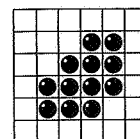


ENERGY IN THE EUROPEAN COMMUNITY



EUROPEAN DOCUMENTATION



Efficient production and use of energy is the key to future primary energy consumption. Energy intensity in the coming decades will be determined by the interaction of prices, technology, capital availability and environmental constraints. The dominant themes of the 1990s are the internal energy market and the environment.

Security of supply, energy production and consumption must be reconciled with a steady improvement in environmental quality. The internal energy market will provide a stimulus to economic activity and create a more favourable business climate. It will provide the basis through economic growth for the development of more efficient technologies, facilitate penetration of these technologies and help to reduce energy consumption through more rational use of energy. Above all, this will lead to a decline in emissions.

The three objectives of:

- (i) sustained economic growth,
 - (ii) a clean environment, and
 - (iii) a secure energy supply at competitive prices
- are not mutually exclusive. However, harmonious progress towards these goals is dependent on an effective common energy policy.

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INTRODUCTION

The Community is well on course for 1992, the year in which the legal and technical structure of the internal market is to be in place, ushering in the free movement of goods, services and capital. It goes without saying that such a large economic area (the Community already has over 320 million inhabitants, a figure which will probably be nearer 330 million in 1992) needs a blueprint for a common energy supply. As we shall see later, this is also what the people of Europe want. The 'script' for the ambitious internal market project, the Commission's White Paper adopted by the European Council in Milan at the end of June 1985, does not list energy or energy policy in the section on planned legislation. (There is an indirect reference concerning the opening up of public procurement in the electricity and water supply sectors.) Nevertheless, the energy sector occupies a far more important place in the internal market programme than might at first appear.

Let us consider again briefly how the new Article 8a of the EEC Treaty defines the internal market:

'The internal market shall comprise an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured in accordance with the provisions of this Treaty.' Is energy a commodity? A service? Or both? The prevailing view is that, while energy is a strategic economic commodity, energy marketing has more to do with services.

The internal energy market will therefore inevitably differ in some important ways from the internal market in, say, the food industry or audiocassette industry. Furthermore, the individual energy sources are also highly diverse in character — take water, coal, mineral oil and nuclear energy — and nature has distributed these resources (which we shall mainly consider collectively as 'primary energy' in the following) less than

evenly throughout the individual Member States. In addition, energy is used for different purposes: depending on how it is processed, an energy product may be used as a fuel, as a raw material or as motive power. All of this has given rise to very complex structures in the individual Member States and, of course, the structures become even more complicated at the level of the Community as a whole.

However, a superficial glance will suffice to show that there is little evidence of market forces in the usual meaning of competing products and suppliers in the European energy industry and many ancillary sectors. For example, there is virtually no alternative at present to oil in road transport or the petrochemicals industry. There is at least a choice of primary energy inputs for heating, steam raising and blast furnace operation, with cost generally being the deciding factor. Electricity, the most widely used form of secondary energy, and natural gas, are commonly subject to distribution monopolies, which close off the market in their catchment area, denying access to competitors. The undertakings operating on such markets are also highly diverse. Small and medium-sized private companies exist side by side with public utilities, national private enterprises and multinational concerns. These organizational differences are compounded by differences in rights, privileges and obligations. And just to round off the picture, the energy sector is influenced by different political traditions in the individual Member States and, above all, differences in taxation practice.

The net result is that differences between Member States in the energy sector are primarily determined by two factors: the type of energy products available there and the conditions under which they are produced, distributed and used. Nature and history have thus produced a situation where the in-

dividual energy markets in the Community's Member States are still strictly compartmentalized and the free movement of energy products consequently greatly hampered. This has inevitably had repercussions on the competitiveness both of the individual Member States and of the Community as a whole in the international arena.

However, the objective of the internal market is specifically to secure the Community's competitiveness and international prestige in the short to medium term. Energy has a key part to play in this owing to its vital importance for every sector of the economy and the individual citizen. It is hoped that a more open energy market will reduce access utilization costs and pave the way to more rational production through greater competition on the supply side. It will not only be private consumers who benefit, but also industry wherever it requires energy to function. If we consider that energy costs amount to between 25 and 30% of the production costs of steel, glass products, aluminium or building materials, it immediately becomes clear that lower energy prices have a direct impact on product prices and thus on competitiveness. This results in more opportunities for stable growth and better prospects for employment.

The effects on the energy industry itself are also likely to be positive. The removal of internal barriers should provide the industry with economies of scale in the production, transport and distribution of energy. This will go hand in hand with an improvement in the European producers' financial situation and

international market position. Another crucial aspect is that a more integrated energy market can decisively improve the security of supply of the Member States and their economies. Last but not least, intra-Community trade in energy products is likely to increase substantially, and thus reduce costs still further. These cost factors are by no means insignificant. The Commission has put the costs of 'non-Europe' in the energy sector, i.e. the additional costs that energy consumers — whether in industry or the domestic sector — have to bear owing to the current fragmentation of energy markets, at almost 0.5 % of the Community gross domestic product. For this reason alone, we can but endorse the statement made by the Commission in its paper of May 1988 entitled 'The internal energy market': 'The establishment of a more integrated energy market is of vital importance to the future of our Community. We should therefore endeavour to identify all the potential or existing obstacles confronting the various energy sources and the various Member States.' We shall return to this subject later. However, there are also objective constraints acting on all energy sources and all Member States, independently of any other impediments or barriers they may encounter individually. These are the security of supply and the strategic nature of energy generation and energy products. These constraints were abruptly revealed during the first oil crisis in 1973. Let us therefore begin with the Community's position in the world energy market.

THE COMMUNITY AND THE WORLD ENERGY MARKET

The world energy market has changed fundamentally since the end of the Second World War. Several factors have been implicated in this development:

(i) an increase of over 100% in primary energy consumption in the industrialized countries in the first three decades up to the early 1970s;

(ii) large-scale displacement of solid fuels (hard coal and lignite), which covered over 80% of energy requirements in the countries of the future European Community after the Second World War, by mineral oil and, subsequently, natural gas. Oil, which accounted for approximately 10% of European energy requirements at the beginning of the 1950s, increased its share to 59% in 1973, while solid fuels declined to 23%;

(iii) the emergence of a completely novel energy source in the form of nuclear power, which covered just 4% of requirements in 1973 together with geothermal energy and hydropower (now 12%);

(iv) two oil crises in 1973 and 1979-80 which changed the picture more radically than any other factor.

A new trend has been emerging as a result of increased environmental awareness in broad sections of the population, not only in Community countries, which has led to critical questions being asked about the main energy sources — coal and oil as well as nuclear energy — and the consequences of intensive energy utilization in the form of visible and tangible deterioration of the natural environment.

Let us now consider these factors individually:

■ THE FIGURES

The development of the world economy since the end of the Second World War has

resulted in an unprecedented expansion of energy consumption. World consumption in 1950 stood at around 1 900 million tonnes of oil equivalent (a unit which measures the various energy sources according to their equivalent calorific values, so that they can be compared and added: one tonne of oil equivalent (toe) corresponds to 10 million kilocalories (kcal)); 14 years later consumption had already doubled, increasing to a total of 8073.5 million toe by 1988. It is estimated that man will have used as much energy in the latter half of the twentieth century as throughout the whole period of his existence on Earth until 1950. World energy consumption increased by an average of 5% per annum between 1950 and 1973, which is twice the known rates from the 19th century. Steady economic growth of well above 5% on average over many years, rapid population growth of + 1.9% per annum, and, above all, stable energy prices favoured this trend.

These international trends were faithfully reflected in Europe. Energy consumption in 1973 in the Community of the Nine reached approximately 1 000 million toe. At that time it was not possible to foresee that demand in Europe could become saturated, nor that there could be zero growth. It is therefore not surprising that the Commission extrapolated the existing growth rates to arrive at a projected energy demand of 1 800 million toe for 1985; for 1988 it assumed a doubling of the 1973 figure. It was also predicted that:

(i) the share of solid fuels would continue to decline to just 10% of demand in 1985;

(ii) the share of natural gas and oil would increase to 15 and 64% respectively in the same year, and

(iii) there would be a massive expansion in nuclear energy from 1.4% in 1973 to about 9% in 1985.

