of the market as the fundamental principle for the implementation of all policies.

However, the EU insists on the establishment of an internal energy market, and, to this end, a general framework was designed with a series of phases of liberalisation, which countries must meet in conjunction with each other, and which has been initiated in recent years.

3.2. Factors leading to the liberalisation of the energy sector and the creation of the internal energy market.

There are many reasons which justify the setting up of an internal energy market and the liberalisation of the European energy sector, but basically there are two fundamental arguments in favour.

There are, first of all, those arguments put forward by the Commission for the establishment of an internal market for energy products. Then, there are political and economic reasons in favour of the implementation of liberalising and deregulatory measures for economic activities, among them those related to energy activity: gas, petroleum products and electricity.

To deal first of all with the Commission's arguments, the liberalisation of energy markets has to do, mainly, with three considerations of a political, economic and legal order[3].

The political motives are based on the liberalisation experiments in electricity initiated in countries such as the UK, Norway, and Sweden, as well as Argentina, Australia and New Zealand. Later, there were also experiments in California, NY Pool and PJM in the USA, then Alberta, Canada, and Spain. For gas, there have been less experiments, the most important of which have been in Britain, North America and Argentina.

All these experiments, which are very different in terms of the design and organisation of the gas and electricity markets, are aimed at achieving greater competitiveness for energy markets.

[3] Klom, Andy: Deregulation of electricity in the European Union, Energy in Europe, Nº 28, July, 1997. Pages 86-95.

From an economic standpoint, and in so far as the energy supply is an input of the productive process, free access to energy sources under competitive market prices should contribute (in certain circumstances) to the reduction of costs for enterprises. This reduction in the energy bill will lead to greater competitiveness of European enterprises on the international asset markets, as long as other countries don't succeed in reducing their energy costs by even bigger margins.

A comparison of international gas and electricity prices serves to highlight the huge differences that exist in different parts of the world[4].

Finally, another reason, of a legal nature, lent support to the thesis of the Commission: the establishment of an internal EU market in 1993. In tangible terms this meant the free flow of merchandise, the free offering of services and the right to set up anywhere in the EU. These elements were also applicable to energy products.

In addition to the interest shown by the European Commission there are political and economic factors which also favoured the opening up of the energy sectors and progressive deregulation in each Member state.

Of the political factors, we can point to the gradual adoption of liberal policies, which in tangible terms meant a series of measures geared towards opening the sectors to competition from outside, in order to achieve greater efficiency and lower prices. At the same time, in certain Member states, privatisation programmes were implemented, which had a significant effect on energy enterprises.

The energy sector was opened to competition in the context of a very good economic situation, which began in 1994 and continues today. The rates of growth for the sector in 1994, 1995 and 1996 were about 6 per cent. This created an atmosphere conducive to the introduction of measures aimed at greater opening.

In this sense, the fall in interest rates greatly favoured a capital intensive sector, where there are huge annual investments and where there was also a high level of debt. The average reduction in interest rates on loans in the EU between 1990 and 1998 was around 46%.

[4] In this sense consideration must also be given to a wide range of factors, among them, the downward tendency of interest rates, favourable hydraulic resources, or international petroleum prices established on international markets.

The signs of economic growth, the positive results of energy enterprises, and a strong entrepreneurial spirit, were also some of the factors responsible for the high investments carried out by energy enterprises outside their own markets.

Finally, we must also bear in mind that the liberalisation of the energy sector was accompanied by important technological innovations that have taken place in the field of energy and which have contributed to a considerable reduction in entry barriers to markets. An example of that is combined cycle gas technology, where there are very low fixed costs (per installed kW) and which is very competitive in comparison to other technologies used for the generation of electricity, given present gas prices.

This amalgam of economic and political factors also had its bearing on the legal aspects of regulation. Competition elements were introduced (for national initiative as well as for non-national interests established in the EU) which gave greater flexibility to existing norms, gradually guaranteed freedom of choice for consumers, and created new and independent regulatory organs to watch over the process and the sector.

3.3. The internal energy market

The creation of an internal energy market was a major objective to be attained, but required an adequate legislative framework that gradually incorporated elements of liberalisation and energy activities within Member States.

Although the measures were gradually adopted, the European Parliament and European Council Directives 96/92/CE on common rules for the internal electricity market and 98/30/EC on common rules for the internal natural gas market, proved a turning point in the regulation, organisation and structure of the electricity and gas sector in the fifteen community countries.

The Commission’s explicit interest in the establishment of an internal energy market was voiced in 1992, with the formalisation of a regulatory framework for the creation of the internal electricity and gas market, even though they were very general common rules of application for each Member State.

With regard to the electricity market, a time frame was established in three phases. The first centred around two directives on price transparency and the conduct of electricity through high tension networks. The second phase, currently underway, was implemented with directive 96/92/CE, which is the key to the liberalisation of the electricity sector in Europe[5].

EC directive 96/92 on common rules for the internal electricity market, marked an important change in the organisation of the European electricity sector with the introduction of liberalisation measures in all areas of activity (generation, transport and distribution). With regard to generation, new plants were set up via authorisation or licence. With regard to transport, for the first time third parties were given access to the network, via regulation (toll), negotiation (with the system operator), or via a sole buyer. Companies carrying out more than one activity in the energy sector were obliged to keep separate accounts. And a time frame was set up for the opening up of the electricity market, with the access of qualified consumers as they attained the stipulated level of consumption.

Although the opening up of the market has been gradual, it has meant a change in the concept of an electricity sector that had, until now, been regulated and closed to competition. Even so, all the areas regulated under the directive are subject to the so called public service obligations that member States can impose given the general economic interest of electricity[6]. In addition, there is also a reciprocal clause that can be applied by countries that decide to open their markets beyond the established minimum.

Member States have a certain degree of freedom for the application of the directive, since they can choose the option best suited to the organisation and regulation of their electricity systems, even though, independently of the option chosen, they achieve the same economic results, a similar level of opening in electricity markets and the same degree of access to those markets.

[5] EC directive 96/92 came into effect on February 19, 1997. Member States have up to two years to adapt legislation to this directive. Belgium and Ireland have a year more, and Greece two more.

[6] Public service obligations must necessarily be related to the following areas: supply security, regularity, quality, supply prices and environmental protection.

Table 3.1.: The electricity market: phases and main features

ESTABLISHMENT OF THE INTERNAL ELECTRICITY MARKET IN THE EUROPEAN UNION	
PHASES	DIRECTIVES AND MEASURES AIMED AT LIBERALISATION
PHASE ONE	• EC Directive 90/377/ of the European Council: transparency in electricity prices for final industrial consumers • EC Directive 90/547/ of the European Council: to favour the passage of electricity through the big high tension networks
PHASE TWO	• EC Directive 96/92 of the European Parliament and The European Council on common rules for the internal electricity market. Came into effect on February 19, 1997. It introduced important liberalisation measures. - Generation: With regard to the construction of new plants, the States can opt for one of two alternatives: authorisation or licensing. 1) Licensing, the new capacity is granted depending on the evolution of demand. 2) Authorisation, is granted as long as the criteria established by the Administration are met. - Transmission: A network administrator is designated, and then has responsibility for the exploitation, maintenance and development of the transmission network. With regard to access to the network, States can choose between regulated or negotiated third party access, or a sole buyer. 1) Negotiated access: Producers, supply companies and qualified clients, inside and outside the territory covered by the network, can have supply contracts among themselves, but will have to negotiate access to the network with the operator, and establish a tariff to be paid for the transport service. 2) Regulated access: Qualified clients will have the right to free access by paying the stipulated tariffs for the use of transmitting and distribution networks. 3) Sole buyer: Defined as the legal entity that takes on the responsibility in the network in which it is established, for the single administration and running of transmission networks and / or for the centralised purchase and sale of electricity. Qualified clients, producers and supply companies shall be free to have supply contracts among themselves, and the sole buyer shall be obliged to buy the electricity that has been the object of the contract, at a price equal to the sales price offered by the sole buyer to its qualified clients, less the cost for use of the network. - Separate accounting and transparency of accounts: The integrated electric companies shall keep, in their internal accounting system, generation, transmission and distribution as separate items. - Distribution: Member States can ask distribution companies to supply electricity to all clients in their area of activity. Tariffs can be regulated to make sure of equal treatment. - Opening up of markets: in three phases
PHASE THREE	The development of this phase depends on phase two. In this final phase the criteria for granting third party access to distribution networks shall be more flexible.

At the same time as the internal electricity market, the natural gas market was also set up, along the same lines and with a similar degree of deregulation, in three phases. Phase one, developed in 1990 and 1991, was implemented through two directives regarding price transparency and the flow of natural gas through the major European networks. Phase two, currently underway, was put into place via EC directive 98/30, which established common rules for the creation of an internal gas market. EC directive

98/30 came into effect on August 10, 1998 and it had to be implemented by Member States before August 10, 2000.

Table 3.2. Time frame for the opening up of the market

Date	% of the national market open to competition*	Minimum consumption of qualified clients (EU average in GWh)
19 February 1999	26.48%	40
19 February 2000	28%	20
19 February 2003	33%	9

(*) consumption of qualified clients in relation to national electricity consumption (percentages are for 1998, and are revised annually).
SOURCE: EC Directive 92/96 and General Direction XVII

The last directive introduces changes in the organisation and functioning of the sector, plus a time frame for the gradual opening of the gas market and the introduction of competition in a traditionally protected sector. The aim is to establish common rules for the transport, distribution, supply and storage of natural gas in all member States.

Given the magnitude of the liberalisation process and the features of the sector, thought is being given to the possibility of Member States introducing safety measures in the event of sudden crisis in the energy market, or of any danger to the integrity and safety of people, installations or the network. Certain exceptions, with regard to network access, were also established to cater for natural gas companies facing economic or financial difficulties due to take or pay undertakings. Exceptions are also established for those countries that are nor directly connected to the system of another Member State or that have only one outside supplier. A single supplier is considered to be an entity that provides for over 75% of the market.

Member States must adopt the measures necessary for the gradual opening up of the market. In an initial phase, all generators, regardless of their level of consumption, will accede to the market, as well as final consumers that consume a volume in excess of 25 million cubic metres a year. The aim is for at least 20% of the national market to be liberalised. In a second phase, envisaged for the year 2005, the level of opening would be increased to 28%, then up to 33% by the year 2010.

Table 3.3: Time framework envisaged for the opening up of the market

Date	End of August 2000	August 2003	August 2008
Generators	All	All	All
Final consumers with a minimum annual consumption	> 25 m cubic metres	15 m cm	5 m cm
Minimum opening of the market	20%	28%	33%
Optional opening of the market	30%	38%	43%

Mcm: cubic metres (in millions)
SOURCE: EC Directive: 98/30

Parallel to this opening up of the market, the directive guarantees freedom to build and operate gas installations, through the granting of licences and authorisation, based on transparent, non discriminatory criteria.

Another measure envisaged within the directive is third party access to the network, via regulated or negotiated access. Finally, separate accounts must be kept for transport, distribution and storage, and accounts must be consolidated in the case of companies that carry out activities other than those related to gas.

Table 3.4.: The natural gas market: phases and main features

ESTABLISHMENT OF THE NATURAL GAS MARKET IN THE EUROPEAN UNION	
PHASES	DIRECTIVES AND MEASURES FOR LIBERALISATION
PHASE ONE	• EEC Council Directive 90/377: transparency of prices to be applied to final industrial gas consumers • EEC Council Directive 91/296: for the passage of natural gas through the major networks
PHASE TWO	• European Parliament and European Council Directive 98/30/CE: on common rules for the internal natural gas market. Establishes common rules for the flow, distribution, supply and storage of natural gas. Defines the rules for the organisation and functioning of natural gas including liquid natural gas (LNG), for access to the market and the functioning of networks - General rules for the organisation of the sector: Member States may impose on natural gas companies public service obligations of general economic interest (regarding security, stability, quality and supply prices, and environmental protection). A natural gas company is defined as any physical person or legal entity that carries out at least one of the following activities: production, conduction, distribution, supply, purchase or storage of natural gas, including LNG. - Conduct, storage and LNG: Companies carrying out these activities shall not discriminate among network users by favouring companies that are in any way linked to them. - Distribution and supply: Member States may impose on distributing or supply companies the obligation to service clients located in a given area or belonging to a given category. The tariff can be regulated in order ensure equal treatment.

	- Separation and accounting transparency: Integrated natural gas companies shall have, in their internal accounting systems, separate accounts for the passage, distribution and storage of natural gas, and consolidated accounts for activities not related to gas. - Network access: They can opt for one of these two alternatives: - 1) Negotiated access: Natural gas companies and qualified clients, who might be inside or outside the territory covered by the interconnected network, may negotiate access to that network in order to establish supply contracts through voluntary commercial agreements. - 2) Regulated access: Qualified clients will have right of access by paying the tariffs published for use of the network Opening up of markets: Member States shall specify the qualified clients who have the capacity to contract or acquire natural gas. 1. 1998: Initially, electricity production plants and other final clients that consume over 25 million cubic metres of gas a year calculated according to the consumption of each installation. Opening up of 20% of the total annual consumption of gas of the national market. (If the market were open by over 30%, it would be possible to modify the definition of qualified clients, until 30% opening is attained). 2. Five years after the directive comes into effect: Qualified consumers who consume 15 million cubic metres. Opening up of 28% (38% if in the first phase it was 30%). 3. Ten years after the directive came into effect: Those who consume over 5 million cubic metres. Opening up of 33% (43% if it began with 30%).

3.4. Liberalisation of the electricity sector: the present state of affairs

The following tables give an account of the state of implementation of EC directive 96/92 and the main features of the process. First of all, all the EU countries have included in their laws the stipulations of the European directive, with, significantly, France being among those lagging behind. Its *Law for the modernisation and development of the public electricity service,* is of February 2000, even though the directive stipulated a two year period for implementation, which ended on February 19, 1999. Denmark and Italy waited till the very last moment, and implemented the directive in 1999, while Belgium and Ireland did so that same year, even though they still had another year to do so. Greece did it a year ahead of time. Luxembourg, was, as late as May 2000, still preparing a Bill for electricity.

In general, most countries started the liberalisation of the electricity sector by adapting the directive to their own laws between 1997 (Spain) and 1998 (Germany, Austria and Holland). It must be pointed out that in some countries liberalisation of the sector began before the directive and that they later modified certain aspects of their own laws in order to accommodate certain European rules. Among such countries are Sweden, whose *Law on the supply of electricity* dates from 1995, Finland, which began the process in 1995 and introduced modifications in 1998 and 1999, and Portugal, who also took the first steps in 1995 with later modifications in 1997 followed by certain new legal provisions in 1998 and 1999.

To look at the specific aspects of the directive, and with regard to the new generation capacity, the States can choose between authorisation and licensing. In this sense, all countries opted for authorisation, leaving the licensing option open for certain specific cases. It was the case of transport installations in Spain, of renewable energy installations in France, or of new plants in the Greek islands.

Another element is third party access to the networks, via regulation, negotiation or sole buyer. Most countries chose regulated TPA (third party access), namely Austria, Spain, Finland, France, Greece, Luxembourg, Holland, UK and Sweden. In other cases, we found a combination of two options. In Germany, there is regulated as well as sole buyer, in Belgium, regulated alongside negotiated for the passage of big volumes, the same as in Denmark, where negotiated access is maintained for international flow. In Ireland regulated access was chosen, with an obligation to purchase (sole buyer) similar to what obtains in Italy and Portugal where regulated third party access is an option for the free market while the regulated market has an opening via the sole buyer option.

For access to the regulated network, tariffs are established in several ways. Sweden and the UK apply uniformed tariffs which depend on the capacity and use to which lines are put. Holland, Portugal and Spain have adopted tariffs which are the same all over the country. This type of tariff is normally applied in countries where there are no congestion problems or where the service is relatively small[7].

With regard to the transport system operator, there are two clear categories of countries. In some countries there is only one transporter (Spain, Finland, Sweden, Portugal and France). In others several companies are in charge of this activity (Denmark, Austria, UK).

[7] International Energy Agency (2000): Energy policies of IEA countries, Paris.

Table 3.5

COUNTRIES	State of implementation	Generation New capacity	Networks access	Market Opening/ Thresholds
Germany	Law of April 24, 1998	Authorisation	Third party access via negotiation Sole Buyer optional until 2005	100% in 1999
Austria	Law of Electricity supply, July, 1998	Authorisation	Third party access via regulation	26.7% in 1999 (40 GWh) 30.90% in 2000 (20 GWh) 35% in 2003 (9 GWh)
Belgium	Law for the organisation of the electricity market, April 29, 1999	Authorisation	TPA via regulation TPA via Negotiation for flow and huge volumes of electricity	33% in 1999 (100 GWh) 40% before 2007
Denmark	Law for the supply of electricity	Authorisation	TPA via regulation TPA via negotiation for international passage	90%distribution Retail market 4% (100 GWh) 14% (10 GWh annually from April 1, 2000 onwards
Spain	Law 54/97 for the electricity sector, November 27	Authorisation Tender for transport installations	TPA via regulation	33% in January 1999 (5 GWh) 42 % in October 1999 (1 GWh) 53% from 1/7/ 200 onwards (1kV)
Finland	Law 386/1995, March 17, 1995, modified in 1998 and 1999	Authorisation	TPA via regulation	100% since January 1997
France	Law for the modernisation and development of the public electricity service, of February 10, 2000	Authorisation within the framework of planing Tender (renewable)	TPA via regulation	30.27% Minimum demanded by the Directive
Greece	Electricity Law, 21 December, 1999	Authorisation Tender	TPA via regulation	30.27% (1.5GWh)
Ireland	Law for the regulation of electricity, July, 1999.	Authorisation Tender	TPA via regulation With purchase obligation – ESB (Sole Buyer)	30.27% (4 GWh)
Italy	Legislative Bill, February 19, 1999	Authorisation	Sole Buyer – regulated market TPA via regulation- Free market	30.27% (30 GWh)
Luxembourg	Draft Bill on Electricity	Authorisation	TPA via regulation	40% (100 GWh)
Holland	Law of 30 June, 1998	Authorisation	TPA via regulation	32% in 1999 (2 MW)
Portugal	Draft-Bills of 1995 (modified in 1997) and 1998/99 Amendments	Authorisation Tender	TPA via regulation Sole Buyer: REN – Regulated market	30.27% (30 GWh)
UK	Electricity Law, 1989	Authorisation	TPA via regulation	100 % in 1999
Sweden	Law for the supply of Electricity 10/95	Authorisation	TPA via regulation	100%

SOURCE: UNESA (22/02/2000)

Table 3.6

Percentage of consumers able to choose supplier	
	Year 2000 %
Austria	30
Belgium	35
Denmark	90
Finland	100
France	30
Germany	100
Greece	30
Italy	30
Ireland	30
Luxembourg	*
Holland	33
Portugal	30
Spain	45
Sweden	100
UK	100
EU – 15	65

(*) directive had still not been applied
SOURCE: COM (2000) 297

With regard to the opening up of the market, every country is a special case in itself, though they are all quickly heading towards total opening. In Germany, Finland, the UK and Sweden, the market is completely liberalised. Denmark envisages full opening up by the year 2003, as does Spain[8] and Holland envisages the same by the year 2007. On the contrary, there are countries such as France who simply meet the minimum requirements of the directive, as is also the case of Ireland, Greece, Italy and Portugal. The present degree of liberalisation of the European market as a whole is 65% (Table 7.6).

Moving on to the development of internal electricity markets, there is a general trend towards bilateral contracts between generators/distributors and those buyers who attain the level of consumption that makes them eligible. Additionally, in some countries electricity markets have been developed, and eligible clients move towards

[8] In Spain, Draft Bill 6/2000, of urgent measures for the intensification of competition in goods and services markets, has speeded up the liberalisation of the electricity sector, and envisages the complete liberalisation of the market from January 1st 2003, and the elimination of tariffs for high tension supply on January 1st 2007.

them. It is the case of Spain, Greece and the UK. Italy, for its part, envisages that its electricity pool will start to function in 2001. In the Nordic countries, Nordpool exists. It is a huge market in which Denmark, Sweden and Norway participate. (Table 7.7.)

For electricity, the directive envisages that priority should be given to electricity of a given origin. In most countries, priority is given to energy from renewable sources, or from co-generation, and in some cases from their own producers. Only Finland, the UK and Sweden do not envisage any such exceptions.

Table 3.7

COUNTRIES	Wholesale market - Pool	Office priority	Access refused to network	Public service obligations
Germany	Bilateral contracts	Renewable Co-generation	Lack of capacity Reciprocity	Connection and supply Purchase of electricity coming from renewable source installations
Austria	Bilateral contracts	Renewable	Lack of capacity Reciprocity	Connection and equal treatment Office priority and environmental protection Import reductions
Belgium	Bilateral contracts	Renewable Co-generation Own producers	Lack of capacity Reciprocity	Regularity, quality and stability in supply
Denmark	Participates in NordPool Bilateral contracts	Renewable Co-generation Wastes	Lack of capacity	Regularity, quality and security in supply Connection and supply under equal conditions
Spain	Pool Bilateral contracts	Renewable And Co-generation (< 50MW)	Lack of capacity Reciprocity	Regularity in supply Universality and continuity in service
Finland	Pool Bilateral contracts	No	Lack of capacity	Connection and supply Development of networks Non discriminatory prices and quality of supply
France	Bilateral contracts	Renewable	Lack of capacity Reciprocity Public service obligations	Connection and supply Quality, regularity and security in supply Equal prices and measures for Social cohesion Office priority and environmental protection
Greece	Bilateral contracts	Renewable And Co-generation	Lack of capacity	Supply security Consumer and environmental protection
Ireland	Bilateral contracts	Renewable	Lack of capacity	Quality, security and regularity in supply Renewable, peat and environmental protection
Italy	Bilateral contracts Pool in 2001	Renewable Co-generation	Lack of capacity Reciprocity	Connection and supply Office priority Equal tariffs
Luxembourg	Bilateral contracts	Renewable Co-generation	Lack of capacity Reciprocity	Renewable and co-generation Connection and supply and equal tariffs
Holland	Amsterdam Power	Renewable	Reciprocity	Supply

	Exchange Bilateral contracts	(<8MW) Co-generation and Small installations (<2MW)	Lack of capacity	Quality and security in supply
Portugal	Future pool Bilateral contracts	Renewable Co-generation	Technical reasons	Supply
UK	Pool Bilateral contracts	No	Technical reasons	Supply Quality, security and regularity in supply Non-discriminatory prices
Sweden	NordPool Bilateral contracts	No	No	Supply Purchase of electricity Mini-hydraulic and wind based

SOURCE: UNESA (22/02/2000)

Third party access to the network can be denied in certain circumstances, which must be clearly set down by law. In almost all the countries there can be two reasons for refusal: lack of capacity and reciprocity. In Portugal and the UK strictly technical reasons have been advanced, while in Sweden the law does not contemplate any situation in which right to access can be denied.

Table 3.8

COUNTRIES	CTC Notifications to the relevant General Directions	Separate accounting/legal	Regulator
Germany	Yes (restrictions in access to East German networks)	Separate accounting Separate transport management	Ministry of Finance Federal Office
Austria	Yes (8.7 billion Austrian Crowns)	Separate accounting Separate running and management for transport system operators	Ministry of Economic Affairs
Belgium	NO	Separate accounting	Commission for the Regulation of Electricity and Gas (Free market) Control Committee (Cautious market)
Denmark	Yes	Separate accounting Legal separation of commercialisation	Danish Energy Agency
Spain	YES (1.7 billion pesetas)	Legal separation of regulated and non-regulated activities	Ministry of Industry and Energy National Commission for the Electric System
Finland	NO	Separate accounting Legal separation of the Transport system operator	Authority for the Electricity Market
France	No	Separate accounting Separate running and management for the operation of the transport system	Electricity regulation commission
Greece	NO	Separate accounting Legal separation of the Transport system operator	Electricity Regulation Authority
Ireland	NO	Separate accounting	Commission for the

			Regulation of gas and electricity
Italy	NO	Legal separation of ENEL activities	Independent authority for gas and electricity
Luxembourg	No CTCs have been accepted but there is an exception to art.14	Separate accounting	Institute of Energy and Telecommunication of Luxembourg
Holland	FL 2 bn	Legal separation of transport and distribution from generation and supply	Ministry of Economic Affairs and Competition Authority
Portugal	NO	Legal separation of EDP activities	Regulating entity of the electricity sector
UK	Yes (Only Northern Ireland)	Separate accounting	OFGEM (England, Wales and Scotland) OFREG (Northern Ireland
Sweden	NO	Legal separation of transport and distribution from generation and supply	STEM

SOURCE: UNESA (22/02/2000)

Finally, the directive clearly stipulates the establishment of public service obligations, which can be imposed on national and community electricity companies operating in any given territory. In this sense, obligations must be clearly stated and must include one of the five categories established within the directive. Generally, countries consider the following to be public service obligations: connection and supply services, reliability and quality in supply; universality and continuity; non-discriminatory prices; consumer and environmental protection; the purchase of electricity from renewable energy installations.

With regard to competition, the directive contemplates a period of transition for companies to adapt to the new competitive environment. In this respect, only a very small group of countries requested transition costs from competitors. Among them Germany (East Germany), Austria, Denmark, Spain and the UK (Northern Ireland). (Table 7.8.)

Separate accounting for different activities is another stipulation within the directive that has to be met by countries. In other cases, states have demanded legal separation of electricity activities, to distinguish between regulated and non-regulated, as was the case of Spain, Holland and Sweden. In other countries, they have focused on the legal separation of the system operator. In this respect we find countries such as Greece, Portugal and Finland. In France and Austria administrative and managerial separation for the transport system operator was requested.

All states have their own regulatory organism whose responsibility it is to set up legislation for all matters pertaining to electricity. In almost every case, this is carried out by the Ministry of Finance or the Ministry of Industry. However, in recent years many independent commissions have been set up to watch over the legal code and to make sure that legislation is implemented. In Spain, The National Commission of the Electricity System, which is now part of the National Energy Commission has been playing this watchdog role within the electricity sector. In England, Wales and Scotland it is carried out by the OFGEM, in Northern Ireland by the OFREG. In France A Commission for the Regulation of Electricity was set up and in Greece, The Body for the Regulation of Electricity.

Finally, it must be said, with regard to the Eastern European countries (Hungary, Poland and The Czech Republic) that they are at present working to bring legislation into line with the requisites established by the European electricity directive.

3.5. Liberalisation of the gas sector: the present state of affairs

The liberalisation of gas in the EU is going ahead alongside that of the electricity sector. EC directive 98/30 sets out the common rules for the establishment of an internal natural gas market, and establishes the common directives for all Member States. The different States have been bringing them into line and have had a deadline date of August 2000 for the completion of that process. At the head, in that sense, is a group of countries which, by May 2000 had already done so: the UK, Belgium, Finland, Ireland, Italy and Spain. Another group of countries is in a fairly advanced stage of implementation: Austria, Denmark, France, Germany, Luxembourg, Sweden and Holland. While Greece and Portugal, the so-called emerging gas markets, are lagging some way behind[9].

The Eastern countries are currently working to bring their legislation into line with the requisites established by the European directive for gas.

[9] General Direction of Transport and Energy (2000): *State of implementation of the EU gas directive (98/30/EC). An overview.*

To examine the specific aspects of liberalisation, the directive envisages two systems of access to gas line networks: regulation and negotiation. Regulation implies right of access based on fixed, public tariffs, while via negotiated access the use of the network is a result of a commercial agreement, notwithstanding that gas companies have to publish their main commercial conditions. Austria, Spain, Finland, Italy, Ireland, Luxembourg, Sweden and the UK have opted for regulation. Denmark, France, Holland have chosen a system that combines regulated and negotiated access. Denmark and Holland maintain access via regulation for distribution, negotiating access to high tension networks and for storage. The French project contemplates a system of regulated access, although negotiated access is maintained in special circumstances. Belgium and Germany have adopted the negotiated system.

With regard to the liberalisation of the market, consumers will gradually become qualified on the basis of a time table for the gradual opening up of markets that establishes certain minimum percentages. Member States should open their markets at least up to that minimum level, and will be allowed to speed up the liberalisation process if deemed convenient.

Two Member States have already completely liberalised their markets. The UK did so in 1998 and Germany in 1999. Others hope to achieve this by 2004 (Austria, Italy and Holland). Spain will do so by 2003, and by 2008 the Italian, Dutch and Swedish markets will be completely open. Belgium has decided to speed up its own, and has determined that it will be completely open before 2010.

On the average, the degree of opening in the first phase is now in the order of 78%, and will be up to 90% by the year 2008. Which means that liberalisation is advancing above previously established limits.

Another stipulation of the directive is separate accounting. For integrated companies Member States have established the principle of legal separation of transport of activities developed under competition, thereby going beyond the directive (Austria, Spain, Italy, Ireland, Holland and the UK). Other countries, (Belgium, Denmark, Germany, Finland and France) have simply fulfilled the minimum requirements of the directive, which calls for separate accounting without any need for the legal separation of activities.

Most countries have decided that the regulatory responsibilities affecting gas should be the responsibility of an organism within the energy sector, or at least gas and electricity activities. Belgium, Denmark, Spain, France, Finland, Italy, Ireland, Luxembourg, Holland, Sweden and the UK have opted for this system. In some countries, such as Austria, Denmark, Spain and Sweden, the Ministry of Energy still plays an active role in the regulation of the system. In Portugal, they are thinking of setting up an independent entity for the regulation of gas, while in Germany they do not envisage creating any agency for regulation by sectors, and the gas sector is under the direction of the general authorities.

Table 7.9: Time framework for the opening up of the market, as established by the States

	2000 %	2008 %	Thereafter %
Austria	49.0	100	100
Belgium	47.0	66.0	100
Denmark	30.0	43.0	43.0
Finland	90.0	90.0	90.0
France	20.0	33.0	33.0
Germany	100.0	100.0	100.0
Greece	0.0	33.0	33.0
Ireland	75.0	81.0	81.0
Italy	96.0	100.0	100.0
Luxembourg	51.1	75.0	75.0
Holland	45.0	100.0	100.0
Portugal	0.0	33.0	33.0
Spain	67.0	100.0	100.0
Sweden	47.0	100.0	100.0
UK	100.0	100.0	100.0
EU – 15	77.9	90.0	91.4

(1) Average based on EUROSTAT data for total consumption in 1998. Information regarding the degree of opening of the markets was provided by the Member States. For Greece and Portugal the minimum opening of 33% is assumed for the year 2000 onwards. The 100% German market opening is subject to the advance in the liberalisation process in other Member States.

SOURCE: General Direction of Energy and Transport (2000): *State of implementation of the EU gas directive (98/30/EC) An overview*

The directive contemplates the possibility of Member States imposing public service obligations, which must be related to certain elements, such as the quality of gas, security and diversification of supply, efficient linkage and new infrastructure, storage development, price, sustainability, energy saving, and research and development. Only two countries, (Germany and Sweden) do not stipulate any specific public service obligation, and in the case of the UK such obligations are limited to licences. The remaining countries include in such obligations a wide range of actions linked to the guarantee and quality of supply, consumer protection, and environmental protection.

3.6. The state of the coal sector

One of the major problems facing the liberalisation of the energy sector is the viability of coal exploitation. Coal is one of the EU's most abundant energy resources. This, given the shortage of resources of its own, makes coal a very important resource in terms of how it can lead to greater self-sufficiency. However, since coal is such a highly contaminatory fuel, and with the presence of alternatives which are crucial to heating and are cleaner than gas, coal has become less and less significant in the overall energy picture of many countries.

Table 3.10.: Subsidised production equivalent to coal production

Country		1991	1994	1998
France	Subsidised production	10.07	7.46	4.43
	Aid per Ct* ($US)	39.42	48.41	**
Germany	Production	67.57	53.15	41.62
	Aid per Ct ($US)	102.40	149.20	119.70
Spain	Production	11.60	12.39	11.00
	Aid per Ct ($US)	61.16	77.39	84.50
UK	Production	78.11	41.23	35.42
	Aid per Ct ($US)	25.49	7.71	0.00

*Production in terms of millions of coal tons (ct).
(**) The subsidy for the French coal industry has not been authorised by the European Commission for the years 1997 and 1998.
SOURCE: International Energy Agency (2000) Energy policies of IEA countries.

The situation in each European country is special, but, generally speaking, coal is of very poor quality across the community and expensive to extract. So state support has been necessary for the exploitation of national coal basins. According to the International Energy Agency, in 1998, 3.7% of German production received state support. In Spain, the figure was 1%, and in France, 0.4%.

Within the context of the liberalisation of the energy sector, coal has also been affected by liberalisation measures, which have gradually reduced subsidies, to the point of almost total elimination. In Belgium, subsidised production was halted in 1992, as it was in Portugal in 1994, and in the UK the only mine that still existed was eventually closed in 1998. Coal production receiving state aid in France and Germany has diminished significantly, as has been the case in Spain, where there has been a gradual fall since 1998.

In some European countries, such as Spain, France and Germany, plans are underway for the restructuring of the coal sector, which will lead to the closing of mines. For the year 2002, Germany plans to reduce its coal production by 11% and Spain by 9%.

In summary then, the adoption of community directives for electricity and gas is perceptible through the harmonisation of energy policies in Member States. European energy sectors are heading towards greater competition in their internal markets and towards the liberalisation of their energy activities. Member States have been gradually adapting those measures approved by European institutions to their own legislation, without losing sight of the particular features of their respective energy sectors.

At the same time, the Eastern countries on the brink of EU membership have been moving towards EU directives, and have begun to incorporate elements of liberalisation and deregulation in their energy sectors. They seem fully conscious of the changes that will have to be effected if they are to become EU members.

In the electricity sector, most states have opted for the same lines of action: the application of the system of authorisation to increase generation capacity; a system of third party access to the regulated network; and the establishment of a time frame for the gradual opening up of the market, which, in most cases, goes beyond the minimum levels established by the directive on electricity.

Hungary, Poland and The Czech Republic have begun the reform of their electricity sectors by applying measures for restructuring and privatising their industrial fabric, which is made up, almost completely, of very large public companies. Among their many objectives are the adoption of market mechanisms for energy activities, the improvement in energy infrastructure in order to come up to European standards of efficiency and environmental health, and the intensification of links with the European network UCPTE. In the medium term, they contemplate the gradual opening of their internal markets.

In the gas sector, which is being liberalised at the same time as the electricity sector, Member states have adapted the European directive, and have done so in a most homogenous way. Regulated third party access has been the major option, as well as authorisation for the development of activities within the sector. With regard to the opening up of internal markets, in most States the time frame has been speeded up, ahead of the European guideline, though notable exceptions are Greece and Portugal, considered emerging markets, who therefore receive special treatment, and who can therefore extend their time framework.

The Eastern countries are gradually moving towards the European directive. Their major concern so far has been the diversification of their gas supply, which is, at present, connected to the Russian Federation. They have focused their efforts on improving their links with other countries and signing new supply contracts to guarantee them natural gas. Strengthening their gas links with Member states is also one of their priorities, even though, in this field, the Eastern countries are already part of the European gas line network. Another element they are incorporating into energy regulation is the development of internal competition through the restructuring of companies operating in the gas sector, which are, in the main, vertically integrated public enterprises. The entry of foreign investment is also another instrument being used to introduce competition in Eastern European gas markets.

3.7 Stumbling blocks to cohesion

There are several elements which can prove to be significant stumbling blocks to the creation of an internal gas and electricity market. Such obstacles, technical and commercial, have become a barrier to the free flow of services across European networks. The Commission has directed its efforts towards the identification of those obstacles to the free flow of gas and electricity across European networks. In this sense, these obstacles can cause symmetrical problems in the distribution of profits derived from the creation of an internal market, and have a negative impact on cohesion among Member States.

The elements identified by the Commission in the gas sector are:

- Network interoperability: technical discrepancies mean an obstacle to integration by making trade and competition difficult.
- Gas quality: The different qualities of gas, which originate in the different supply sources of the European market make exchange difficult in so far as they have to be transported through different networks. To avoid this type of barriers it is essential for network operators to specify the quality of available gas as well as the technical compatibility necessary to accede to their system.
- Odorisation[10]: Another essential aspect is odorisation of the gas transported through the networks; closer knowledge of how this is carried out will make exchange easier.
- Network specifications: the harmonisation of codes, design standards and of the construction of gas infrastructures will be an essential step forward in the development of European networks.
- Linkage capacity: As the level of exchange increases, the linkage capacity will become insufficient, and possible solutions will come through the construction of new linkages or the technical improvement of those that exist.

Other aspects include heavy dependence on gas from outside the EU, which means that supply must be diversified, by increasing links with suppliers.

In the electricity sector the main obstacles are in the exchanges at frontier points between countries. Here, the limited capacity of electricity lines is seen as an obstacle, which reduces the exchange of electricity and causes bottlenecks. Furthermore, in the

[10] Odorisation is a common practice that consists of adding a strong smelling additive to gas . It is carried out for security reasons in order to detect possible leakage.

case of the Eastern countries this is compounded by problems of technical normalisation even though, in the last few years, these countries have striven to attain western European standards and since the mid nineties the CENTREL network has been linked to UCPTE.

In the economic terrain, the harmonisation of the toll tariff structure is one of the most crucial elements. In fact, Community efforts have been aimed at increasing the linkage capacity of lines as well as the homogenisation of cross-border tolls.

Transparency in the exchange capacity between system operators and non-discrimination are the premises that must hold for the meaningful exchange of electricity. A cross-border tariff framework for Europe must also be established in order to reduce all the red tape involved in negotiation with every system operator, and so make international exchange easier across the Union.

Another element which makes electricity and gas circulation difficult at the heart of the European Union is the lack of homogeneity in indirect taxing. In this sense, the specific fiscal policy of each State and the different taxes levied on energy products can distort the internal market. In this respect, the Commission's proposal is aimed at tax harmonisation for energy combustibles, not only on gas and electricity, but also on coal and petroleum derived products.