

CHAPTER 6.

CONCLUSIONS AND RECOMMENDATIONS

6.1. A very varied energy scenario

The European energy picture is characterised by heavy dependence – which is likely to get even heavier - on imported energy, and by a very uneven structure from State to State. This scenario applies to primary as well as final energy.

6.1.1. Dependence on imported energy

In 1998 energy production in the EU was 759.2 million petroleum tons. The EU's energy production is based on gas and petroleum deposits in the North Sea, which belongs to the UK and Holland, and on the coal basins of Germany, England, Spain and Greece, as well as nuclear production, which is mainly French, but also Belgian and German.

The EU is 52.45% self-sufficient, which means that production covers only half of Europe's energy needs.

The entry of the Eastern countries means that coal reserves will increase considerably. In fact, community production will double, which can also mean a significant increase in overall supply. The negative side will be the environmental impact given that within the overall energy picture of the new countries coal plays a very significant role, with far greater weight than all the other energy sources.

The heavy dependence on energy from outside the EU is a problem that is common to most of the OCDE countries. It is, consequently, also a European problem.

This dependence, which will only increase over the next few years, is an extremely important factor, which must be taken into account when elaborating energy policy. Europe, as a whole, is the world's biggest petroleum importer, and its dependence on the Persian Gulf and the Middle East as a supply source is only going to increase.

On the surface, it might appear that external dependence does not affect cohesion as long as there are no serious, unexpected events, but the susceptibility to such events varies from region to region.

Even within this general situation of dependence there are several extremes. For example, the UK is not at all dependent on outside sources (given its North Sea deposits) while Holland's level of dependence is minimal. However, the southern and central European countries are heavily dependent on outside sources. The measures taken to minimise the risks derived from such dependence (mainly regulatory) also vary.

Those risks, derived from outside dependence, call for a more meaningful European energy policy. From the point of view of cohesion and security, it would seem that greater mechanisms of security and solidarity across the EU on the energy question are necessary.

6.1.2 . Energy: a very varied scenario across the EU

The structure of the general energy picture in the EU states and the new member states varies a great deal. This makes cohesion difficult, since, as long as international links between States are insufficient, and as long as different national regulations also make trade and exchange difficult, the different structures from sector to sector will result in different costs and prices in each State.

The different productive structure for energy in the States is due to many different factors, historically, to different industrial and financial interests, and to the structural features of each country (the availability or non-availability of a country's own energy sources, distance from points of consumption). In a sector such as the energy sector, considered strategic in all the States analysed, considered a public service or essential

service, a sector which is capital intensive, with long periods for returns on investment, it is difficult to change structures or to bring about any degree of homogeneity in the medium or short term.

The 1973 energy crisis had a different effect on the development of energy in Member States. For example, France and Belgium, and, to a lesser extent, Sweden, Germany and Spain devised very ambitious plans for the development of nuclear energy as a means of generation of electricity. Other countries, such as Italy, Portugal, Ireland and Greece chose a different route.

The introduction of natural gas in the European energy diet is also a very varying phenomenon. There are states, such as Holland, The United Kingdom, Germany and Austria, where there is very significant use of gas as primary and final energy, probably because it was conceived as such many years ago. However, in countries such as Portugal, Spain and Greece, where gas has been introduced only recently, demand is growing very sharply.

But, with the implementation of the Directives for the gas and electricity markets, it would appear that competitive mechanisms are going to fall into place, and that this would probably lead, in the long term, to a greater degree of homogeneity of energy structures, in which natural gas will become more and more important, and to the generation of electricity from peat added to gas, and from renewable sources.

6.2. An overview of regulation.

No theory provides a magic formula for the best way of regulating or organising the sector in any place or circumstance. Experience tells us that everywhere “suits are made to order”, dictated by circumstance as it were, with the benefit of pioneer experiences, and based on the circumstances and structural characteristics of each country or territory.

In general terms, today the State plays a less significant role, since there is less of a need for the planning of investments, and also because there is less pressure and less urgency to recoup investments. But this doesn't mean that directly or indirectly the

State doesn't play a significant role, since the introduction of competitive mechanisms and the creation of markets require the design and application of a new set of rules. As well, certain public service responsibilities always have to be met.

There are also certain demands, which are politically and socially desirable, which can be termed public service or essential requirements, such as the need, at least, for certain groups of consumers to be assured of a regular and stable supply at reasonable and predictable prices. Such needs are not resolved solely by market mechanisms.

The regulatory measures derived from being considered a public or essential service have a fundamentally positive effect on the objective of cohesion, given that, in general, in all the territories an effort is being made to ensure stable supply at reasonable prices for consumers (for example the obligation to supply, which is common to all Member States, the existence of regulated tariffs for the final consumer, at least for those with negotiating power, certain minimum quality requirements and the penalisation of those companies that fail to meet such requirements, etc.).

A look at regulation from country to country, as envisaged by the Parliamentary and European Council Directives 96/92/EC on *common rules for the internal electricity market* and 98/30EC on *common rules for the internal gas market* shows that there are many differences in terms of direction. The situation in each EU Member State is very different indeed.

The new model of regulation is a complex process, which is in constant evolution, and which has to be presided over with caution and dialogue, not to mention a proper grasp of the economic, technical and business realities of the sector. The role of the regulating institutions nationally and within the Commission is fundamental.

6.3 European energy policy

6.3.1. European networks

There can be a more efficient co-ordination of energy policies. But for that to obtain there must really be a market of energy products that circulate without any restriction across European networks.

Transport lines must guarantee the free flow of such products and facilitate the creation of the internal market in order to allow the benefits to reach all Member States. Support for European networks will make it easier to construct the internal market, and allow for the free circulation of different types of energy and so benefit the most isolated regions (take, for instance, the important financial effort made by the EU in certain regions of countries such as Greece, Portugal and Spain). The possibility of access to new energy sources such as natural gas, for example, will not only allow those isolated regions the possibility of having greater diversification of energy sources, and therefore reduce their dependence/vulnerability, but also allow them new opportunities to improve the conditions and level of competitiveness of their productive apparatus. In addition to this effect, which has positive implications for economic development, there is the added advantage of access to energy sources, which will improve the quality of life of the population.

What has so far been done within the European network programmes can only be viewed positively, in terms of the achievement of the objective of cohesion. However, and though it might be an extremely technical question, it must be pointed out that there are still some shortcomings with regard to the degree of international interconnection of the EU, for gas, as well as electricity at certain border points.

We cannot ignore the growing environmental difficulties either, nor the difficulties involved in the regulation of territories, nor those administrative difficulties involved in the setting up of infrastructure in general and energy infrastructure in particular. It would be advisable to look at ways of speeding up and facilitating the setting up of such infrastructure, since they are a greatly beneficial to cohesion.

6.3.2. Energy infrastructure

Generally quite developed in each EU state, but we must underline the REGEN and INTERREG I programmes, which have made a decisive contribution to the development of such infrastructures in the peripheral countries of the EU (Spain, Greece, Portugal and Ireland), and which also work towards greater homogeneity in the improvement of infrastructures.

Here, we must also underline that in the past important infrastructural development for energy has taken place in the peripheral States, partly funded by European money. Examples are the massive introduction of natural gas in Spain and Portugal, and other developments in Greece, etc. This has had generally spectacular results from the energy point of view, not to mention on greater cohesion, as defined in this work.

6.3.3. Creation of markets

In the field of legislation, community directives have established common ground for the organisation and regulation of the gas and electricity sectors and taken the first step towards the creation of a real internal energy market.

The aim of the Commission is to stimulate competition in internal markets, by encouraging the entrance of European and foreign competitors to make for more dynamic sectors, and thereby reap the benefits that greater supply can bring to the entire community and so contribute to regional cohesion.

But it must be pointed out the electricity and hydrocarbon sectors have certain features which make it difficult for competition to obtain. For this reason, in many States, given the room for manoeuvre allowed by the Directives, various mechanisms of transition have been envisaged, the main one being progressive access to the market after demanding entry into it.

The Directives allow ample time for the implementation of the market in each Member State, and also allow room for manoeuvre for the application of concrete regulation. For example, systems for third party access to the network (calculation of access tariffs) can be negotiated or regulated, activities can be separated solely for

accountancy purposes, or for legal reasons, and there may even be share holder incompatibility.

In any case, the idea of separating those activities that are likely to compete with each other (such as the generation of electricity, the supply of gas, the refining of petroleum, wholesale commercialisation, etc) from those that have the trappings of natural monopoly, mainly the basic networks, such as gas lines, the high tension network or certain elements for hydrocarbon storage, seems a clear objective.

In the future, the development of a common energy market requires not only the approximation of legislation and regulation within Member States, but also the co-ordinated action of the main bodies that are crucial to energy policy: the supply of energy resources, diversification of energy sources, and the harmonious development of the sector by covering future needs.

The lack of co-ordination in the field of energy could lead to even greater regional differences. The integration of the European energy sector is a necessary though not sufficient condition for the achievement of the economic cohesion of European regions.

6.3.4. Energy saving and diversification

Other elements that may lead to greater cohesion are the efficient use of countries' own resources and the development of renewable energy sources. The use of such resources will lead to less dependence on outside sources, to greater protection against external shocks from any primary energy source and to a considerable reduction, - consistently so - in the amount of energy used per unit of output. This can only help in the achievement of the objective of cohesion.

In most States there are programmes for the development of those States' own and renewable resources, mainly via co-generation, mini-hydraulic energy, by wind and sea based energy, and thermo-solar or photovoltaic energy. In most cases, the energy generated by these means is not nearly as competitive as the energy produced by big generation. For that reason, given the long term benefits to be derived from such a source, and given that without great commercial experience, technological advancement

and development would be slower, a subsidy system for most of these energy sources is necessary. This is a source of controversy and even distortion.

Be that as it may, it is crucial to make sure that the subsidies necessary for this type of development suffer as little distortion as possible, and that they are granted through the most transparent and objective procedure possible, since, that, as well, would be beneficial to the objective of cohesion.

With regard to the programmes promoted by the EU Commission, we must highlight the programme of financial support for the promotion of energy technology for the 1995-1998 period, JOULE – THERMIE II, and the elaboration of the Green Paper (COM (96) 576 final) on renewable sources of energy, with which the EU made a very decisive step towards the objectives of energy saving and diversification.

EU action in this field will bring great benefits by helping to reduce the level of dependence on outside sources and by stimulating countries' own resources. The idea, in short, is to implement a policy of endogenous development where the priority objective is local and regional development through the dynamic use of countries' own resources, and, with concrete reference to energy, by promoting renewable energy sources.

The promotion of renewable energy sources and the measures for greater energy saving not only have a positive effect on the problem of dependence and productivity, but also allow the economies of member countries to redirect their focus towards a model of sustainable development in keeping with EU undertakings in the Kyoto Protocol.

6.3.5. Supply security

In times such as the present, in spite of the volatility of petroleum prices, security in supply is no longer a major worry of energy authorities in developed countries. But stability in supply is perhaps the first preventive measure against a state of dependence on outside sources. In general, each Member State regulates its own security; but, in the

interest of greater cohesion and more efficient security, common mechanisms of security and solidarity with regard to energy must be sought.

6.4. Rationalisation of European programmes

In December 1997, the Commission presented a proposal to the Commission for a twice-yearly programme for all lines of action as well as the funding of them, in order to guarantee the coherence and efficiency of these lines of action in the field of energy:

- Greater use of renewable energy sources (ALTENER)
- Energy efficiency (SAVE)
- Promotion of co-generation (PCCE)

The European programme for international co-operation, and for diversification and energy saving is part of the V Framework Programme, which will run between 1998-2002. All of this is very positive for the achievement of the objective of cohesion.

6.5. Prices

The absolute level of energy prices (with or without taxes) is very varied in the different countries and regions of the EU. As are the different tax systems and tax rates. The level of cross subsidy implicit for typical consumers as well.

There is no common method for the establishment of tariffs for final consumers or for network access. In general, over the years there have been no stable methodologies either, and at times they have not even been explicit. The only thing that appears to be common is the existence of binomial tariffs, with one fixed component (connection) and another variable, depending on consumption.

This difference and variety in regulation, as well as in terms of geography and the structure of demand and industry, etc, from region to region, is such that, logically, the

price scenario is very diverse and complex. Energy prices cannot be the same in all EU countries, because costs are not the same.

Neither can it be said that prices are substantially different between the southern countries (Spain, Portugal, Italy and Greece) and those in the north.

Neither can it be affirmed that development differences (in terms of cohesion) between the North and the South are due to different energy prices, it being difficult to establish a relation between prices and cohesion. However, it would seem that a greater degree of connection between markets, which would open up the entire EU area to greater competition, should offer opportunities that would be favourable to social well being, defined in general terms, and could, therefore, aid in the achievement of cohesion.

It is necessary to consider the reasons for which each government imposes certain fiscal burdens on energy (not the same from country to country). But it does seem reasonable to think that what best suits cohesion is a tax policy for energy that is consistent in each country, since this would eliminate a certain amount of the exogenous discrimination that exists at present.

6.6. The environment

Even though common environmental regulation for energy is still only at the beginning, it will be an important factor for cohesion among regions. Put differently: the lack of rules in this terrain can have advantages or disadvantages in terms of the placing of people and activities, which could have a negative bearing on territorial cohesion.

However, given that, in the long term, industry will have to internalise environmental cost, it would seem reasonable, from the point of view of the achievement of the objective of cohesion, to consider and move to implement the adjustments (modifications) that would be necessary in order to achieve the approved, standard levels.

6.7. The future: integration of energy and energy markets

We are at present in the midst of an unstoppable process of integration of all energy sources, thanks to the very rosy future envisaged for natural gas in Europe and in the world. This integration is being seen in final energy markets, but profoundly affects primary energy markets. This process can only be favourable for social and economic cohesion in the EU.

Natural gas seems destined to play a key role in a process of integration of energy markets.

In fact, with the growing sensitivity to environmental problems and the use of non-renewable resources, with all the technological advancements taking place within the full gamut of hydrocarbon products, with falling investment costs, low interest rates and more or less stable exchange rates, natural gas has emerged as a valid energy option, a new opportunity, in short, as a reality.

Gas as final energy is becoming increasingly important all over the world. It might even replace petroleum products as combustible for automobiles, and prove an alternative to electricity in homes and industry. Gas is the reference technology for the generation of electricity, so much so that in almost every country in the world investments in new plants are in gas.

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6.8. Conclusion

There are regions in which economic activity, especially industrial activity, is much more dependent on energy input than in others. Free access to energy sources at competitive market prices should contribute (in certain circumstances) to the reduction

of company (business) costs. It is crucial that there be no great regional differences in terms of availability and the cost of access to energy, or that at least those differences are fully justified for objective economic reasons, and that they are not artificially created by insufficient regulations. The creation of a real internal energy market for the EU is fundamental from many points of view, and is also a priority for social and economic cohesion. But, for the time being, the European Union today is more a summary of many different national energy markets than a single market, though a great deal of effort is being put into the achievement of a single market. Different rules in different regions, physical difficulties and the regulatory problems involved in carrying out exchanges from zone to zone, and the relative lack of elaboration, to date, of common energy rules and institutions, are in no way helping towards the achievement of the objective of social and economic cohesion.

But EU energy policies can only be positively assessed so far in terms of their effect on cohesion. By this we mean those lines of action aimed at improving connection between European networks, and those programmes geared towards increasing energy saving and greater efficiency in the use of energy.

With the introduction of an energy policy, the EU aims not only to reinforce the European dimension of energy, but also pursues the creation of a single market. The benefits that are expected to be derived from the opening up of the market as well as the choice of renewable energy and energy efficiency will be perceived in the greater competitiveness of the economy, which will have positive implications for the creation of wealth, as well as for the improvement in the quality of life, especially in more isolated regions, and, therefore, in worse conditions of access to energy resources. So, greater competitiveness and a better quality of life in the less privileged and more isolated regions will have a positive effect on social and economic cohesion.

The effort made thus far, - and that which still has to be made - for the unification of national regulations, is considerable. Given the growing dependence on imported energy, it is crucial to move forward meaningfully with a common policy of solidarity with regard to security reserves and the diversification of supply sources. Which will also lead to greater social and economic cohesion.