

COMMISSION OF THE EUROPEAN COMMUNITIES

**Twenty-five years  
of the common market  
in coal**

**1953-1978**

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## Foreword

*The European Coal and Steel Community was the first step on the path to European unity. The common market for coal was the first common market established by the Community. As of today it has been in existence for twenty-five years, and the Commission of the European Communities is taking this opportunity to look back at the genesis and growth of this common market.*

*The Commission's intention is not to give an all-embracing account, but rather to inform interested readers of the determinants of the common market for coal since its inception in 1953, in order to demonstrate the problems which had to be overcome in the creation of a common market, and also how imperfect many of the solutions have been.*

*When the European Coal and Steel Community was founded coal mining was one of the key industries and the prerequisite for economic growth. Five years later the oil boom plunged the coal industry into crisis. Coal has since passed through a painful process of adjustment. The impact of the 1973 oil crisis and the realization that for almost 59 % of its energy requirements the Community was dependent on imports, as well as difficulties with the development of nuclear energy, certainly improved matters for the Community coal industry, but it will still be difficult to reach the production target of 250 million tce set by the European Community in 1974.*

*This report demonstrates that it was thanks to the Community that harmful consequences were averted in difficult times, a fact which should encourage us to face the future with confidence. Despite all the difficulties the Commission of the European Communities is convinced that coal, and the common market for coal, will be able to make good progress even in a world altered by the energy crisis.*

GUIDO BRUNNER

Member of the Commission  
of the European Communities

Brussels/Luxembourg, 10 February 1978

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## Abbreviations and Glossary

ECSC	European Coal and Steel Community
EEC	European Economic Community
EAEC	European Atomic Energy Community
OECD	Organization for Economic Cooperation and Development, Paris
IEA	International Energy Agency, Paris
ECE	United Nations Economic Commission for Europe, Geneva
OPEC	Organization of Petroleum Exporting Countries
Primary energy	Source of natural unconverted energy, e.g.: — fossil fuels (coal, oil, natural gas etc.) — hydraulic energy — geothermal energy — nuclear energy
Secondary energy	Product of a conversion process, such as the electricity produced in a thermal power station using fossil fuels.
tce	Tonne coal equivalent (1 tce = $7 \times 10^6$ kilocalories)
toe	Tonne oil equivalent (1 toe = $1 \times 10^7$ kilocalories)
GW	Gigawatt ( $10^6$ kilowatt)
TWh	Terawatt/hour ( $10^6$ kilowatt/hour)
u.s.	Unit of account; this corresponded to the US dollar until 1972, after which it was based on gold parities.
EUA	European Unit of Account, which has been in use in the ECSC sector since 1976. As a 'basket' unit of account, it is defined in terms of the value of currencies of the nine Member States. The portions of the nine currencies in the basket were laid down in an initial value of the EUA (28 June 1974) on the basis of the gross national product of the Member States and the volume of intra-European trade. The value of the EUA is calculated daily in accordance with changes in the official exchange rates between the nine currencies.
Spot price	Price for a single transaction

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## 1. Introduction: Establishment of the common market in coal

The effective economic integration of Europe began on 10 February 1953. Other dates in the history of the European Community are undoubtedly of equal political significance, for example the declaration made by Robert Schuman, the French Foreign Minister, on 9 May 1950, or the signing of the Treaty establishing the European Coal and Steel Community on 18 April 1951, etc. However, the two letters sent by the High Authority of the ECSC to the governments of the six original Member States of the European Community on 7 and 10 February 1953 represent the official beginning of economic integration. In these letters the High Authority announced that it had fixed the beginning of the transitional period for coal, iron ore and scrap at 10 February 1953, and that on that date, in accordance with Article 2(3), on the Convention on the Transitional Provisions, the 'relevant' powers would cease to be exercised by the Member States and the High Authority would assume the duties assigned to it by the Treaty. The texts of these letters were published in the first issue of the Official Journal of the ECSC in 1953.

Thenceforth, the governments of the Member States were no longer free 'to lay down any intended provisions, by law, regulation or administrative action, in matters over which the Treaty gave jurisdiction to the High Authority'. This may be regarded as a partial renunciation of national sovereignty in favour of a supranational institution. For undertakings in the coal and steel industries the direct effects of this communication were more important than the basic principles of international law. The announcement of the beginning of the transitional period meant the establishment of the common market and the opening of the frontiers between the Member States of the Community. This final opening of frontiers brought protection of national markets to an end. All quantitative restrictions on intra-Community trade in these products were abolished, together with import and export duties or charges having equivalent effect. All discrimination with regard

to freight rates and conditions of carriage based on the country of origin or destination was to be abolished from that date, and double tariffs between Member States of the Community were no longer to be allowed. A new economic reality was taking shape.

Twenty-five years have passed since the creation of the first common market, half of the period of validity of the ECSC Treaty. Taking the common market in coal as an example, this report aims to show what economic integration is, what problems – sometimes unexpected – have arisen, and how the Community has tried to overcome them. The Commission of the European Communities does not propose to give a complete account of its work or of the work of its predecessor, the High Authority of the ECSC, or of any other organ of the Community; its intention is rather to give a brief outline of the experience gained during the first real attempt at economic integration and of the potential and limits of this integration. This report is dedicated to all those who have played any active part in the construction of the first European Community.

## 2. The market in coal

Three phases can be distinguished during the period under review, the first 25 years of the common market in coal:

- a first phase of growth in the coal industry between 1953 and 1957;
- a second phase marked by a plentiful supply of cheap hydrocarbons and a rapid reduction in coal output despite exceptional economic growth, linked with a parallel increase in overall energy requirements;
- a third phase from 1973, marked by sharp price increases by the oil producing countries with repercussions on the world market in coal.

This review of the Community market in coal will begin with a review of demand, which, over the years, has always determined supply.

### **Pattern of demand**

#### *The role of coal in meeting Community energy needs*

The coal market, the first target of the integration policy of the Community, is only one part of the energy sector of the Community. For this reason the evolution of demand for coal and its by-products since 1953 must be seen in the context of the whole problem of energy supplies.

### **Energy consumption - the role of coal**

The economic growth of the Community has been accompanied by an almost uninterrupted increase in energy consumption. The close relationship between these two factors is shown by the rates of growth of the gross domestic product in real terms, and of primary energy consumption in the original six-member Community during the two decades prior to 1973: both reached an average annual rate of 5.4 % i.e. their coefficient of elasticity had the value 1 (Tables 1 and 2 and Graph 1).

In the short term, however, this overall correlation was upset on several occasions, sometimes substantially. As a result of external forces, such as extreme weather conditions (for example, during the cold winters of 1955/56 and 1962/63), and of marked changes in economic activity in those sectors of industry which consume large amounts of energy, such as the iron and steel industry, the coefficients of elasticity, in relation to the increase in gross national product and industrial production, moved away considerably from their long-term values.

Coal, once a major factor in industrialization, only continued to expand during the early years of the Community. From 1957/58 onwards a structural change in energy consumption led to a relative and absolute decline in the use of coal, namely from 66 % in 1953 to 20 % in the present enlarged Community. Even in the United Kingdom and Germany, the two main coal producers, coal now only supplies (in 1976) 36 % and 20 % respectively of primary energy requirements (Tables 3 and 4).

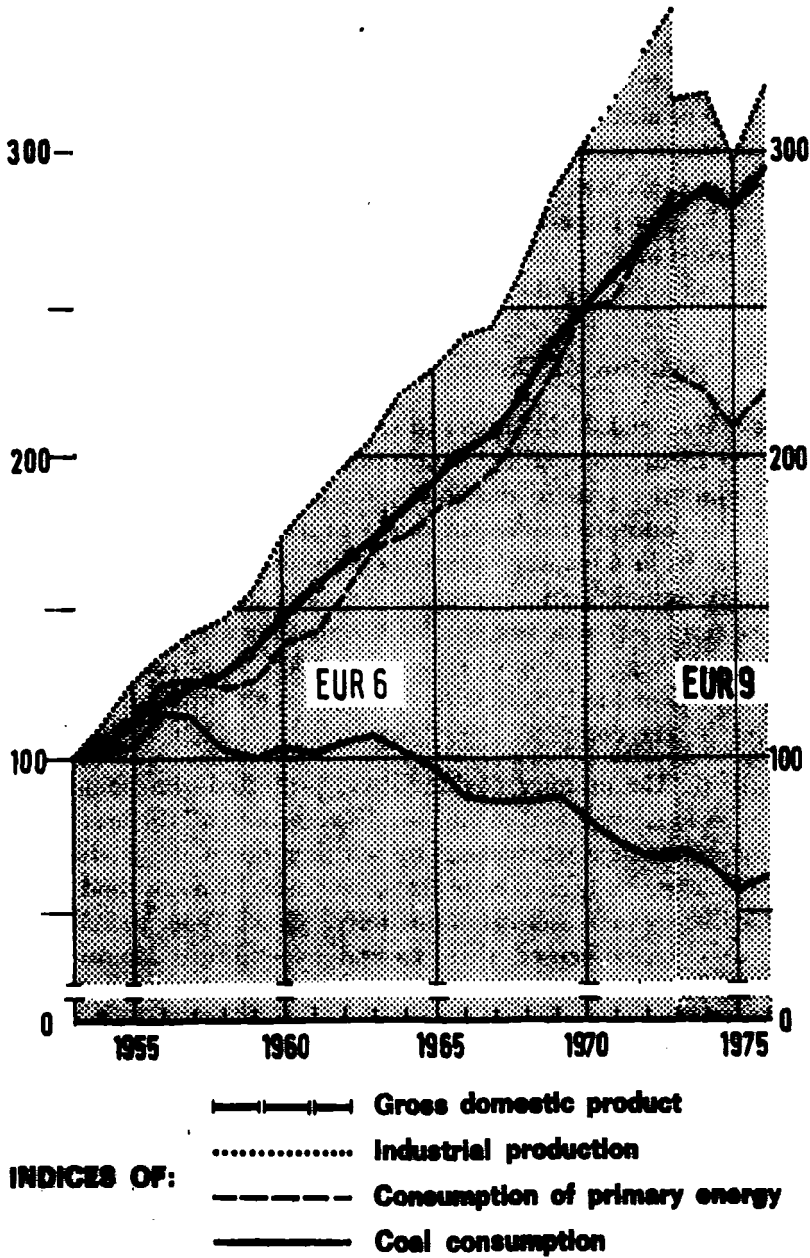
The main beneficiaries of this development were oil and, to a lesser extent, natural gas; in 1973 oil reached the predominant position occupied by coal until the 1950s. As a result of the strong upsurge in total energy requirements, the change in the structure of demand and in the composition of its own energy resources, the Community became increasingly dependent on energy imports from third countries. This dependence was not greatly reduced by the discovery of the Dutch natural gas fields and their subsequent development. Shortly before the energy crisis of 1973/74 the Community of the Six covered almost two-thirds of its primary energy requirements by net imports, as against 15 % in 1953. The changes which took place in the use of the different forms of energy were due to both supply and demand factors.

Economic expansion and the improvement in living standards meant that the technical demands of the population with regard to energy supplies increased. There was a growing demand for secondary energy sources, mainly refined petroleum products, which could be most easily and specifically adapted to changing requirements. This trend continued at the expense of coal, large quantities of which were consumed in the unprocessed state. However, an effort was made to regain lost markets indirectly by fixing coal prices. This was the case in the power station sector, where coal had to compete with other energy sources.

At the final consumption stage, coal and its by-products faced highly competitive markets. Petroleum products were used increasingly, not only for industrial, public and private heating, but also to provide the mechanical



GRAPH 1



energy required by railways, shipping and inland waterways. This process of substitution was directly due to the technical and financial advantage of this new source of energy.

The role of coal in meeting the primary energy needs of the Community also diminished as a result of the fact that the energy needs of road and air transport increased at a much faster rate than overall energy consumption. The expansion of this market gave an enormous advantage to petroleum products, for which there was no substitute in this field. Moreover this development gave a further impetus to the process of substitution on the heating market; in order to help resolve the problem of balancing refinery production, outlets had to be found for the residual products of the refining process.

### **Competitive position of Community coal**

Apart from these technical changes in the structure of demand, it was above all the change in the competitive conditions of supply which affected the position of Community coal in the energy field. But here it must be stressed that, when the common market in coal was set up, the indigenous coal industry derived little advantage from the climbing demand because mining conditions and limited funds prevented a greater increase in coal production in the short term. It was not until 1957/58 that ever larger quantities of imported energy began to appear on the market at prices with which European coal, burdened as it was with relatively high production costs, could generally no longer compete.

Subsequently, the Community coal industry, protected from competing forms of energy in various ways and to various degrees, used all the means at its disposal to restore its competitiveness by cutting down its production costs. In this sector, with its high labour costs, increases in wages had to be offset as far as possible by increases in productivity. Since 1958, therefore, the mining companies have focused their capital expenditure almost exclusively on rationalization. Improvements in mechanization and coal extraction, the choice of better seams, and selective pit closures have allowed output per shift to grow far faster than was possible in previous decades. But even these considerable achievements were insufficient to halt the long-term increase in production costs. Of course, these costs did not rise uniformly in the various coalfields, and there were even short periods when they fell, but the main objective of making a larger proportion of Community coal production competitive had not been achieved by the advent of the oil crisis in 1973.

### *Imported coal*

The import prices of coal from third countries followed a totally different pattern. Until the beginning of the 1970s American coal was of major importance. In the United States coal can be extracted under much more favourable geological conditions than in Western Europe. At the beginning of the period under review output in the United States coal industry was 7 tonnes per manshift, approximately five times that in the Community. As a result of the development of open-cast mining and more extensive rationalization of deep mining, output in the United States increased still further, at least until 1969. Since then, stricter safety and health regulations in mines have had a noticeable effect; output per manshift in deep mining fell from 14.2 tonnes in 1969 to 7.7 tonnes in 1976. Nevertheless, the American lead over Community mines (3.6 tonnes) remains considerable, especially in view of the average output per manshift of the American coal industry as a whole (12.5 tonnes).

Contrary to what has happened in the Community, the increase in productivity in the United States allowed production costs to be stabilized for a long period at the relatively low level of approximately \$ 5 per tonne. It was only from 1970 onwards that the fall off in output per shift, coupled with substantial wage rises – which could be granted more easily as a result of increasing production – brought about a rise in costs.

On the other hand, transatlantic freight rates proved to be an unstable element in the price of imported coal from the United States. This factor was of major significance from the middle of the 1950s when a dramatic increase occurred in imports of American coal as a result of a coal shortage in the Community, aggravated by the Suez crisis. As a result of the limited shipping capacity available during this period, spot rates rose suddenly. This led European importers, who feared an energy shortage, to conclude additional, long-term supply contracts for American coal in order to reduce their average freighting costs in the longer term. The world recession of 1958, however, was followed by a decline in Community energy consumption, a surplus of shipping capacity – which had been greatly expanded after the Suez crisis – and a reduction in transatlantic freight rates. This meant a drastic change in the European coal market. Whereas previously the shortfall in the Community supply of coal had been made up by more expensive American coal, the Community coal industry now had to protect itself, given the fall in demand, against ever increasing quantities of cheaper imported coal.

At the end of the 1960s Polish coking coal and steam coal began to pose a serious threat to American coal on the world market. Since coal is a major source of its foreign currency, Poland strove to obtain the largest possible share of foreign markets by means of an extremely flexible price policy, irrespective of economic conditions.

Finally, coal was increasingly exported from other parts of the world (Australia, western Canada, South Africa), where the deposits were relatively easy to mine. With modern transportation methods this exported coal was competitive in the Community despite its distance from the market.

### *Fuel oil*

Coal's main competitor is fuel oil which, in addition to the technical advantages already mentioned, has increasingly favourable price advantages. In contrast to coal, the cost of oil supplies only depends to a very limited extent on rises in wage levels. After the first Suez crisis, the gap between coal and oil prices widened at the expense of the Community coal industry. This situation was due to various factors, the most important being:

- an increase in oil prospecting throughout the world and the discovery of large new fields, mainly in the Middle East;
- higher production by the 'newcomers' on the world oil scene who, lacking refining and industrial plant, attempted to sell their crude oil to independent refineries by means of an aggressive price policy;
- quota restrictions on oil imports into the United States. As a result, the international oil companies no longer had to adjust the price of crude oil outside the United States to ensure price parity on the north-eastern seaboard between Middle-Eastern crude and the expensive American crude. Increased pressure from inexpensive Middle-East crude oil on the European market followed;
- a reduction in freight rates following a rapid increase in the number of available tankers, and the use of larger tankers with higher cruising speeds
- a sharp increase of refining capacity in the Community, the sites chosen for refineries moved steadily further away from the coasts and closer to the centres of consumption.

The period of stable – i.e. of falling – prices in real terms in the Community lasted for a decade, until the end of the 1960s. In the case of heavy fuel oil the real reduction in consumer prices between 1960 and 1970 varied from coun-

try to country between 3 % and 50 %. It was not until certain strains began to appear on the oil market in 1970, that the oil-producing countries, which had long been associated in OPEC, succeeded in converting this association into a more radical front. At two meetings with the oil companies at the beginning of 1971 (in Tehran and Tripoli) these countries first succeeded in obtaining higher prices for their crude oil production. Subsequently, participation agreements were signed which, varying in extent, went in some cases as far as the complete take over of oil companies in the concession areas. This development reached its apogee following the Yom Kippur War of October 1973, when OPEC transformed itself into an ideologically based monopoly and imposed price rises of an unprecedented magnitude on the world market.

### *Coal sales by sector*

Reference has already been made to one of the most significant effects on supply and demand produced by changes in the coal sector: the loss of coal's dominant role in Community energy supplies. After the brief period of expansion which characterized the first years of the common market, 1958 saw a sudden reversal in this trend and marked the beginning of a general recession on the coal market, which has continued to the present day (Table 5). During this period of decline the annual sales curve has shown a number of fluctuations of varying magnitude, resulting from the level of economic activity and weather conditions. Temporary periods of real increases in sales have all been followed by severe slumps. By 1973, immediately before the oil crisis, total sales of coal in the six original Member States of the common market were 169 million tonnes, i.e. 120 million tonnes, or more than 40 %, lower than the record level of 1957.

One of the main energy policy objectives laid down by the Council of Ministers in 1974 was the increase in coal consumption in the medium term. However, the expected upturn in the market has not yet occurred.

This general trend is the result of a complex of factors which have affected energy-consuming sectors to varying degrees and in various ways. Coal sales have concentrated on electricity production and coking. More than 80 % of present output goes to these markets, while gas works, domestic heating and transport together with the various industrial sectors, excluding iron and steel, have diminished in importance. The main sectors of consumption will now be examined in detail.

## **Power stations**

During the period 1953-73 electricity production in the Community of the Six, rose remarkably from 153 to 685 TWh, an average annual increase over the two decades of 7.8 % (Graph 2 and Table 6).

Given the limited possibilities for building new hydro-electric power stations, and the still minor importance of nuclear power stations at the end of the period it was left to the thermal power stations to meet additional electricity requirements, thus opening up lucrative markets for coal. As a result, sales of coal in the six-member Community increased from 35.6 million tonnes in 1953 to 49.3 million tonnes in 1973, with a peak of 61.3 million tonnes in 1971.

These figures include sales both to public power stations and to colliery-operated power stations, the latter representing approximately 35 % of the total. These colliery-operated power stations have been increasingly adapted to burn both lower quality coal, unavoidably extracted during the mining process, and surplus high quality coal; they now supply a large proportion of their electricity production to national grids.

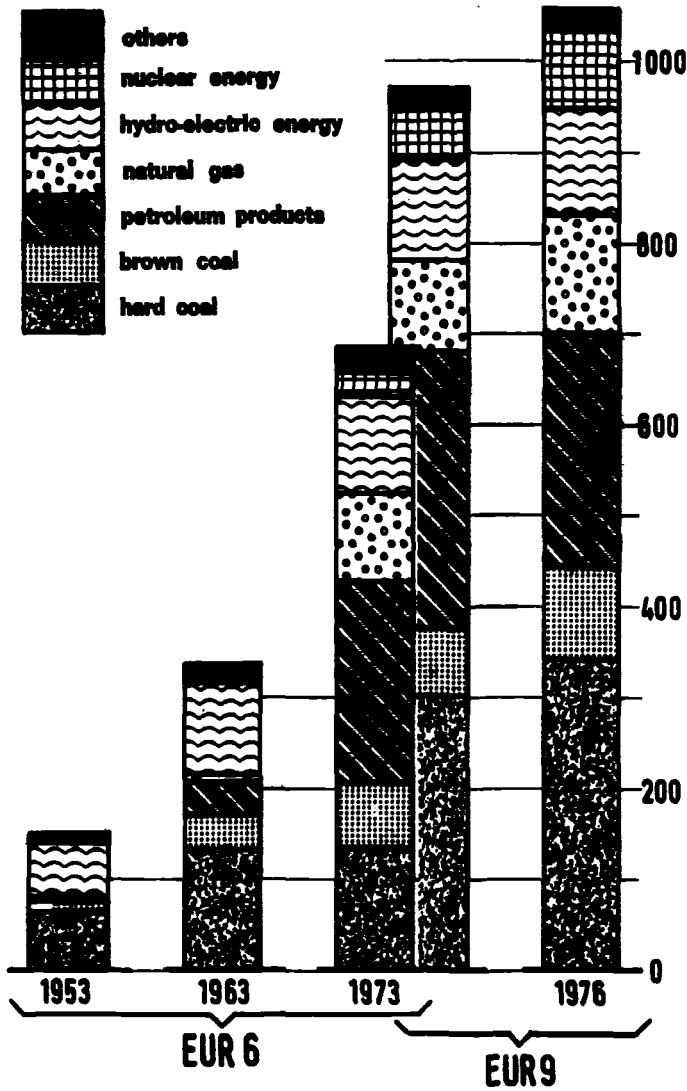
Mention may be made here of power stations which burn brown coal, a very inexpensive fuel found mainly in Germany, where it accounts for approximately a quarter of total electricity production.

The increased use of coal in power stations has been limited by competition from hydrocarbons, i.e. fuel oil and natural gas, which in 1976 supplied a greater proportion of fuel to power stations in the Community of the Six than coal. This is not the case in Germany, where financial aid has allowed coal to retain a substantial proportion of the market, greater than that of fuel oil and natural gas together (Graph 3 and Tables 6 and 7).

The enlargement of the Community by the entry of the United Kingdom radically altered the average pattern of fuel supply to thermal power stations. At present, three-quarters of the fuel requirements of British thermal power stations are supplied by domestically-produced coal because of the latter's relatively low production costs. Thus the power stations consume more than half of national coal production.

Consequently, in contrast to other Member States, the United Kingdom can do little to increase the use of coal for electricity production in place of fuel oil or natural gas. Recent promotion of the use of coal in the other Member States has been of more benefit to inexpensive imported coal from non-member countries than to the coal industry of the Community.

GRAPH 2



ELECTRICITY PRODUCTION (TWh)

## **Coking plants - iron and steel industry**

The iron and steel industry is one of the main outlets for coal, since blast furnaces have to use coke. Steel production in the Community of the Six increased from 40 million tonnes in 1953 to 123 million tonnes in 1973, a threefold increase in 20 years (Graph 4). Coke consumption did not keep pace, owing to continuous technical improvements in the steel manufacturing process, especially in furnace operation.

The increasing use of sinter and the injection of fuel oil allowed a substantial reduction in the specific coke input in blast furnaces. In 1953 an average of almost one tonne of coke was required to produce one tonne of pig iron in the Six-member Community; by 1973 this had been reduced to just over 500 kg (Graph 5). For this reason the coke requirements of the iron and steel industry increased by only 50 % in 20 years (Tables 8 and 9).

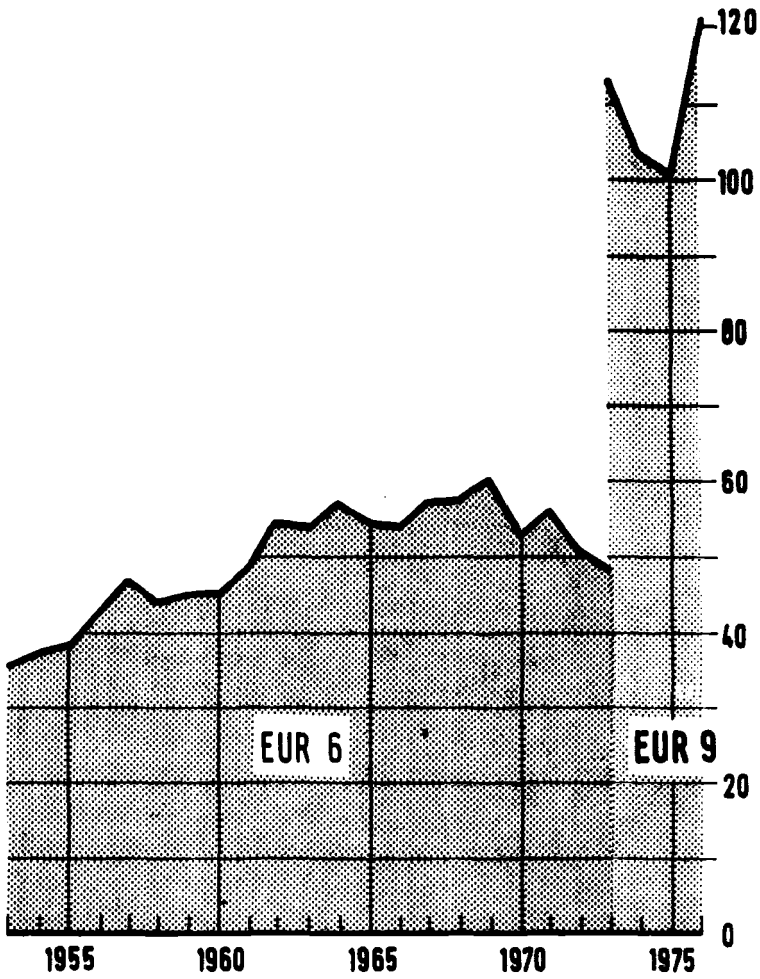
After a peak in steel production of 155.6 million tonnes in 1974 the iron and steel industry in the enlarged Community underwent a serious crisis. This produced a drop of more than 20 % in the consumption of coke in 1975 alone. In previous years there had often been relatively marked fluctuations, and indeed, although an important market for Community coal, the iron and steel industry is nevertheless a factor making for instability, especially as during periods of recession Community coal has to compete with coking coal imported from third countries. This tendency has been reinforced by the gradual relocation of iron and steel plants to coastal sites to enable them to obtain supplies of sinter and coke more cheaply. All new iron and steel plants situated near the coast have their own coking plants, and over the years the part played by colliery coking plants in the supply of coke to the iron and steel industry has considerably diminished. At present, 85 % of coke produced by all coking plants goes to the iron and steel industry. The coke requirements of other sectors are falling steadily (Table 10).

## **Gasworks and sinter plants**

From the outset these two processing sectors were of far less importance for coal sales than power stations and coking plants, and their importance has further declined since 1958. This can be explained by the fact the use of the secondary fuels produced in this case, gas coke, gas and ovoids, is almost entirely restricted to domestic consumption, where there is competition from substitute fuels. This aspect will be covered more fully in the next section. Sales of coal to gasworks and sinter plants in the Community of the Six fell

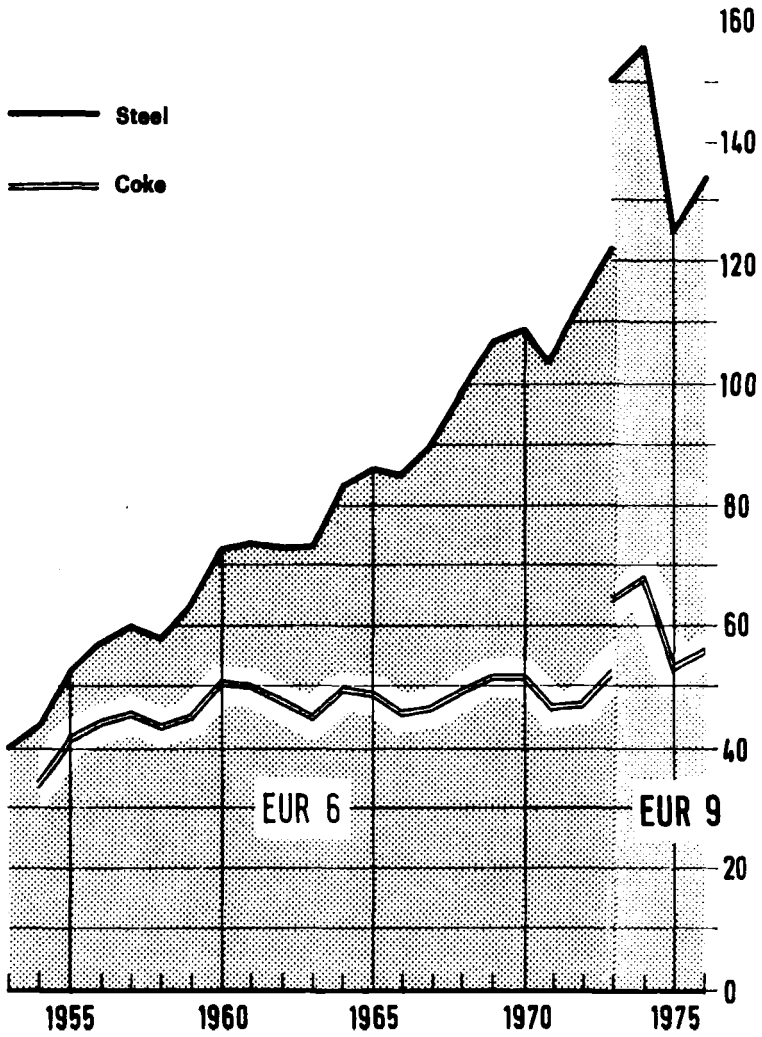


GRAPH 3



COAL CONSUMPTION IN POWER STATIONS (Mto tce)

**GRAPH 4**



**CRUDE STEEL PRODUCTION AND COKE CONSUMPTION  
IN THE STEEL INDUSTRY (Mio t)**

from 25.7 million tonnes in 1953 to 5.1 million tonnes in 1976. Of the three only ovoid production still retains some importance. With a few exceptions in Germany and Denmark gasworks have completely ceased to operate.

### **Domestic heating**

As a market for coal domestic heating ranked third behind the two major manufacturing sectors, namely power stations and coke ovens. Originally, domestic heating was the thermal energy market *par excellence* for coal and its by-products, coke and coal briquettes (Figure 6 and Table 11). Excluding electricity consumption, 85 % of the energy supplied for heating in 1953 was accounted for by solid fossil fuels. The Community coal industry sold almost one-quarter of its output in the form of coal, coke and ovoids to the domestic heating sector. In the case of Germany brown coal briquettes played an equally important role.

The conversion of heating in private houses and business premises to domestic heating oil and natural gas drastically reduced the market for coal, which, moreover, was rarely used in new buildings. It should be noted, however, that coke and coal briquettes maintained their position in domestic consumption relatively well until the end of the 1960s. It was coal consumption that was hardest hit by the fall in demand.

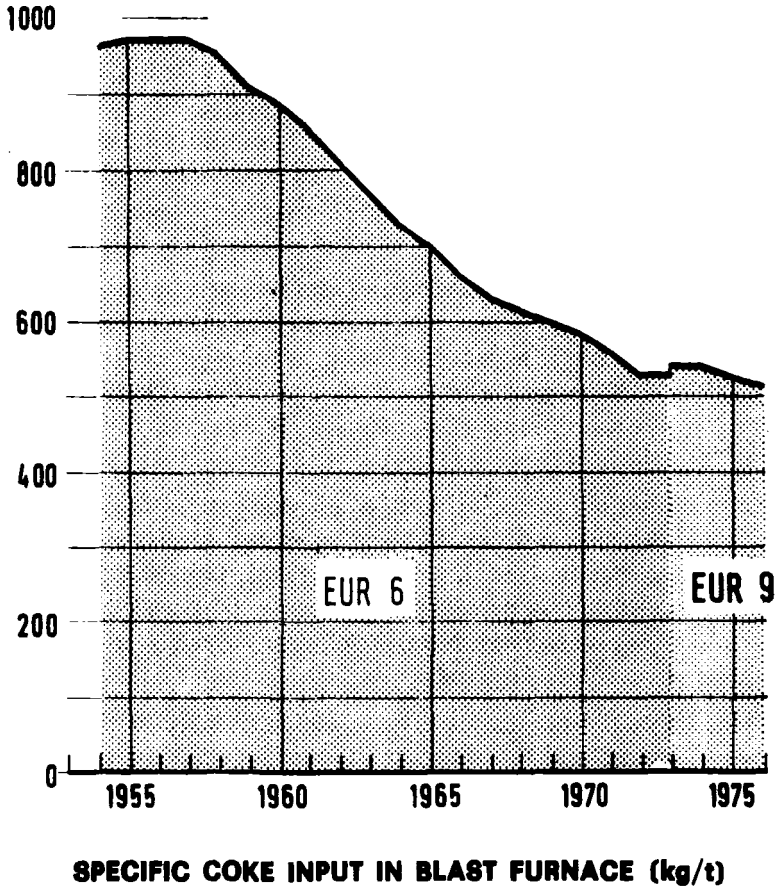
The change to domestic heating oil and, to a lesser extent, to natural gas was due to the fact that these products were cleaner and simpler to use. In addition, they were cheaper than coal. Once converted, domestic heating equipment, being less sensitive to price changes than industrial heating equipment, was unlikely to be reconverted to coal, thus resulting in a more or less permanent loss of markets for coal.

At the present time, the process of substitution is already very far advanced in the domestic sector, and the share of the market held by solid fossil fuels has been reduced to virtual insignificance in the countries where there is no coal production. It should be noted, however, that there remain differences in structure in the coal-producing countries. In the United Kingdom, for example, a substantial proportion of domestic energy requirements is still supplied by solid fossil fuels, mainly coal.

### **Other industries**

This category embraces sectors with different types of energy consumption, resulting mainly from differences in production processes. The non-metal-lurgical mineral products industry, for example, uses manufacturing methods

GRAPH 5



which consume large amounts of energy. The advantages of fuel oil are not confined to price; this source of energy has enabled increases in productivity to be achieved in numerous production processes, especially in smelting processes. In the 'other industries' sector, coal sales have been hardest hit, with coke standing up better to competition. As with the domestic sector, sales of solid fossil fuels to industry have only held their own in countries which produce coal, principally in the United Kingdom. The trend of coal and coke-oven sales to the 'other industries' sector between 1953 and 1976 is shown for both the Community of the Six and of the Nine in Tables 5, 10 and 12.

### **Transport**

Coal has been almost entirely replaced in this sector, which was still taking 20 million tonnes of coal a year at the time the common market was created. Coastal, inland and ocean shipping had already been largely converted to diesel and fuel oil at the beginning of the 1950s. Nevertheless, the railways still used large numbers of steam locomotives at this period. But from 1957/58 onwards increasing electrification of the railway network and growing numbers of diesel engines substantially reduced coal consumption (Table 5).

### **Pattern of supply**

Coal supplies in the Community consist of indigenous production and imports from non-member countries.

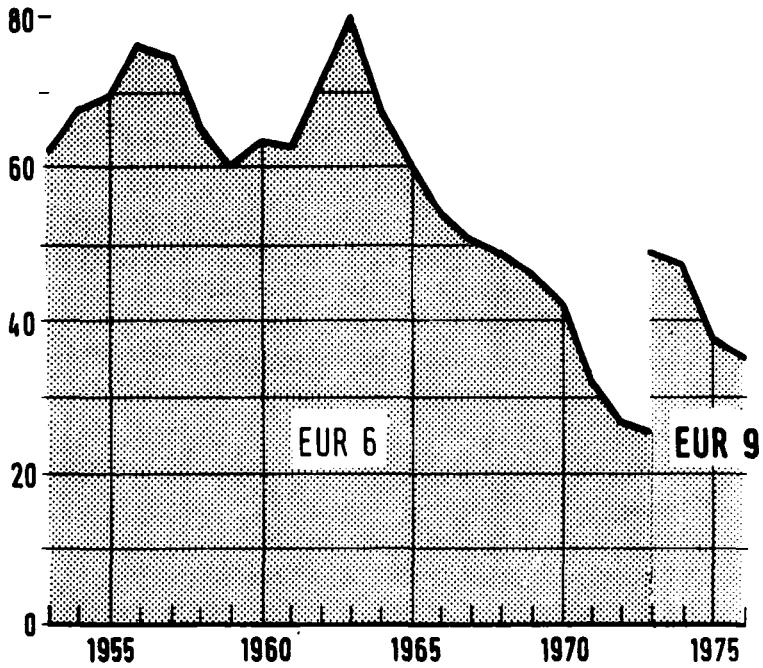
#### *Factors of production*

#### **Geological conditions**

The major coalfields of the Community form part of a more or less coherent belt stretching from Great Britain to Northern France, Belgium, the Netherlands and the Ruhr. The coal found in these fields is all of the 'paralic' type, but varies greatly in terms of quality, i.e. volatile matter, ash or sulphur content, swelling capacity etc.

Apart from these large deposits there are a whole series of isolated coalfields of the 'limnic' type, e.g. those in the Saarland and Lorraine, south central France, Provence and Sardinia.

GRAPH 6



CONSUMPTION OF SOLID FUELS FOR DOMESTIC HEATING (Mio tce)

From coalfield to coalfield there are considerable variations in geological conditions with regard to the width, thickness and pitch of the seams and the range of geological and minor tectonic disturbances. Even within the same coalfield there is also a variety of possible structures, from flat seams with relatively few faults to seams with a steep pitch and much disturbance.

In general, compared with the American and Australian deposits the European coalfields are at a serious disadvantage, on account of greater working depth and consequently a high level of rock pressure, which is further accentuated by the low resistance of the rock as a result of tectonization, and greater climatic difficulties. Stopes are often restricted by geological faults, and these phenomena seem to get worse as working depth increases.

These varied geological conditions thus greatly influence the structure of existing and future mines. In the United Kingdom, in view of the widely spaced strata, the 'dip-mining' system is preferred, which means that most of the galleries and roadways, even the headings, are driven in the coal. This obviously makes driving operations easier, and also more efficient and economical. On the other hand, in the German, Belgian and some French coalfields most coal seams are subject to a high degree of rock pressure, which forces engineers to choose a framework system for the mines comprising galleries in the rock, i.e. large-diameter galleries at various levels connected to one another by blind shafts or staple pits.

With regard to actual winning methods the geological conditions are less important. The predominant method at present is the longwall advancing system, while other methods such as room and pillar working and working to the rise are only used in special cases. These methods do not apply to open-cast workings, which are found almost exclusively in the United Kingdom, where their output is only of the order of 10 million tonnes.

At any rate, these conditions explain the differences between European coalfields and those in the rest of the world with regard to both their geological situation and their less-favourable operating conditions.

### **Technical progress**

In dealing with mining techniques, several factors must be distinguished. Firstly there are the natural constraints, which affect not only safety in mines but also their technical and economic efficiency.

It is worth noting first of all that in the field of ventilation, air conditioning and methane control research and development (R & D) work over the past

20 or 30 years has led to much more thorough and precise control of the various phenomena than before, thanks to the use of modern techniques (methane drainage, remote methanometry and methane control, remote surveillance, remote control and even automation). As a result, it has been possible to achieve much greater regularity in the sequence of mining operations and a marked improvement in mine safety.

Rock pressure, the second important natural phenomenon, has dangerous consequences, particularly in roadways in the coal and at the faces. As far as the roadways in the working area are concerned recent developments aimed at introducing a system of powered supports seem to constitute the first steps towards solving the problems of placing supports while the roadway is being driven and at face/gate junctions, but the ideal solution for face ends has not yet been found. At the face itself, on the other hand, powered supports in one form or another – including shield supports – make it possible to support the roof of seams in deposits where conditions are less favourable (roof stability, thickness, dip, etc.) and also to extend the range of seams that can be worked economically. Of the purely technical factors, the following are worth mentioning.

As far as roadway drivage is concerned, either in coal or in rock, the traditional method of drivage by blasting is increasingly being replaced by the use of heading machines. In coal, either selective heading machines or rock-breakers are used. The latter have made it possible to reintroduce the system of roadway ripping, with very beneficial effects on the face/gate junction and the stability of the roadways themselves.

For driving main roadways in rock large full-face heading machines are being used with much greater success than before.

The area which has benefited most from technological progress is without doubt that of winning methods. In almost all faces, the winning of coal has been mechanized with the use of either modern ploughing equipment or high-powered shearer-loaders, mainly of the twin-drum variety. In conjunction with proper integration of winning machinery, conveyors and mechanized supports, this virtual 100 % mechanization has enabled daily output per face to be increased to 3 000 or even 6 000 tonnes in certain cases. Further progress can be expected as a result of the partial automation of face operations and improvements in the organization of operations away from the winning area, thus boosting the rate of use of face machinery and equipment, which at present is no higher than 35 to 40 %.



There is therefore reason to hope that the results already achieved in high-performance faces can be made more general and obtained in average and poor seams as well. Concurrently, winning operations are being mechanized in sloping seams, and new working methods, such as for example hydro-mechanical winning and extraction, are being introduced in these seams, which should lead to improved utilization of coal deposits.

One further area which deserves attention in the future is that of the transport of men, coal, equipment and material. Apart from the introduction of new equipment such as soft-tired vehicles for the rapid carriage of men and equipment, good organization using the most up-to-date techniques of remote control and telecommunications is of the greatest importance.

### **Work force**

During the early years of the Community the number of workers employed in coalmining was over one million, with a 1957 peak of 1 065 250, of whom 60 % were underground (Table 13). Since then the downward trend in coal production has led to a constant reduction in manpower, which totalled scarcely more than 300 000 in the six original Member States in 1976, i.e. less than one-third of the number of workers employed twenty years before. The greatest number of departures was in 1960, with a reduction of 78 000 in one year; this gave rise to a great deal of concern in the mining community, and among national and Community authorities.

While there are no comparable statistics for the whole of the period, it can be said that since 1970 the proportion of foreign workers in the total work force has varied about the 15 % mark, though there are large differences from country to country. In 1965 the German figure was only 7 % whereas in Belgium it stood at nearly 53 %. A distinction should be made here between foreign workers coming from other member countries and those from third countries. The latter constituted 44 % of foreign workers in the original Community in 1960, while since 1970 the figure has been nearly 80 % of the foreign work force. At present, most workers from non-member countries come from Turkey, Morocco and Tunisia. Despite its decline, the coal industry has been able to attract a considerable number of apprentices, which make up on average 3 % of the total work force. In 1974/75 this figure even rose to over 4 % due particularly to the growth in the number of apprentices in Germany. Despite these recruitment campaigns, the average age of miners has risen steadily. At the Community's inception some 65 % of workers were less than 40 years old. The current figure is less than 50 %. At the

other end of the scale, 26 % of workers are at present over 50, compared with 12 % twenty years ago.

As in most other branches of industry, the modernization of the means of production and the resulting considerable increase in productivity have meant that the number of wage-earners has decreased compared with the number of salaried staff. The proportion of wage-earners, which was about 90 % in 1953, has fallen to 80 % of the total work force.

In view of the increased rate of technological progress, workers are faced with growing demands for qualifications; not only is the miner required to have, in addition to his purely mining qualification, a technical qualification to equip him for the operation and maintenance of machines – in addition, highly diversified and qualified trades are making their appearance, such as those of electrician, electrical engineer, process control technician, hydraulics technician, electronics specialist and remote control and monitoring technician.

The history of employment in United Kingdom collieries is very similar to that in the Six: a peak of 775 300 in the number of persons employed in 1957 and a rate of decrease over 20 years comparable to, though slightly lower than, that recorded in the original Community.

Two things, however, differ sharply: the number of foreigners and the age distribution. In the United Kingdom the proportion of foreign workers is still minimal, since whatever their origin the workers almost all have the status of British subject. On the other hand, the percentage of workers over 50 (40 %) is appreciably higher in the United Kingdom than on the Continent. The National Coal Board's plan, adopted in 1977, for bringing forward the age of retirement should at least partly remedy this state of affairs.

The large reduction in the work force in coalmines has given rise to fewer problems for the workers than might have been feared, particularly for underground workers, for whom it was easy to find jobs in other mines; in fact there has always been a rather high rate of turnover in colliery manpower. The unprecedented economic expansion in the ECSC countries during two decades also facilitated the rehabilitation of workers. None the less, despite these favourable features, the availability of readaptation grants from the ECSC has always been of considerable assistance to workers who have lost their jobs.

## Productivity

In terms of output per underground worker, the productivity of the coal industry in the Community varies from one Member State to another and from one coalfield to another depending on geological conditions and the technical equipment at the face. If account is taken not only of the average productivity of 3 660 kg (nine-member Community), but of the productivity of the various coalfields, it can be seen that in 1976 the following coalfields had a relatively high productivity:

Lorraine (F)	4 441 kg,
Midlands (UK)	4 217 kg,
Ruhr (D)	4 208 kg

while the following coalfields had a lower level of productivity:

South Belgium	1 843 kg,
Kent (UK) (1975)	1 870 kg,
Nord/Pas-de-Calais (F)	1 881 kg.

Over the past 25 years four phases can be distinguished in the history of productivity in the Member States (Graph 7 and Tables 14 and 15):

- from 1952 to 1958, comparatively small increases in productivity, of 1.5 % per year;
- from 1959 to 1970, comparatively large increases in productivity, of 6.5 % per year;
- from 1971 to 1972, stagnation, except in Germany where there was a further increase;
- from 1973 to 1976, decline in productivity of about 1 % per year, but with a stable position in France.

From 1959 to 1970 the Community coal industry was subject to intense competition from oil and natural gas. Increased efforts were made to achieve both positive and negative rationalization in order to slow down the rise in costs, and this resulted in a considerable increase in output per man. Taking an average for the whole industry, the degree of mechanization increased from 20 % in 1957 to 90 % in 1970. As a result of negative rationalization, the number of collieries in the six-member Community was reduced from 475 in 1953 to 109 in 1973, i.e. a reduction of 366. In the United Kingdom during the same period, the number of collieries in operation went from 875 in 1960 to 261 in 1973, i.e. a reduction of 614 (Graph 8 and Table 16).

Since the general spread of mechanization left little scope for any further increase in the degree of mechanization, productivity stagnated in 1971/72 and then decreased; the fact is that following the oil crisis in 1973 undertakings were concerned to maintain their production capacity, at least in the productive coalfields. The undertakings are at present making every effort to create the necessary technical conditions for prolonging the life of their plant and improving the organization of their mines. These measures have had a negative effect on output per manshift but it is to be expected that productivity will start to rise again as the rationalization programmes are continued and completed.

### **Capital expenditure**

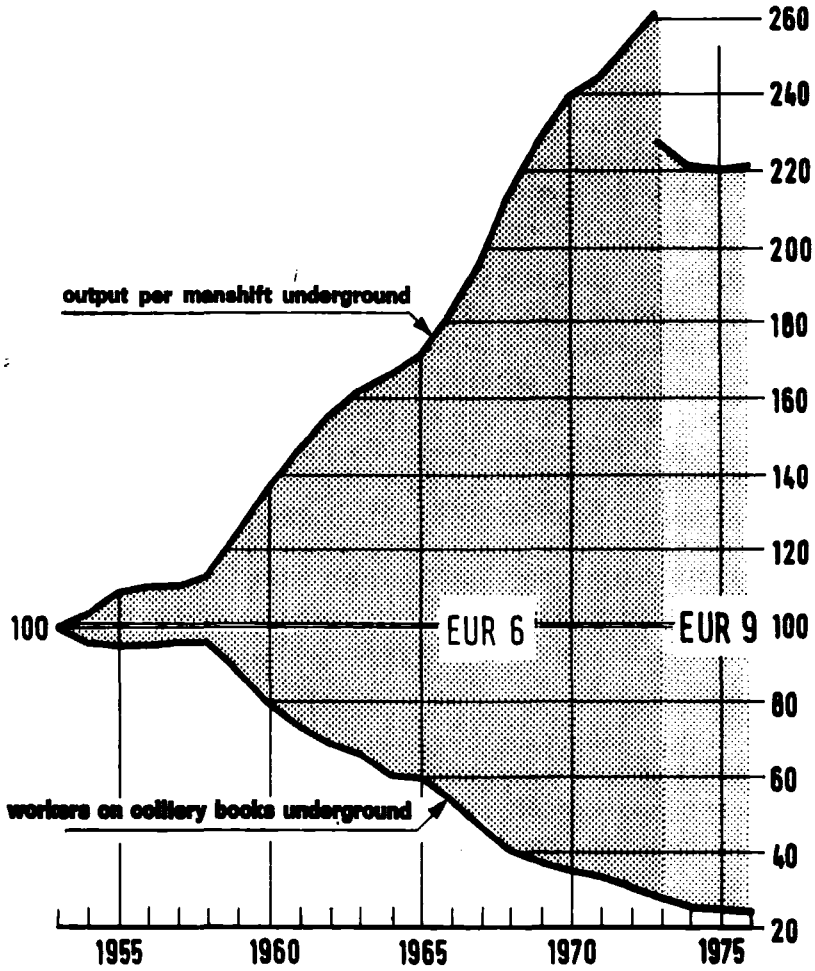
The pattern of capital spending in the Community coal industry (winning, coking and briquetting), as shown in Graph 9 and Table 17, reflects to a large extent the fluctuations experienced in this sector over the past 25 years:

- between 1952 and 1958, a period in which coal production in the six countries of the ECSC was still showing a certain upward trend, capital expenditure averaged 330 million u.a./year, of which nearly 80 % went on coal winning, nearly 20 % on coking and 2 or 3 % on briquetting;
- from 1959 to 1973, while output decreased from 241 to 140 million tonnes/year investment fell from 330 to 118 million u.a./year. In 1973, the entry of the United Kingdom raised Community production to 270 million tonnes/year and capital spending to 336 million u.a./year;
- between 1973 and 1976 the decline in output showed a tendency to slow down, while investment increased steadily to reach 850 million u.a. in 1976, including 380 million in the six countries of the original Community.

In fact, the decline in capital expenditure observed over the period 1959-73 was more drastic and conversely the subsequent recovery less vigorous than the above figures suggest, since the data are given in current prices, whereas prices of capital goods have in fact more than tripled over the past 25 years.

The history of production costs per tonne, which reveals figures of the order of 1.3 u.a. during the 1950s, less than 1 u.a. during the period of decline and then finally 2.4 u.a. in 1975 and 3.5 u.a. in 1976, also takes no account of currency depreciation. In fact, during the 1960s capital spending in real terms fell to considerably less than half the level of the 1950s and the latest figures still do not represent an equivalent level (see also Tables 18 and 19).

GRAPH 7



**INDICES** of output per manshift and workers on colliery books underground

## *Financial situation of the coal industry*

### **Production costs**

Production costs per tonne in the various coalfields are dependent on productivity. High productivity is reflected in a low level of costs, and vice-versa. Comparisons between Member States are distorted by various factors, particularly the changes in exchange rates. A comparison between Germany and the United Kingdom clearly illustrates this state of affairs, with the weakening of the pound sterling against the Deutschmark. Production costs in Britain are below the German level in terms of u.a., but productivity is lower in the British coal industry.

With the foregoing in mind, it is interesting to note from the figures in Table 20 that the spread of costs has scarcely changed over the past 20 years, although the various producer countries have pursued independent policies on miners' wages, and that prices of equipment have developed differently from country to country depending on the general price trend. There are relatively large cost differentials between the producer countries of the Community. The ratio is around 1 : 2 between the country with the lowest costs (United Kingdom) and the country with the highest costs (Belgium).

Cost developments have been plotted in two forms:

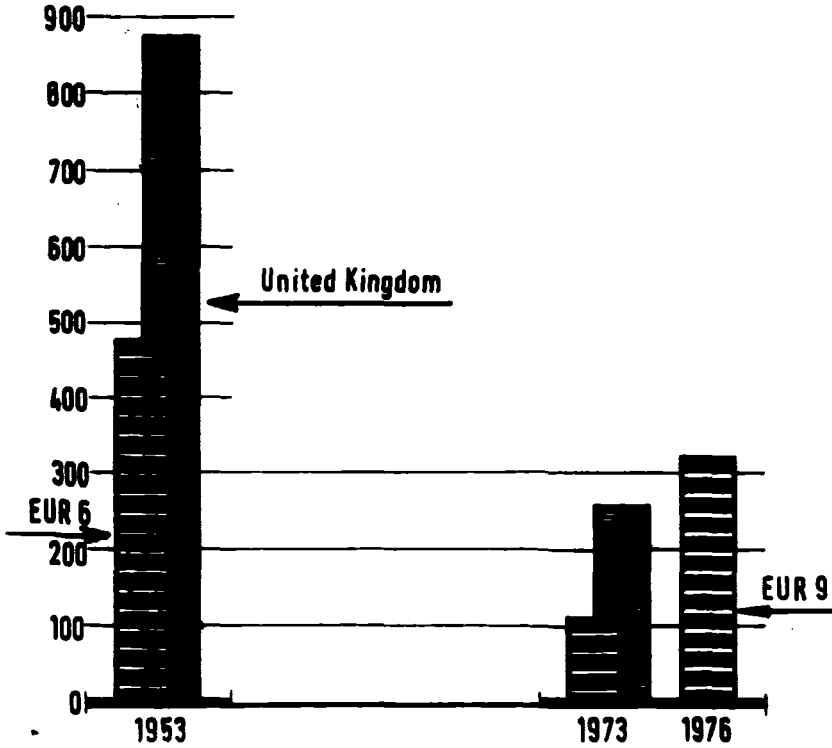
- indices of production costs in national currency (Table 21),
- indices of production costs in units of account at current exchange rates (Table 22).

This method of presentation has been found to be necessary firstly in order to show the trend of costs expressed in national currency, including all the effects of inflation, and secondly to permit comparisons between countries by converting into units of account at current rates of exchange.

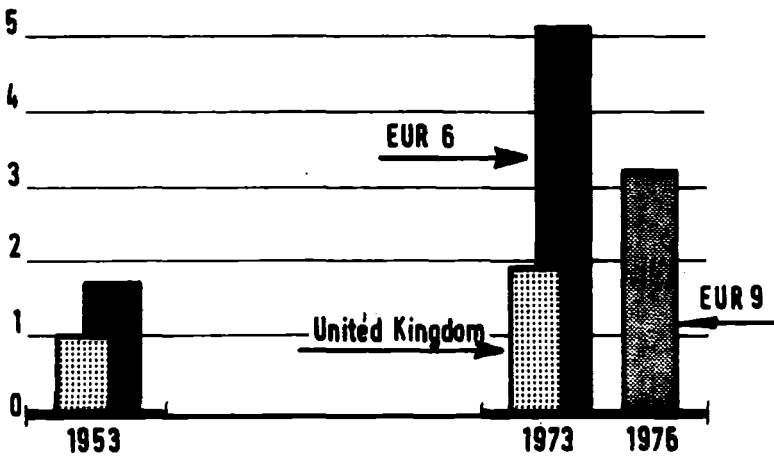
Over these 25 years the history of costs has closely followed that of productivity. In the period from 1954 to 1970 the change in production costs was as follows (annual percentage increases):

	<i>Increase in national currency</i>	<i>Increase in units of account at current rates of exchange</i>
FR of Germany	+ 2.2	+ 3.1
Belgium	+ 3.0	+ 3.0
France	+ 5.1	+ 2.1
United Kingdom	+ 3.1	+ 3.1

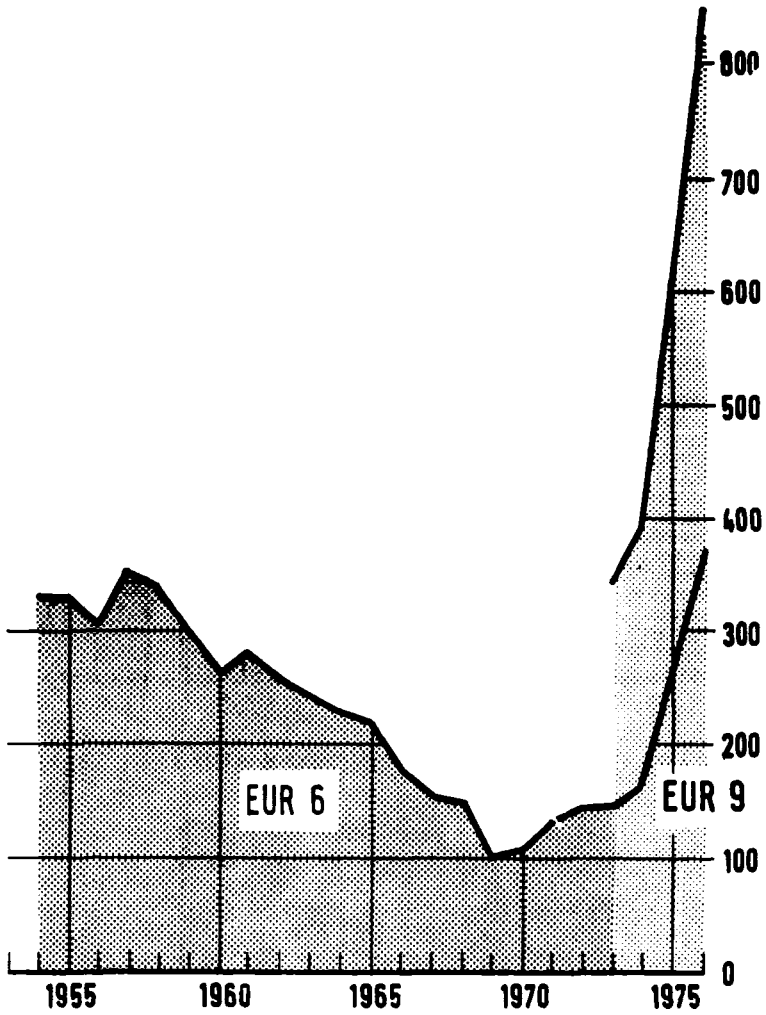
**NUMBER OF COLLIERIES IN OPERATION**



**AVERAGE OUTPUT PER WORKING DAY AND MINE ( $10^3$  t)**



**GRAPH 9**



**CAPITAL EXPENDITURE IN THE COAL INDUSTRY  
(Mio units of account)**



During the massive rationalization operations, production costs increased only slightly. A comparison with the rates of increase in the cost of living index shows that production costs increased relatively little, in other words that the real costs of coal production in the Community fell slightly between 1954 and 1970.

Since 1970, production costs have risen sharply as a result of the stagnation or slight fall in productivity and the sharp rise in wages and prices of equipment.

In the coal industry divergent trends in productivity and in wages are leading to a particularly marked rise in costs, especially in view of the fact that labour accounts for 55 to 60 % of total costs. From 1970 to 1976 changes in production costs were as follows (annual percentage increases):

	<i>Increase in national currency</i>	<i>Increase in units of account at current rates of exchange</i>
FR of Germany	+ 11.5	+ 15.9
Belgium	+ 15.0	+ 17.4
France	+ 16.3	+ 17.6
United Kingdom	+ 21.0	+ 14.0

From 1970 to 1976, production costs expressed in national currency rose more rapidly than the cost of living. The real annual increase in costs can be put at approximately 3 to 4 %.

Comparing the above rates of increase brings out the influence of fluctuations in exchange rates: if the currency is revalued (Germany), competitiveness *vis-à-vis* the other countries deteriorates, if there is a devaluation (United Kingdom) it improves.

### **Selling prices**

With regard to prices, the Treaty lays down two objectives for producers: to cover their production costs without excessive profits, allowing for necessary amortization and normal return on invested capital (Article 3c) and to overcome competition by modernizing production and improving quality (Article 3g). These objectives are reflected in the rules on pricing: publication of price lists in order to ensure the transparency of conditions of sale, with provision for granting reductions to align prices in exceptional cases (Article 60).

Conditions on the energy market have meant that it has hardly ever been possible to apply Article 3c to all Community coal, and the Member States have been obliged to grant assistance to the coal industry. This financial assistance – intended essentially to permit the granting of reductions to align prices – has taken various forms at varying rates per tonne. Where there is least direct intervention to assist collieries, there are sometimes supplementary measures – consumer subsidies or equalization schemes for users – to facilitate the purchase of coal at cost price. Differences between economic systems thus result in a certain distortion in the relation between the price lists and production costs in the various coal fields.

In addition, consideration must be given to the sales structure of each undertaking and to the specific characteristics of the market for certain products, for example in the domestic sector. Finally, in order to compare prices in the various countries, it is necessary to adopt a common unit, a complicated matter in itself.

Despite these limitations an analysis of the long-term evolution of list prices remains extremely valuable. This can be supplemented by a few observations on alignment.

#### *Analysis of list prices 1955-77*

The prices given in Tables 23 a to d are those of comparable grades of coal published in the price lists of the following coalfields or organizations: the Ruhr for Germany (D), Cobechar for Belgium (B), Nord-Pas-de-Calais for France (F), Wales and Scotland for the United Kingdom (UK).

As a rule, figures are given for three-year intervals starting in 1955. In the case of the United Kingdom, the prices quoted cover the period 1973-77. Prices are expressed firstly in national currency and secondly in US dollars (\$), together with the corresponding indices.

An examination of the nominal values reveals the following main trends. Between 1955 and 1977 prices in national currency increased by factors of 3 or 4 in Germany and Belgium and 5 in France.

In 1973 the corresponding coefficients were still only of the order of 1.5 for the first two countries and 2.5 for France. Prices started to rise more rapidly in 1974, concurrently with developments in the oil sector. Calm has been restored to a certain extent in 1977, except in the United Kingdom.

For prices in dollars the indices followed a similar course up to 1967. Since 1970, because of the changes in parities recorded in the two previous years and subsequently, the two series of indices have moved differently.

The 1973 and 1977 indices of extreme prices, those for the cheapest and most expensive grades in each country are as follows (1955 = 100):

	<i>D</i>	<i>B</i>	<i>F</i>
1973 national currency	170-244	117-166	176-332
\$	237-341	146-206	191-359
1977 national currency	235-433	205-362	355-741
\$	394-726	280-494	352-736

In order to provide an idea of the 'real value' of coal in the various countries, prices can be expressed as a 'number of hourly wage units'. <sup>(1)</sup> It can be seen that the number of hours' wages required to pay for a tonne of coal (pithead prices) decreased considerably between 1955 and 1973 but then rose again:

	<i>D</i>	<i>B</i>	<i>F</i>
1955 (hours)	35	40	47
1973 (hours)	14	15	20
1975 (hours)	18	17	35

With regard to the scale of prices for various grades, identical developments can be observed in each of the countries between 1955 and 1977: increases for certain products are double those for others in the same country, products for use in industry have been subject to much steeper price rises than those for use in the domestic sector. This trend reflects the large relative rise in value of products for use in industry, particularly coal and blast-furnace coke. Coking coal, of which world reserves are relatively small, has risen sharply in price on the international market.

The 1977 index levels of four main reference products are as follows (1955 prices in national currency = 100):

	<i>20-30 mm anthracite</i>	<i>Steam coal</i>	<i>Coking coal</i>	<i>Blast-furnace coke</i>
<i>D</i>	235	346	341	433
<i>B</i>	205	311	362	—
<i>F</i>	355	656	667	741

(1) Pithead prices per tonne divided by 'average gross hourly wage, all industries'.

Looking at the margins between lowest and highest prices for a given product, it can be seen that for products for domestic use the margins at the end of the period, after a slight temporary reduction, have again equalled and even exceeded those recorded at the beginning of the period. The range of prices for steam coal has narrowed considerably, other than in the period 1970-73. The same tendency applies to coking coal except during the period from 1967 to 1975. The margin between prices of blast-furnace coke has become progressively smaller, except for a peak in 1967.

### *Alignment sales*

After being prohibited in theory up to 1958, the practice of aligning sales of coal in the common market was regulated in accordance with the provisions of Article 60, firstly by High Authority Decision No 3/58 and then by Commission Decision No 72/433/ECSC, which broadened somewhat the limits laid down by the former Decision.

These general arrangements are supplemented by a measure introduced in 1967 under the special scheme for coking coal and coke for use in the Community iron and steel industry (see p. 94). This gives coal undertakings the right to offer discounts on their list prices as the need arises, even where there is no actual competition at the point of consumption from other coking coal or the coke made from it. Since 1974 this right has been restricted to supplies delivered under a long-term contract (covering a period of at least three years).

Since 1970, the scheme for coking coal has included the following provisions: 'The delivered prices of coking coal from non-member countries shall be calculated from the prices cif Community ports for comparable transactions. The Commission may fix guide cif prices'. The Commission has regularly made use of this right by calculating the average value of coking coal imported from the United States and subsequently from Australia under medium- and long-term contracts.

Table 25 shows the changes in the guide price in dollars/tonne; from \$ 17.50 at the beginning of 1970, it increased to about \$ 32 at the beginning of 1974 and nearly \$ 62 at the beginning of 1977, with a peak in 1976. It can be said that from the outset all sales of coking coal and blastfurnace coke to the iron and steel industry in the six-member Community have been at prices aligned in whole or in part on the guide price, with an annual volume fluctuating around 55 million tonnes.

For British coking coal (13 million tonnes per year), the cost of which is generally below the guide price, there is not the same advantage to be gained from this alignment.

Price alignments in the steam coal sector were for a long time made necessary by competition from petroleum products, which has been succeeded by that of coal from non-member countries (cif price of about \$ 30/tonne in 1976). In the domestic sector alignments are applied mainly in intra-Community trade.

## **Revenue**

Revenue has not kept pace with the rise in costs (Table 26). Because of the market situation undertakings have been obliged to sell at prices which have not covered costs. It can be seen that revenue increased by only about 2-3 % per year during the period 1954-70 which means that Community coal in fact became cheaper for consumers (Tables 27 and 28).

Since 1971, and more particularly since 1974, coal prices have increased more than the cost of living. Between 1973 and 1976 prices of Community coal doubled in all coal-producing countries, pushed up by world prices for oil and coking coal.

It is apparent from Table 26 that at no time in the past 25 years has the Community coal industry been able to make a profit. Owing to the market situation, and often because of intervention by the governments of the Member States, coal prices have been prevented from rising too rapidly or abruptly, particularly since 1974, with a view to reducing general rates of inflation. Revenue has never been sufficient to cover production costs. It is in Belgium and France that the situation is most serious. In 1973 the coal industry's revenue covered only 48 % of costs in Belgium and 60 % in France. Only since 1974 has there been a slight improvement.

Obviously, it was impossible for undertakings to survive if revenue was sufficient to cover costs. The failure of major undertakings, whether nationalized (France and United Kingdom) or private (Belgium and Germany), would have had incalculable consequences from the social point of view and with regard both to the employment situation and to the security of supplies. Only by the granting of assistance from public funds could this danger be avoided. In 1964, when the situation had become intolerable for the undertakings, the High Authority and the Council instituted a Community scheme of assistance for the coal industry (p. 92 and Table 29).

## *Coal production*

In line with market trends, the production of coal has gone through two different phases: the boom which characterized the early years of the Community was followed in 1957 by a recessionary trend which is still being felt today. For technical, economic and social reasons it has not been possible to adapt production to changes in demand in the short term but only to follow the trend. This applies both to the period of expansion and to the long period of structural decline in demand which has however, been marked by short-term fluctuations. Each contraction in the market since 1957 has been followed by a series of reactions on the part of suppliers: first of all, the unsaleable quantity is stockpiled, then short-time working is introduced – in other words the capacity utilization rate is reduced – and it is only in a third phase that the rate of mine closures speeds up. In the course of this process hard coal production in the six-member Community fell after 1957 by about 115 million tonnes to a level of 140 million tonnes in 1973 (Graph 10 and Table 30).

In adjusting production levels, account must be taken of a whole series of factors which vary in importance from one coalfield to another, such as the range of coal products, productivity, extraction costs, price differentials, and structural, social and regional characteristics. This is why the various coalfields have not all been affected in the same way by the process of adjustment (Table 31) and production capacity is being eliminated where productivity is higher than that in collieries remaining in operation in other coalfields. In general, there has been a process of elimination leading to the concentration of production in the German coalfields and those of Lorraine and the Campine. All other coalfields at present make only a minor contribution to production in the six countries of the original Community or have now been closed down completely, as in the Netherlands and Italy.

The coal industry in the Ruhr has improved its position among Community coal producers in a particularly striking fashion. In 1953 this coalfield was producing about half the Community's coal; in 1976 it provided some two-thirds of total production in the same geographical area. This comparatively successful development is due primarily to the fact that the Ruhr produces a very high-quality coking coal. It is in particular this quality aspect that has similarly ensured the preservation of a major part of the production capacity in the Lorraine and Campine coalfields. One of the major features of the adjustment of production in the six countries of the original Community is thus the qualitative change in structure towards the production of

coking coal, which in turn determines to a large extent the concentration of production in certain coalfields. There are no statistical data on the production of coking coal as such in the Community; however, coal of grades V and VI can be regarded as being largely of coking quality. These two grades together currently represent about 80 % of total production in the six countries of the original Community.

The British coalfields also cut output substantially from 228 million tonnes in 1957 to 130 million tonnes in 1973. None the less, the accession of the United Kingdom meant that Community production doubled in volume. The addition of British output, which comprises mainly steam coal, has considerably modified the structure of Community production as a whole. This change in structure implies a reorientation of Community coal policy, which had hitherto been largely geared to the situation in the coking coal sector.

### *Coke production*

In contrast to supplies of coal, which are partly made up of imports, the Community meets practically all its requirements for coke from its own output. The secondary importance of trade in coke with non-member countries derives essentially from the fact that for reasons of economy and security of supplies, the production of metallurgical coke is traditionally linked with the production of steel. Furthermore, the quality criteria to be met by blast-furnace coke make the transport and frequent handling of the coke to a large extent impracticable.

Therefore, while coke production has always tended to evolve in line with changes in demand in the Community, its structure has none the less altered in many respects. In the gasworks sector, the production of gas coke at first played a not inconsiderable role in the provision of domestic supplies. As town gas has been replaced by hydrocarbons, however, the by-product gas coke has also declined in importance. The production of gas coke has now been almost completely discontinued.

In the coke-oven coke sector there has been a fundamental change in the situation with regard to the siting of coking plants and ownership. In 1955 some two-thirds of the total coking capacity still belonged to the mining industry itself, while 26 % belonged to the iron and steel industry. Over the years, the latter has met an increasing proportion of its requirements for coke-oven coke from its own plant. In 1976, 52 % and 44 % of total coking capacity were respectively steelworks-owned and mine-owned, the rest being covered by independent coking plants.

This structural transformation has come about mainly in conjunction with changes in the location of the steel industry. Originally, this was located in the immediate vicinity of centres of coal and iron ore mining, but in the course of the past 25 years it has gradually moved to sites near the coast. This change was motivated in part by a desire to take account of changes in the marketing situation, but more particularly by the economic advantages to be gained from getting supplies of iron ore and coking coal from overseas. The percentage of coastal coking plants in total capacity in the six countries of the original Community was 29 % in 1976.

### *Technical progress in coking*

The main trends of technical progress in coking plants, resulting from research work carried out over the past 20 years and more, are as follows:

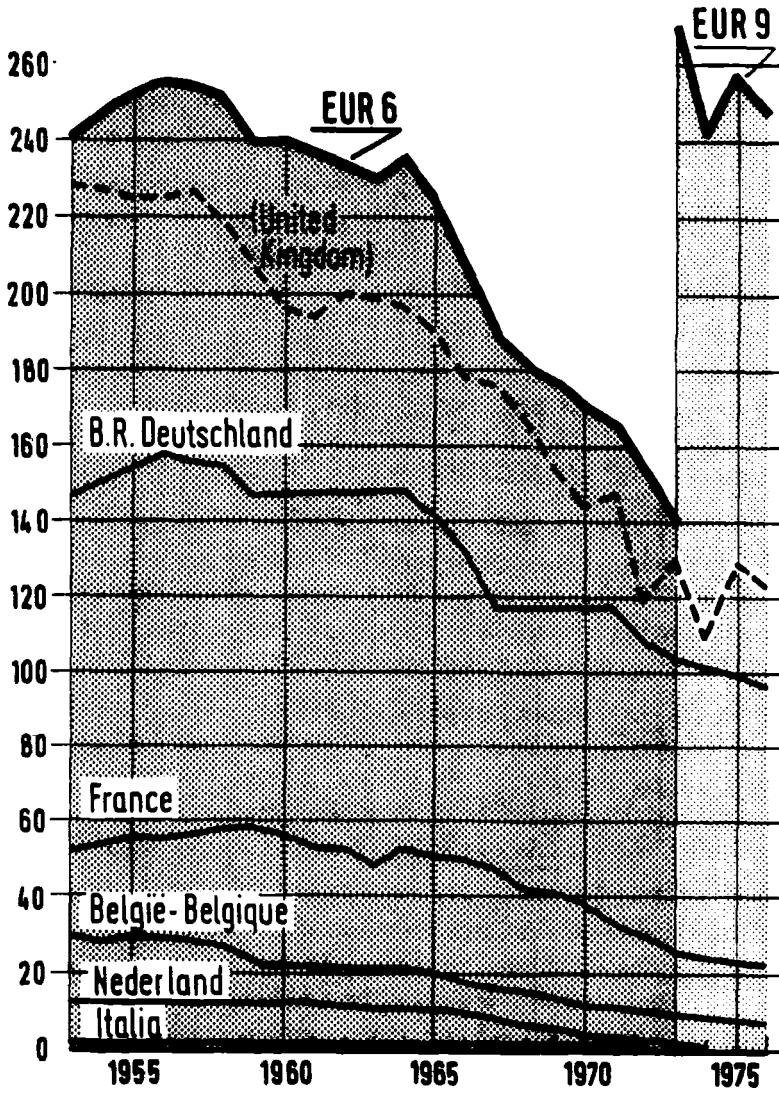
- improvements in the efficiency and capacity of coke ovens,
- widening of the range of coals suitable for coking,
- maintenance of a consistent level of coke quality, or improvement of quality,
- reduction of pollution (liquid effluents, dust etc.)

Scientific research, both physical and chemical, on the carbonization of coal has led to an understanding of the mechanism of coking, thus enabling modifications to be made to the composition of the charge – with the use of coals with a higher volatile matter content – and the quality of the products obtained. Concurrently, coke makers have been concerned to improve the blends of coal making up the charge with a view to using as much non-coking coal as possible, on account of the limited reserves of coking coal in the Community and worldwide.

The recent tendency to increase the height of coke ovens and the construction of new types of oven using thin walls and new refractory materials have led to a substantial increase in the throughput of coking plants. In conjunction with these new types of oven, computer control of heating also contributes to greater efficiency and the production of higher-quality coke.

The technique of preheating the coal charge has the double advantage of reducing considerably the carbonization time and of making it possible to use coals that could not otherwise be carbonized successfully. Furthermore, preheating has a beneficial effect on the environment because it facilitates the charging of ovens with very little dust emission. On the other hand, some problems remain to be solved, particularly in connection with the removal and valorization of an increased volume of gaseous products.





COAL PRODUCTION (Mio t)

Mention must also be made of the efforts to reduce pollution from coking plants, such as the purification of waste water by means of activated charcoal or microbiological treatment and the reduction of pollution caused during charging and discharging of the ovens by the application of specially adapted systems.

The continuing increase in oil prices gives renewed importance to the coal-based chemicals industry and to the utilization of coking by-products.

Finally, techniques for manufacturing formed coke are beginning to be developed and perfected, since these have the advantage of broadening the range of coals suitable for coking. However, owing to its low porosity formed coke will never replace coke-oven coke. It will probably always be used in blast furnaces as part of a mixture.

On account of its high reactivity, the coking of lignite for electro-metallurgy and other purposes is of interest.

### *Coal imports from third countries*

For a variety of reasons, which have changed over the years, the Community has from the outset met some of its solid fuel requirements by importing from third countries. These imports consist almost exclusively of coal, world trade in coke having always been relatively unimportant for economic and qualitative reasons (transport and handling difficulties).

The statistics for total annual imports (Tables 32 and 33) show a strikingly high degree of short-term fluctuation. These rises and falls were especially pronounced during the period 1954-59, with tonnages varying between a minimum of 14 and a maximum of 44 million tonnes. Even more recently, during and after the oil crisis of 1973/74, world supply once again demonstrated its adaptability.

Imports from third countries have grown in their relative importance for the Community, for despite fluctuations the real value of imports continued to rise, while internal demand fell steadily. When the United Kingdom – almost self-sufficient in coal – joined the common market, the average rate of supply altered in favour of Community coal. However, since the last oil crisis, there has been a renewed tendency to consume more imported coal, especially in the case of the electricity generating industry.

Member States without a coal industry of their own obtain a substantial proportion of their coal supplies, i.e. between 70 % and 100 %, on the world market. Luxembourg is an exception, owing to its geographical position

and its participation in German coal production. On the other hand, the main coal-producing countries, the United Kingdom and Germany, have protected themselves to a large degree from coal from third countries, which supply less than 10 % of the requirements of their respective internal markets.

#### *Imports by sectors of use*

The structure of imports according to the main types of use has undergone a considerable change over the years. Imports of anthracite and low volatile coal have shown the least change. Since 1958 <sup>(1)</sup> these imports have varied between 2 and 4 million tonnes.

The temporary increase in imports of these grades was due solely to the harsh winter of 1962/63 and to the need to overcome short-term disturbances in domestic supply.

Since the establishment of the common market in coal, imports from non-member countries have accounted for an ever-increasing proportion of the supplies to coking plants. This proportion, which then amounted to 3 % of total coke production, has risen to some 20 % in recent years. The substantial increase in imports of coking coal (Table 34) clearly reflects the tendency of the iron and steel industry to situate new factories on the coast. The growth of the Italian iron and steel industry and the expansion in the Netherlands, France and Belgium have played a decisive role in this respect. Despite these structural changes, Community production of coking coal, especially German coking coal, today still forms the main source of supply for the Community iron and steel industry. That it was possible to maintain this production capacity despite a long period of crisis is due, to a large degree, to the Community aid scheme for coking coal, implemented in 1967.

After 1958, with the predominance of oil on the heating market, imports of steam coal, which at the outset was still the main component of external supplies, declined both in relative and absolute terms. But the oil-price crisis of 1973/74 resulted in a clear reversal of this trend. The substantial increase in coal imports since 1974 can be attributed almost entirely to the substitution of fuel oil in power stations by less-expensive imported coal. Since this imported coal, in general, is able to compete successfully with Community coal, the latter has had little opportunity to strengthen its position on the power station market. The French electricity producers in particular

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<sup>(1)</sup> In previous years only figures relating to Community imports of coking coal were included in the statistics.

have greatly increased their purchases on the world market. Since 1975 the Community has imported power station coal and coking coal in equal quantities. These two types of coal account for approximately 90 % of total coal imports.

### *Imports by country of origin*

The geographical distribution of the sources of supply has also changed over the years. At the time the common market was established practically all imported coal came from Britain and America. In the years that followed, which were marked by a shortage of coal in Western Europe, supplies from Britain dwindled and for a time American coal was imported into the Community in quantities which have never since been equalled. In contrast to recent developments, the flexibility of the world coal market at that time was founded solely on the export potential of the American coal industry. In three years its supplies to the Community climbed from 6 million tonnes to a record 38 million tonnes. In 1957/58, when the energy shortage in the Community was succeeded by a surplus, imports from the United States were rapidly reduced to the same level as before by protective measures.

In the past the Community had also purchased small quantities of coal from other non-member countries, for example steam coal from Poland and anthracite from the Soviet Union. But it was not until the latter half of the 1960s, when Polish steam and coking coal began to carve out a noticeably larger slice of the Community market, that a clear trend towards the geographical diversification of the sources of supply became traceable. Since 1973 Poland has even been the main external supplier of the Community, ahead of the United States (Table 33).

A complementary diversification in the patterns of supply enabled the risks to be spread even more widely. Australian coal, mainly imported by the iron and steel industry, is already a major element in Community supply. Power station coal is beginning to be imported in increased quantities from South Africa, with smaller quantities coming regularly from Canada, India and other overseas countries. In the case of coking coal this wider availability was boosted by the opening of profitable, export-orientated mines in various parts of the world under the impulse of the Japanese iron and steel industry. These exporting areas, mainly Australia and Western Canada, are trying to reduce their dependence on the Japanese iron and steel industry and are seeking new markets for coking and steam coal, especially in the Community.

The nature of supply patterns between the importers in the Community and the third-country suppliers has undergone a marked change during recent years, leading to closer and more durable relations. Here the importers of coking coal often emulated the Japanese iron and steel industry. First, the customary short-and medium-term contracts or spot deliveries were supplemented by the joint financing of new mines, whose output was allocated to the importers in proportion to their financial stake. In addition, several Member States concluded specific cooperation agreements with Poland. They saw the long-term delivery obligations of Poland as a reciprocal concession for the credits granted by the Western importing countries which almost always specify for what purpose the loans are to be used (e.g. for the purchase of mining equipment).

Direct participation by the importers in coal production in non-member countries is the closest form of commitment. Since the beginning of the 1970s certain undertakings in the Community have increasingly followed this line. They acquire a stake in the share capital of mining companies, or buy collieries, even those no longer operating, with a view to modernizing and re-opening them, or alternatively they develop previously unmined coal deposits for export, especially by means of joint ventures concluded with undertakings in the exporting country. In certain cases iron and steel undertakings from various Member States have formed consortia for this purpose. In addition, German, French and British mining companies have also participated in such joint ventures, sometimes in cooperation with European iron and steel undertakings.

### *Intra-Community trade*

There is no doubt that the removal of trade barriers for ECSC products within the Community has promoted trade in coal between the Member States. It is difficult, of course, to assess the effect of liberalization with any measure of accuracy because other factors – mainly the state of the economy – likewise affect trade (Table 35).

In fact, the total volume of trade has undergone large fluctuations, varying between 35 and 27 million tonnes. When the common market was enlarged in 1973 the volume of trade between the six original Member States, some 28 million tonnes, was practically the same as that during the period immediately preceding the creation of the common market. Nevertheless, the present volume of trade as a percentage of production is considerably higher – 20 % as opposed to 13 % at the outset. This ratio alone is a good example of the stimulating effect of intra-Community liberalization on trade.

The regional change in the patterns of supply appears of greater importance and interest than this total quantitative effect. On the one hand, the opening of frontiers gave countries or regions with few coal resources of their own improved access to the coal reserves of the Community. A close international interdependence between mining companies and large consumers had certainly already existed in the past, witness the direct participation by French and Luxembourg iron and steel concerns in the production of coal and coke in the Ruhr and Aachen coalfields. However, the existence of the common market has ensured a greater availability of supplies at times when there is a shortage of coal.

The direct results of integration have been most evident in those areas where it has been possible to take advantage of the low transport costs of the frontier coalfields. For example, in 1952 the Aachen coalfield only exported 32 % of its total output of coal, coke and briquettes; by 1956 this figure had already risen to 52 % and has remained consistently above 50 % in recent years. In the Dutch Limburg coalfield, which has since ceased production, there was initially a trend towards increased exports: in 1961 17 % of total sales went to the neighbouring countries, Belgium and Germany, which had not been supplied in 1952.

It must be stressed that as regards types of coal intra-Community trade has increasingly concentrated on German coking coal and coke. These products accounted for some 40 % of trade in 1954, rising to two-thirds in 1973. Over a long period of complicated structural adaptation the iron and steel industry of the Community – aided by the economic policy of the governments and of the Community – has obtained a source of supply which must be seen as an essential safety factor for its future growth.

The enlargement of the Community has not altered this situation to any significant degree. British exports, which consist almost entirely of steam coal and, at present, do not exceed 1 to 2 million tonnes per annum, are considerably lower than in the 1950s and early 1960s, and so far have shown no sign of an upturn (Table 36).

## **Market equilibrium**

### *Stock movements*

As a raw material, coal is subject to constant fluctuations in stock, mainly at production level but also at consumer level. During the period 1953-76

stocks held by producers went through six periods of increase and five periods of decline (Graph 11 and Table 37), the entire cycle ranging from 5 to 7 years, at least until 1973. To present a complete picture, movements in coke stocks must be added to fluctuations in coal stocks. In the Federal Republic of Germany – the main producer – coke is stockpiled instead of coal during periods of low demand, for two reasons: improved product conservation and the need to maintain a certain level of activity in the coking plants, both from technical considerations and to fulfil gas sales contracts. However, annual fluctuations in the stocks of coke are much less marked than those of coal.

Short-time working is introduced in numerous collieries when there is an excessive surplus in order to slow down the build-up of stocks.

Short-time working in 1959 alone represented a maximum annual production loss of 12.3 million tonnes. An additional 19 million tonnes approximately could have been produced in the years 1958 and 1959 taken together if it had not been necessary to resort to short-time working. This tonnage would have been added to the 33 million tonnes actually stockpiled to produce a theoretical surplus of 52 million tonnes.

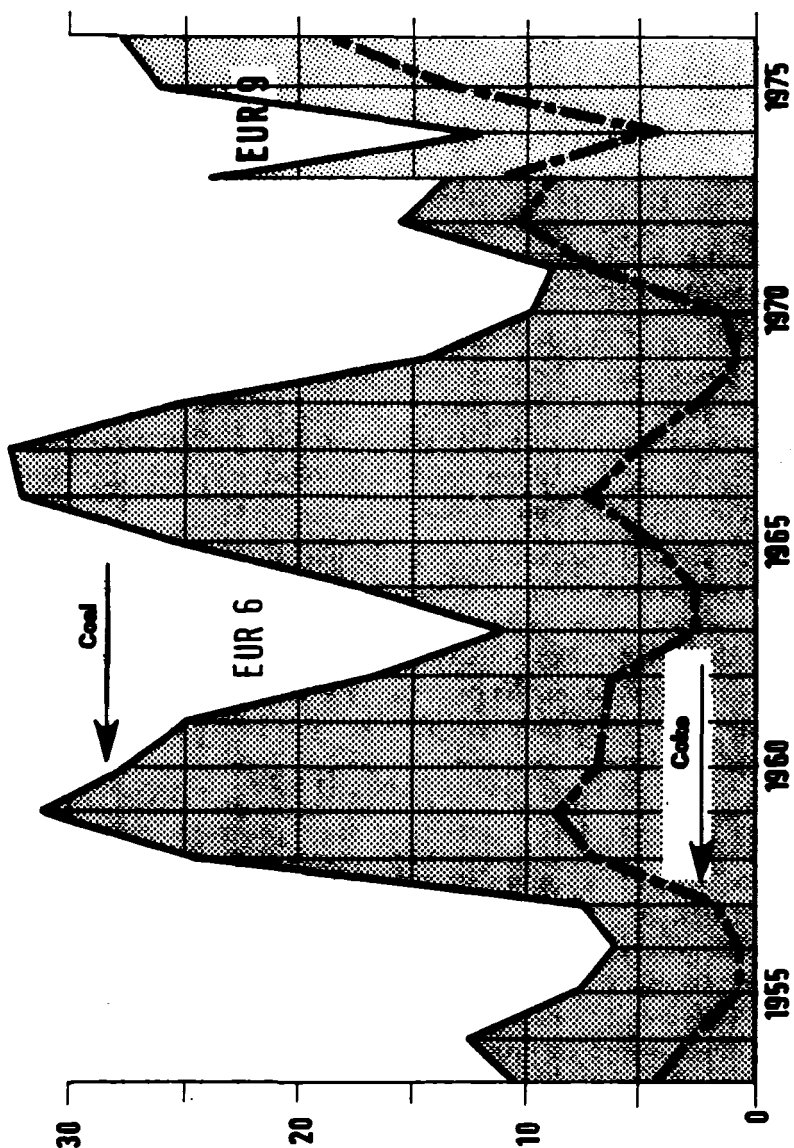
The extent of the fluctuations shown during the period 1973-76 does, however, cover the enlarged nine-member Community, therefore including the United Kingdom, and cannot be compared with the period 1953-73 which relates to the original six-member Community. As will be shown below, whereas excessive stocks are harmful for the coalmining industry, adequate stocks are indispensable for a properly balanced market, and help to ease the strain when an upturn in demand occurs.

#### *Balance of supply and demand*

Community coal resources comprise indigenous production and imports from third countries, and demand is made up of sales on the home market and exports to non-member countries. Variations in stocks reflect the difference between these two factors. The structure of supply and demand for coal in the Community varies greatly from country to country. Certain States without their own coal production have greater recourse to imports whilst others meet most of their needs from their own resources. Given these differences, the Community does not form a cohesive whole but is rather the sum of several parts.

A downturn in demand affects production in the different countries to varying degrees. During almost the whole period under review sales potential

GRAPH 11



STOCKS OF COAL AND COKE HELD BY PRODUCERS (Mio t)



has determined the level of production, with the product itself being increasingly unable to compete with other types of energy. The periods when supply had difficulty in keeping pace with demand were mostly the result of artificial situations often caused by factors external to the market, for example, the Suez crisis of 1956. This crisis, together with pressing economic factors, caused a panic amongst consumers, who tried to ensure that they had adequate supplies and almost doubled their stocks, thus increasing fears of a shortage.

The Community coal market is characterized by an extreme lack of flexibility which is mainly the result of the inelasticity of production. As a result, several million tonnes can mean the difference between a surplus market and a tight market and vice-versa, hence the need to resort to stocks held by the producers. Fortunately, even without the aid of a policy of stock formation as such, stocks accumulated naturally have on each occasion sufficed to meet the extra demand, and each time they were exhausted the economic trend has changed direction. The same has been true of the periods when stocks have accumulated; although the growth in stocks has often been slowed down by short-time working, it has always been halted by an upturn in the economy before stocks became excessively high. Seen in retrospect, this appears to owe more to luck than to good judgment. A proper stock formation policy would be preferable for the future.

In 1973-74, with the oil crisis and the quadrupling of oil prices, ideas about how coal requirements should be covered changed again, the emphasis being put on the need to maintain Community production. The facts did not bear this concept out at least until 1977.

A collection of negative factors – a sluggish economy, crisis in the iron and steel industry, lower fuel consumption – have weakened demand to such an extent that it is impossible to maintain the level of production achieved in 1973. Despite a fall in production of 23 million tonnes or 8 % between 1973 and 1976 for the enlarged Community, and despite a certain amount of short-time working during the last two years, equivalent to a loss in production of 3.2 million tonnes, a total of 34 million tonnes coal equivalent has been stockpiled by the producers. Supply and demand for coal in the Community are reaching equilibrium at a steadily lower level.

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### 3. The early years of the common market in coal - Activities of the High Authority (1953-57)

By the terms of Article 2 of the Treaty, the Community has the task of contributing, through the establishment of a common market, to economic expansion, growth of employment and a rising standard of living in the Member States. In addition, the Community is progressively to bring about conditions which will of themselves ensure the most rational distribution of production at the highest possible level of productivity. This general task is made more specific in Article 3, which lays down objectives with a view to ensuring the smooth functioning of the common market, promoting production, improving living and working conditions and promoting the growth of international trade. Finally, Article 4 defines the essential features of the common market in negative terms, by prohibiting restrictions on the movement of products, discriminatory practices and aids granted by States and restrictive practices which tend towards the sharing of markets.

These basic provisions of the Treaty show that competition is the guiding principle of the common market. It is competition between undertakings unhampered by public and private intervention which will enable the Community to achieve its aims. The task of the Community institutions is therefore first and foremost to establish the conditions necessary for the development of free competition, direct interventions in economic activity being reserved for exceptional cases. Consequently, in order to set up a common market in coal, the main task of the High Authority, while liberalizing international trade, was to take measures designed to ensure effective competition in implementation of Articles 60, 65 and 66.

#### **Pricing rules**

##### *Publication and non-discrimination*

By virtue of Article 60 undertakings must make public the prices and conditions of sale applied within the common market and must refrain from

discriminatory practices which could be regarded as the application of dissimilar conditions to comparable transactions. With a view to ensuring adherence to these principles, the High Authority issued two Decisions in 1953.

By virtue of Decision No 4-53 on the publication of prices, buyers and competitors are able to obtain information regarding prices, methods of quotation, costs in connection with method of shipment, discounts and, where applicable, quality surcharges, etc. Thus the prices applied by all coal producers have become 'transparent' for all participants in the market.

Decision No 4-53 also contributed to the definition of discriminatory practices by stipulating the publication of certain price variations such as quantity and loyalty bonuses and trade discounts. Thus the High Authority has stated that it has no objection to variations of this kind within reasonable limits.

Discrimination was further defined in Decision No 30-53 amended by Decision No 1-54, which consisted basically of a prohibition of the application by a seller of prices or conditions of sale departing from those shown in his price list, except in the case of transactions not covered by any of the categories to which this price list relates (transactions *sui generis*) or in cases where the prices or conditions are departed from uniformly in all comparable transactions.

These principles were applicable until 22 December 1972 <sup>(1)</sup> when Decision No 30-53 was revised. The revised version contained a broad definition of comparability of transactions and also took account of structural changes in the coal market and the resultant competition requirements. Since then, coal producers have the right to charge different prices for the same type of coal for non-competitive buyers (e. g. power stations and other industries).

#### *Alignment - zone delivered price*

Article 60(2)(b) provides for an exception to the uniform application of the conditions published in the price lists, in that a producer may align his prices on lower delivered prices applied by other producers at the point of consumption. This applies not only in the case of the delivered prices applied by Community producers but also in the case of those applied by undertakings from outside the Community.

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<sup>(1)</sup> Communication of the Commission on the amended text of Decision No 30-53 on practices prohibited by Article 60(1) of the Treaty in the common market for coal and steel; OJ C 29 of 12. 5. 1973.

Initially, the High Authority had prohibited, in Decision No 3-53, which remained in force until 1958, alignment on Community coal.

The reason for this prohibition was the risk of market disturbances resulting from undertakings making use of all the possibilities for competition offered by alignment. However, this general prohibition of alignment was offset to a great extent by the authorization of zone prices, since during this period the High Authority, by virtue of indent(a) of the third paragraph of Article 24 and indent(c) of Article 26 (2) of the transitional provisions, authorized a large number of undertakings and distributors to apply zone prices for sales in certain regions, aligned on the lowest delivered prices applied by the various competitors, thus enabling producers to maintain their traditional trade in regions in which other undertakings were supplying at lower prices.

The possibility of authorizing zone prices came to an end with the repeal of the transitional provisions. For this reason the High Authority passed new provisions regarding the right of alignment of undertakings in the coal industry after the end of the transitional period.

#### *Maximum and minimum prices*

By virtue of Article 61 the High Authority may, in certain specified circumstances, fix maximum and minimum prices within the common market. In order to avoid sudden market disturbances following the establishment of the common market the High Authority made use of this possibility and fixed maximum prices for most coalfields in March 1953. In Germany and France these maximum prices more or less corresponded to the situation as it stood, whereas in Belgium and the Netherlands they meant a price reduction and increase respectively. These maxima remained in force until 1956 in the case of the Ruhr coalfield and until the beginning of 1958 in the Belgian coalfields. Since then the provisions of Article 61 have no longer been applied in the coal sector.

#### **Competition problems**

In principle, the objectives laid down in the Treaty should be achieved by competition between undertakings, unhampered by public or private intervention. When the common market was set up, however, account had to be taken of the fact that the economic conditions on the coal and steel markets could fairly be described as being characterized by imperfect competition, i.e. the market is oligopolistic. Production and sales in this sector

are shared between a small number of undertakings, some of which control relatively large sections of the market.

Some undertakings enjoy special production and sales conditions because of the exceptionally large amount of capital invested and, as a result, traditionally tend to reduce normal competition. In the coal sector there is the added fact that the product depends to a great extent on elements beyond human control, particularly the nature and accessibility of the deposit and, to a lesser extent, climatic conditions.

However, the provisions of the ECSC Treaty designed to combat practices which would restrict competition are not intended to permit unlimited competition between the various undertakings. The main aim is to ensure the minimum margin of competitiveness necessary for the achievement of the aims of the Treaty, which include in particular ensuring that the most rational distribution of production at the highest possible level of productivity is not jeopardized by agreements which form obstacles to production (Article 2)

The Treaty could not restrict itself merely to the regulation of agreements adversely affecting competition, i. e. agreements between undertakings (Article 65). In particular, concentrations of hitherto independent undertakings had to be governed by adequate provisions (Article 66) since it was clear that a simple prohibition of agreements would lead to attempts on the part of undertakings to restrict competition by means of concentration. However, both Article 65, which authorizes certain specialization agreements or joint-buying or joint-selling agreements, and Article 66, which does not in principle prohibit concentrations, leave open a variety of possibilities for collaboration and cooperation between undertakings, provided that such collaboration and cooperation may be expected to lead to increased efficiency. The factors constituting control of an undertaking are defined in Decision No 24-54 in compliance with Article 66 (1). Decision No 25-54 in compliance with Article 66 (3), as amended by Decision 25-67, specifies the conditions under which transactions may be exempt from prior authorization.

#### *Agreements (joint-buying or joint-selling)*

The High Authority Commission made use of this possibility to authorize certain agreements. France had to all intents and purposes nationalized its coal industry before the common market was set up while in the Netherlands, the means of production were partly State-controlled. Major changes,

however, took place in Germany and Belgium where many undertakings took advantage of the possibilities offered by the Treaty of concluding joint-buying or joint-selling agreements.

Since the turn of the century production and sales in the Ruhr coalfield had always been organized in a manner peculiar to this region. It was clear that attempts were being made to maintain a similar system in the future. However, the High Authority had decided, on the basis of its initial studies, that the common sales system practised by the existing organization was incompatible with the Treaty because of the price-fixing powers it gave the members. Interim solutions with at first six and then three officially independent sales organizations with certain common elements were also deemed by the High Authority to be incompatible with the Treaty, as these organizations, too, virtually amounted to a sales monopoly which restricted competition to an unacceptable degree in the light of the authorization criteria laid down in Article 65.

The policy of the High Authority was confirmed in a judgment of the Court of Justice which led to the winding up of these joint organizations (in particular, the standards committee, equalization of revenue and employment).

Two sales organizations were subsequently authorized and set up in 1963; according to the competition criteria the new organizations could be considered as being mutually autonomous and independent. These two joint-selling organizations remained in existence until 1969, when most of the mining companies transferred their mining activities to Ruhrkohle AG. The question of the Ruhrkohle AG will be dealt with in greater detail in connection with concentrations.

In spite of the lower level of production, agreements were a major issue in Belgium too. Since the establishment of the common market in coal and steel, Belgian coalmines had been in a permanent profitability crisis which, from the outset had necessitated special integration measures. This crisis became more acute as a result of the subsequent structural crisis in the coal industry and led – in implementation of Article 37 of the Treaty – to a provisional shutdown of the coal market. In this case too the High Authority was initially unable to authorize the continued existence of the single sales organization which had originally existed and which had considerably restricted competition. The problem was not finally solved until the High Authority ended the isolation of the Belgian coal market on 1 January 1963, and after the Belgian mining companies had made a new application for a much more decentralized joint-selling organization which no longer included

all the mining companies (Cobechar). Only after the merger in 1967 of several Belgian mining companies and the Winterslag pit, which had remained outside the cartel, to form the NV Kempense Steenkolenmijnen did Cobechar include all the Belgian producers.

It was hoped the High Authority's competition policy would bring about changes in the major coal production agreements. In the case of the Ober-rheinische Kohlenunion, Mannheim (OKU), the very nature of the agreement was completely transformed.

The OKU, which was originally a joint-selling agreement between producers and could not be authorized in this form, subsequently became a joint-buying agreement exclusively between dealers. Special obligations were drawn up with a view to eliminating the possibility of producers regaining control of the agreement through sales undertakings with which they had financial links. This joint-selling organization existed until 1973 when it was voluntarily dissolved.

The authorization of the Union charbonnière de la Sarre et de la Lorraine presented virtually no problems. This joint-buying organization of the two neighbouring coalfields on either side of the German-French border was set up in 1959 as a successor to Unichar (Strasbourg), which was founded in 1946.

### *Concentrations*

The first years of the common market witnessed a series of concentrations between operators which generally controlled less than 5 % of the Community market. Moves towards vertical concentrations came in every case from steel undertakings wishing to guarantee their own coal supplies. The most important concentrations were as follows: Mannesmann/Consolidation, Hoesch/Altessener Bergwerksgesellschaft, Klöckner Werke/Bergwerksgesellschaft Königshorn, August Thyssen-Hütte/Erin Bergbau, ARBED/Bergbau Lothringen, Hüttenwerke Oberhausen/Bergbau Neue Hoffnung, Phoenix-Rheinrohr/Amscher-Lippe Bergbau.

It was possible to authorize all these concentrations as they could not give any of the parties involved an artificial ascendancy over other companies with regard to supplies and outlets.

On the other hand, horizontal mergers played only a secondary role in the initial phase. By 1957 only two horizontal mergers had taken place, i.e. Consolidation/Essener Steinkohle and Hibernia/Emscher Lippe.



In these cases, too, the authorization requirements were satisfied since there was no reason to fear that after the concentration had taken place the undertakings would be in a position to fix prices for a large part of the market for their products, control or limit production or distribution, hinder effective competition or evade the regulations on competition introduced by virtue of the Treaty.

In the following years, there were further concentrations on a similar scale, involving commercial undertakings. As a result of the increasing popularity of oil, these concentrations were of particular interest to producers on the Ruhr and the Saar and the nationalized British coal mines. Further noteworthy concentrations resulting from the nascent competition between coal and oil were between mining undertakings and undertakings in the oil and petrochemicals industry. Important examples include the Saarbergwerke/Erdölwerke Frisia, the joint establishment of the Saarland-Raffinerie by the mines of the Lorraine and Saar coalfields and the VEBA AG/Hugo Stinnes AG.

The takeover by Texaco of Deutsche/Erdöl AG should also be mentioned since this was the only case of a concern with its headquarters outside the Community obtaining control of an undertaking covered by Article 80 of the Treaty.

The principal concentrations of recent years in terms of production level were the merger in 1967 of five Belgian mining undertakings to form the NV Kempense Steenkolenmijnen (4 % of Belgian coal production), the establishment of Ruhrkohle AG in 1969 and, at the commercial level, the takeover in 1974 of Gelsenberg AG by VEBA.

Undoubtedly the most spectacular event in terms of competition was the concentration of most of the Ruhr mining companies to form Ruhrkohle AG with a view to adapting production to the fall in demand and restoring the profitability of the coalmining industry. In the view of the coalmining companies this concentration was the only means of offsetting the consequences of the crisis in the coal industry which had begun in 1958. 23 mining companies, with an approximate total production of 85 million tonnes, made over their mining assets to Ruhrkohle AG, thus forming a coal-producing undertaking which alone accounted for almost 50 % of the total production of the Community. There was no reason not to authorize a concentration on this scale since in the circumstances even a production unit of the size of Ruhrkohle AG no longer had any power to fix prices or autonomously control production and distribution, given the competition from other cheaper sources of energy, in particular oil and coal from third countries.

### *French regulations governing the purchase of coal in Member States of the Community*

Immediately following its establishment, the High Authority also took action against the regulations of the Association Technique de l'Importation Charbonnière (ATIC), Paris, since it was considered that these regulations restricted competition. This State organization, set up in 1944 and enjoying a monopoly, had a determining effect on imports of coal into France and on the transport of coal and supplies to the French steel industry. The inevitable restructuring of ATIC led to a dispute between the High Authority and the French Government which it was only possible to settle in several stages. Since France was clearly reluctant to give way, the High Authority issued a decision in 1957 to the effect that the French regulations governing the purchase of coal in other countries of the Community were incompatible with the provisions of the Treaty.

The High Authority brought the matter before the European Court of Justice and in 1961, the French Government, without awaiting the outcome, withdrew the regulation whereby French buyers were prohibited from buying directly from non-French dealers and ATIC ceased to operate as an authorizing body. Since then, when buying Community coal, it is no longer necessary to involve the ATIC except as an official agent and then only in connection with the conclusion and implementation of contracts or matters of payment and transport.

### *Commercial regulations*

Solutions have had to be found to the problem of protecting independent wholesalers in competition with dealers having links with consortia, both in the case of authorizations granted to the former sales organizations and to the present Ruhrkohle AG. Conditions of access by dealers to direct supplies from sales organizations were originally governed by the decisions relating to the former cartels; subsequent to 1973 they have been governed by the commercial regulations of the Ruhrkohle AG.

While the need to protect independent wholesalers has never been lost sight of, authorizations have on occasion been criticized by independent wholesalers and in several cases the latter have been granted improved conditions of access by the European Court of Justice.

In other cases, too, the commercial regulations of producers or their sales organizations were examined by the High Authority with a view to ascertaining whether or not they were incompatible with the provisions of the Treaty regarding competition. In the case of Cobechar, the High Authority

intervened during the various joint-sales authorization procedures, and in the case of the Rheinischer Braunkohlenbrikett-Verkauf GmbH it stepped in by virtue of its supervisory function with regard to undertakings with a dominant position on the market.

To sum up, the provisions of the Treaty regarding the creation and maintenance of the competition necessary for the attainment of the aims of the Treaty have proved to be effective. After examination in the light of the competition criteria, agreements, concentrations and other types of organization have finally taken on forms which satisfy the requirements of these provisions and give virtually no grounds for criticism on the part of the Commission or third parties.

## **Transport**

Unlike the EEC Treaty, the ECSC Treaty does not provide for a common transport policy for coal and steel products. The only provisions relating to transport, which are set out in Article 70, restrict intervention in transport markets to those areas in which the interests of coal or steel producers and the transport sector come into contact most directly, i.e. rates and conditions of carriage.

### *Rules of the Treaty*

Without prejudice to the sovereignty of the Member States regarding transport policy, which is in principle unaffected by the ECSC Treaty, these rules have three aims:

- to guarantee that rates and conditions of carriage are fixed on a non-discriminatory basis. This prohibition of discrimination applies to all rates for the carriage of coal and steel;
- to eliminate support tariffs, subject to the right of the High Authority/Commission to authorize such tariffs in certain cases. In other words, special rates may be authorized in derogation from the absolute prohibition of subsidies or aids (Article 4 (c)), in cases where such rates are compatible with the objectives of the Treaty;
- to guarantee that the rates and conditions of carriage are suitably transparent.

Despite their limited range, these provisions and the measures taken in compliance with them, have contributed greatly to the development of the common market in coal. Moreover, these provisions have gained in importance

and effect over the last 25 years. This development has been the result of changes in the general economic situation, in particular the structural changes in the coal market. Another not inconsiderable factor has been the fact that since 1958 the work of the High Authority in implementation of Article 70 has been increasingly influenced by activities in connection with the common transport policy in the context of the EEC Treaty.

In the 25 years during which the common market in coal has existed, the relative value of the transport component in the delivered price for coal has decreased as a result of the non-parallel development of the pithead price and the corresponding cost of carriage. Nevertheless, transport costs continue to affect the competitive position of coal.

### *Implementation measures*

As regards specific implementation measures, mention need only be made of the fact that the cases of flagrant discrimination which still existed in the rates offered by certain railway companies in the early stages of the ECSC were successfully eliminated.

The elimination of support tariffs presented more difficulties. Several disputes which were brought before the European Court of Justice and the judgments which ensued have acquired a lasting importance, not only as regards definitions and criteria for aid in the form of tariffs which does not conflict with the Treaty, but particularly in connection with the possible applications of the instrument of pricing policy. However, as a result of the general developments in the coal sector, the problem of support tariffs is in practice no longer as acute as it was in the early years of the common market.

The rates applied by the German railways for transport from the Saar region are the only remaining point of contention. The Deutsche Bundesbahn introduced these rates – which are known as Als-Ob Tarife ('as-if rates') – in 1964, with a view to combating the potential competition which, in the view of the Bundesbahn, the construction of a Saar-Palatinate-Rhine canal represented.

The High Authority rejected the argument of potential competition, considering it unrealistic. The subsequent legal proceedings, which continued for several years and concerned the very basis of the legal interpretation and implementation of Article 70, were finally brought to a conclusion in the form of authorization of these measures as support tariffs. At the time of writing,

these tariffs still exist in partial form by virtue of a decision by the Commission imposing a time limit on them and placing the Federal Government under an obligation to eliminate gradually this form of aid.

Originally, the publication of rates and conditions of carriage also gave rise to bitter controversy. High Authority Decision No 18-59, the Judgment of the Court of Justice annulling this Decision and Recommendation No 1-61 were the subject of many protracted debates. This problem, the importance of which was frequently exaggerated in the early stages, was subsequently approached in a more realistic manner.

Finally, mention should be made of a measure relating to the prohibition of discrimination, which might be regarded as a lasting achievement of the High Authority in connection with the implementation of Article 70, i.e. international railway tariffs for through traffic. On the basis of the agreement concluded in 1955 between the governments of the Member States and agreements concluded with Switzerland and Austria in 1956-57, the railways of the Community and of these two non-member countries introduced a tariff system which has made a considerable contribution to the development of international coal transport. However, the railways have not always felt the 1955 agreement to be in keeping with their own economic interests. A request made by the Netherlands Government in 1974 with a view to adapting the agreement to subsequent developments in the economic situation in the field of transport was welcomed by the railways, which were in favour of revising this decision.

It is still too early to say what the outcome will be. At any rate, the broad lines of this agreement on tariffs policy will continue to be a model of close cooperation between railways.

To sum up, Article 70 of the ECSC Treaty and the implementation of this Article can claim to have made a not inconsiderable contribution to the realization of the common market in coal.

The radical changes in the coal sector together with a steady fall off in the volume of trade have had unfortunate consequences for the coal transport markets, particularly the railways and inland waterways. The resultant problems continue to weigh heavily on these two modes of transport, which depend to a great extent on coal for their business. While progress in the integration of the common market in coal has not been able to prevent these difficulties, it has at least succeeded in alleviating them to a certain extent. At any rate, the implementation of Article 70 of the ECSC Treaty has produced real advantages for coal producers and consumers.

## **Equalization levy**

The Convention on the Transitional Provisions annexed to the ECSC Treaty applied during the first years following the setting-up of the common market. The purpose of the transitional period was to allow the industries to adapt to the common market. At the time the Treaty was signed it was already certain that the Belgian and Sulcis (Sardinia) mines were not in a position to cope immediately with the competition on the common market. For this reason it was laid down in paragraphs 25 to 27 that these coalfields, which had higher than average production costs, should be aided by means of equalization levies imposed on the coal production of countries in which production costs were lower than the weighted average of the Community, i.e. Germany and the Netherlands. It was intended that Belgium and Italy should take advantage of the five-year transitional period to make rationalization investments with a view to enabling the coal industry in those countries to become integrated into the common market without the aid of artificial protection measures. The governments of the two countries were to make a similar sum available to their coal industry. Between 1953 and 1958 the revenue from this special levy, which was introduced alongside the ECSC levy, was 56 million u.a. of which 49 million went to Belgium and approximately 7 million to Italy. The rationalization achieved thereby was not substantial. The Belgian and Italian coal industries were very hard hit by the subsequent coal crisis. The Sulcis mines were closed in 1976 because they were not economically viable, and it proved necessary to reduce the capacity of the Belgian coal industry considerably. The remaining production in Belgium continues to be that most in need of aid throughout the entire Community.

## **Forecasts and general objectives**

By virtue of Article 46 of the ECSC Treaty, the tasks of the High Authority include:

- the periodical drawing up of programmes indicating foreseeable developments in production, consumption, exports and imports;
- the periodical establishment of general objectives for modernization long-term planning of manufacture and expansion of productive capacity.

Since their inception and irrespective of the state of the market, the services of the High Authority, and subsequently of the Commission, have held quarterly meetings with representatives of the Member States accompanied by

experts to discuss the current situation and immediate future of the coal market with respect to production, sales, imports, exports, stocks and supply and demand. Following these discussions, the services of the High Authority drew up a quarterly forecast published in the Official Journal after it had been submitted to the Consultative Committee. Publication of this programme ceased in 1971. The periodical discussions in the Consultative Committee have, nevertheless, continued.

Since 1958, this work has been supplemented by a balance sheet comparing the coal situation for the coming year with the previous two years. The drawing up of an annual balance sheet on the coal situation in the Community permits a better understanding of the market. The report is a convenient instrument illustrating the developments of all the various elements in the coal market, individually and within the context of the energy situation as a whole, particularly as regards the power-station sector. The balance sheet provides all the essential information in a simple form.

The drawing up and presentation of an annual balance sheet presents a number of statistical difficulties. Definitions applied in coal statistics vary according to the purpose for which they are intended. For example, actual weight (tonne = tonne) or tonne of coal equivalent (tce). The fact that the document is used as a source of information and basis for discussion between the Commission, government departments and professional bodies, presupposes a common language. However, for a variety of reasons, the Member States use different calorific values per tonne of coal in their statistics, and it has not been possible to agree on a common terminology.

For this reason, the statistics included in the annual balance sheet are expressed in the forms used in the individual Member States, in spite of their lack of uniformity. Of course, a standard unit, the tce, is used in the case of a balance sheet covering the various forms of energy.

Further difficulties are also encountered when drawing up a balance sheet. This comprises a table of intra-Community exchanges in coal and coke which, by definition, should balance, i.e. deliveries should equal receipts. However, sellers' and buyers' points of view do not always coincide and the problem is to reconcile them. The Community balance sheet (forecast) for coal and coke for the year 1977 is included (Tables 38 and 39).

The annual balance sheet has for a number of years also been published in the Official Journal after submission to the Consultative Committee instead of the quarterly programmes.

However, long-term forecasts are necessary for the sound management of the coal industry in which investments must be decided upon on the basis of correct information. Although it is relatively easy to make short-term forecasts, it is not easy to make forecasts for the next 10 or 20 years, i.e. to draw up what are referred to in the Treaty as 'general objectives'. The term 'general objectives' covers forecasts and estimates as well as objectives proper.

The long-term forecasts drawn up by the High Authority and subsequently by the Commission are no exceptions to the general rule, and are influenced by the current situation, not only in the coal sector but also in the energy field as a whole. Coal forecasts cannot be made in isolation, but must be regarded as an integral part of forecasts in which all forms of energy are taken into account. Since the Council was unable to agree on a common energy policy, the High Authority, and subsequently the Commission, found themselves powerless to draw up valid general objectives for coal. Furthermore, the peculiarities of the coal sector make it difficult to define the long-term position of coal in terms of competition with other sources of energy. Factors worthy of particular mention include the probable developments in miners' earnings, since any estimate would imply a prejudgment of the outcome of the discussions between trade unions and employers, and wages account for more than half of the production cost of coal. It is also difficult to estimate the revenue of the various undertakings with any degree of accuracy since these depend on price levels in the energy market.

Given that coal may be replaced by other forms of energy, the competitive position of coal *vis-à-vis* these other forms of energy, in particular oil, must be defined accurately if a clear picture is to be obtained of the role which coal can play in meeting energy requirements. The first general objectives were drawn up in 1956, when it was thought that the production of and demand for coal would continue to grow. It was estimated that 320 million tonnes of coal would be produced in the original six-member Community in 1975, compared with 246 million tonnes in 1955, i.e. an increase of 74 million tonnes.

Subsequently, during the period when oil was abundantly available at low prices, energy studies contained figures forecasting a drop in coal production. In 1966, the High Authority laid down a production target of 195 million tonnes ( $t = t$ ) for 1970. This level of production could only have been achieved by means of radical and costly measures in favour of the coal industry and to the detriment of the other forms of energy in competition with



coal. Actual production in 1970 was 170 million tonnes, i.e. 25 million tonnes less than the target. In addition, a figure of 100 million tonnes for production in 1985, still for the six-member Community, was put forward in 1972 when the coal industry was in serious difficulties. This last estimate was based solely on economic hypotheses and the principle of free competition on the market.

## **Notification of investment**

By virtue of Article 54 of the ECSC Treaty, one of the tasks of the High Authority/Commission is 'to encourage coordinated development of investment'. The Commission does not restrict itself to indicating prospects and laying down objectives, but also carries out an annual investigation into actual and proposed investment. The findings are contained in a report which is distributed widely among interested parties. This document permits a comparison between potential production levels as announced by the undertakings and foreseeable requirements, thus allowing any necessary adjustments to be made.

In addition, the Commission endeavours to influence individual investment decisions. By virtue of Decision No 27/55 of 20 July 1955 and subsequent Decisions, undertakings must inform the Commission in advance of any investment programmes involving amounts larger than 5 million u.s. If it deems necessary, the High Authority/Commission issues an opinion and forwards it to the undertaking.

## **Delivery plans**

During 1955 and at the beginning of 1956, the situation as regards supplies of coal to Community consumers deteriorated progressively as a result of the rapid expansion of the steel industry, an abnormally cold winter in 1955/56 and, finally, the Suez crisis which led to a sharp increase in demand. While action was clearly necessary, recourse to Article 59 of the Treaty seemed to be going too far. Application of this Article, i.e. an officially imposed allocation system, entails serious problems:

- the common market suffers a setback with the reintroduction of national quotas;
- at the international level the introduction of a European allocation system

for solid mineral fuels can lead to difficulties with third countries, and the system necessitates the setting up of cumbersome administrative machinery.

For these reasons delivery plans were drawn up under the control of the High Authority and with the collaboration of the industry. This joint action was achieved more by persuasion than under the provisions of the Treaty. For the coal year 1956/57 the delivery plan was limited to the Ruhr. In Germany, a large proportion of the tonnage of the Ruhr coalfield was allocated as soon as it left the pit, i.e. it could be used at the mine itself or allocated to certain consumers (i.e. captive production of the steel industry, the 'Werk-selbstverbrauch' or WSV. Proprietary rights of this kind have a tendency to expand, and since production was unable to adapt to the general increase in demand this resulted in a reduction of the tonnage available on the open markets – a situation aggravated by the fact that at that time the Ruhr was applying the lowest selling prices. This is where the delivery plan came in. This plan was intended to ensure fair and non-discriminatory supplies to all consumers of Ruhr coal. The plan was drawn up on the basis of a reference system, using the deliveries for the three coal years between 1953 and 1956 as a base, but included certain arrangements to take account of special cases. Firstly, the domestic heating sector was accorded a privileged position, which even involved an increase in the tonnage assigned to it in comparison with the base figures, if only to take account of new installations. On the other hand, the industrial sector was only assigned 90 % of the reference tonnage. The German steel industry agreed to renounce some of its WSV rights, and bought 2.8 million tonnes of coal from the USA which it resold at the Ruhr delivered price. The delivery plans also applied to blast furnace coke but in this case the coal year 1955/56 was taken as base year.

For the 1957/58 coal year, the delivery plans were applied not only to the Ruhr, but also to the other main Community coalfields. As regards the Ruhr, consumer requirements connected with the WSV increased, but, whilst recognizing the inherent features of proprietary rights, the High Authority felt that certain limits should nevertheless be set on the extent to which this right could be exercised. In addition, pithead coking plants were becoming more numerous, thus reducing the amount of coal available for sale from the mine. The 1957/58 plan was based on 90 % of the reference year 1956/57, account being taken of priority sectors such as domestic heating and consumption at the pithead. On the assumption that production would be the same as in the preceding year, it was necessary to regulate the WSV system in order to guarantee 90 % of the tonnage to the other common market con-

sumers. As in the case of the preceding plan, the German steel industry undertook to buy American coal and make a total of 3.28 million tonnes available at the Ruhr price. Other undertakings making use of the WSV system also agreed to forego some of their rights.

For the calendar year 1957, delivery plans were drawn up in France for the Nord/Pas-de-Calais, Lorraine and Centre-Midi coalfields. Given that it was necessary to maintain considerable flexibility in power station supplies, which depend on the climate and particularly on river flow rates, no reference year was used as in Germany. Tonnage imported from third countries was controlled and allocated to clearly defined consumers, in some cases on the basis of long-term contracts. The domestic heating sector was given a higher level of supplies than in the previous year. In Belgium, a plan was drawn up for 1957/58, but again on reference period was used. It was estimated that production would remain more or less the same as in 1956. Further plans were drawn up for the Saar coalfield and the Netherlands.

The delivery plans suffered to a certain extent from the same difficulties as Article 59, since they too constituted a certain obstacle to the development of the common market in coal by consolidating positions, the reference concept significantly affected freedom of buying at all levels. In addition, delivery plans tended to put new consumers at a disadvantage, since the latter had no base year to work from, and were not established clients of the coalfield, they had to find their supplies externally, which was difficult and more expensive.

In the short term, the delivery plans permitted stabilization in the sales structure and eliminated gaps in supply and discrimination in meeting requirements. They aimed, after all, to combat the tendency to reduce the size of the markets, during periods of supply difficulties. Thus, in the case of the 1957/58 Ruhr plan Italy, which produces no coal itself, benefited from tonnage over and above its normal volume of trade.

Delivery plans were indicative in nature and subject to constant revision as the situation developed. They were carried out under the control of the High Authority. Since demand eased off at the end of 1957 and to an even greater extent at the beginning of 1958, there were no delivery plans in 1958/59.

### **Protocol of 8 October 1957 on a coordinated energy policy**

As early as October 1953, the Council stressed, in a declaration, the interdependence of the policy of economic expansion and the policy pursued in

the coal industry. A joint committee consisting of representatives of the governments and of the High Authority was set up, which concentrated on initiating studies into prospects and conditions for economic expansion and the consumption trends of the various forms of energy. This work led to the publication in 1957 of a ' Étude sur la structure et les tendances de l'économie énergétique dans les pays de la Communauté ' (Study of the economic structure and trends in the Community energy sector). During the course of this work, the various Member States were able to compare their forecasts and the basic data relating to their economic situation.

On 8 October 1957, the Council and the High Authority agreed on a protocol on the methods to be applied with a view to ensuring a coordinated policy in the field of energy.

There was a growing deficit in the energy market, and dependence on imports was seriously jeopardizing security of supply. In addition, long-term investments in the energy field were particularly costly, a situation which could be aggravated if all parties concerned were to act independently.

The protocol was more a study programme than an action programme. Indeed, although the statistical apparatus was more or less complete in the case of coal, which had formed the subject of international studies and even international measures dating from a time long before the establishment of the ECSC, there were nevertheless considerable lacunae as regards other forms of energy.

The Joint Committee was to conduct its work in cooperation with representatives of the Euratom and EEC Commissions.

The work was to consist of drawing up an energy balance sheet for various periods in the future with a view to ascertaining the most economical means of balancing them.

The work was also to include forecasts of short- and long-term energy requirements and supplies. Efforts would be made to draw up documentation regarding investments necessary for the production of energy. In addition, studies would be made of the effects of the implementation of the energy programmes on the balance-of-payments, the investments necessary and the work force available. Also to be examined was the question of substitution of one form of energy for another as a function of prices, price structure and price fixing for the various sources of energy and the factors influencing

prices, such as aid, customs duties and taxes. At the technical level, innovations which might affect the relative consumption of the various energy products were also to be taken into account.

## **Association with the United Kingdom**

At the end of 1953, the High Authority informed the British Government, via its delegation to the High Authority, which had been based in Luxembourg since 1952, that it was prepared to open negotiations with a view to establishing concrete forms of cooperation between the High Authority and the United Kingdom. The association agreement signed on 21 December 1954 entered into force on 23 September 1955 after ratification by Her Majesty's Government and the six governments of the Member States of the Community.

The Association Council, which was an instrument for the exchange of information and consultation, was concerned with the various aspects of the market such as, in the case of coal:

- trade in coal between the Community and the United Kingdom;
- coal supplies;
- market and price trends;
- price formation;
- investment policy;
- production, consumption, export and import trends;
- effect of the development of other forms of energy on the demand for coal;
- technical research;
- safety, health and well-being of persons employed in mines.

One article of the agreement dealt with quantitative restrictions on imports and exports which were to be examined by the two parties and the governments of the Member States of the Community. This article was invoked on various occasions, in particular when the United Kingdom stopped all imports of coal in 1959. Although the idea of developing trade between the United Kingdom and the ECSC was frequently put forward, in reality this trade tended to decline as the years went by. There was progressively less and less reason for the Community coal producers to fear that a considerable part of their market might be taken over by British coal, and this was a positive factor in negotiations on the enlargement of the Community in 1973.

The work of the Association Council was interrupted in 1962-63 during the initial negotiations on the accession of the United Kingdom. Work resumed after these negotiations had been broken off, but was suspended again during the subsequent negotiations, which led to the enlargement of the Community on 1 January 1973. The Association Council then disbanded, having fulfilled its purpose.

Joint work over several years had made a major contribution to a better understanding of the problems on both sides, and this in itself facilitated the integration of the United Kingdom into the Community.

## 4. The Community and the coal crisis (1958-73)

### **Reversal in the energy market 1957/58**

The period 1957/58 was a turning point in the development of the coal market in the Community. During the years 1954-1956 various factors combined to increase demand, above all, an exceptional economic boom marked by an annual increase in industrial production of 12 % in 1955 and a further 8 % in 1956. Production in the steel industry grew by 25 % between 1954 and 1955 and continued to climb in 1956. During this period, in February 1956, as a result of a particularly hard and long winter there was a disproportionate rise in coal consumption. Finally, as a result of the Suez crisis which came on top of everything else, transatlantic freight rates rose to \$ 15 tonne, making American coal more expensive than Community coal. In addition, production could not keep up with the demand, with the result that in 1956 consumers began frantically building up stocks which in turn led to an irrational fear of a shortage and the introduction of delivery plans under the control of the High Authority (p. 73).

After a relatively stable year in 1957 in spite of maximum imports of 44 million tonnes, and after producers had managed to build up their stocks again to a certain extent in 1958, there was a concatenation of events which led to a drastic reversal of the situation. Firstly, a weak economic situation (3 % growth in industrial production) was accompanied by a drop in iron and steel output. Consumers who, out of fear, had kept their surplus stocks in 1957, started to dispose of them with a view to bringing them down to levels more in keeping with current needs. In addition, all the import contracts concluded during the period of supply difficulties were a drag on the market, and spot purchases at low prices made possible by cheap freight rates also aggravated the situation.

Against this background of great weakness in the coal market other forms of energy, particularly oil, made headway. Coal producers therefore introduced discounts, granting reductions of 10 % on tonnage bought in 1958/59

on condition that the buyer undertook to buy the same tonnage in 1959/60 as in the previous two years. In addition, the Ruhr Sales Offices decided to take advantage of the right of alignment on coal from third countries. These various measures were inadequate to maintain sales capacities for Community coal, which was losing ground on practically all markets (Table 5). Deliveries for all consumer sectors in 1959 were down by a total of 44 million tonnes compared with two years earlier; this dramatic fall in deliveries signalled the beginning of the downward trend in Community coal consumption.

### **Problems arising from the coordination of energy policy**

The ECSC, EEC and Euratom Treaties make no mention of an energy policy. Nevertheless, all three Treaties affect the energy sector and for this reason, during the debates on the enlargement of European integration, the Messina Conference (1956) also devoted attention to the question of coordinating energy policy. The High Authority of the ECSC was given the task of drawing up *ad hoc* proposals which led to the protocol of 8 October 1957 (p. 75).

This is not the place to trace the protracted and difficult work of the Community institutions, the governments of the Member States and the economic sectors involved in search of a common energy policy following this initial decision. Brief reference may, however, be made to the real or imaginary obstacles which the concerted efforts of the Community have since had to face.

First of all there is the simultaneous existence of two separate Community Treaties (ECSC and Euratom) aimed at sectoral integration, and one Treaty (EEC) which aims at economic integration on a massive scale but to the exclusion of these two sectors. This was bound to lead to difficulties, if only procedural ones. Secondly, there were structural differences in the energy sector. The Member States were all more or less important producers of energy, but the unequal distribution of resources within the Community led to different priorities regarding energy supply policy. Clearly, in this case too, the organization of the energy sector in the various Member States was significant. In most cases the energy sector comprised large undertakings, many of which were nationalized or subject to considerable State influence. Others, however, such as the multinational oil companies, belonged to the private sector. In addition, the way in which the energy market was organized differed according to the basic principles underlying



economic policy in the various countries. For this reason, external trade in the various energy sources was characterized by a wide variety of national regulations, which meant that the common market in energy could not be homogeneous. The various tax systems are also worthy of mention in this connection, since in some cases energy sources were subject to a special tax on consumption. Finally, it should be noted that energy policy overlapped considerably with the general foreign policy of the various Member States.

Despite all these national peculiarities, the interests of the Community as a whole were always and must continue to be the main concern. In the 20 years since the protocol of October 1957, the Community has frequently succeeded (1964, 1968, 1972 and 1974) in reaching agreement on the objectives of a common energy policy, fixing certain priorities and identifying the problems to be solved. The three original executives, and in particular the single Commission of the European Communities set up since the fusion in 1967, have put forward many specific proposals.

The Council has frequently found it difficult to state an opinion on measures proposed by the Commission. This has occasioned active criticism from interested bodies; that of the European Parliament has been particularly severe. In a resolution on the situation of Community energy policy following a Council meeting in October 1976, the Parliament considered 'that the Community is constantly afflicted by an energy crisis which is steadily growing worse as a result of the Council's inability to take appropriate decisions' and stressed that 'the Council's irresponsible attitude may well lead to the Community's becoming completely paralysed'.

In many cases it has, in effect, proved impossible to reach the compromise solutions needed to reduce all the interests at stake to a common denominator. In spite of these obstacles, numerous decisions in the area of coal policy have been taken over the years in the context of the ECSC. These decisions are discussed below.

### **Recourse to Articles 58, 74 and 95**

For the common market in coal and the ECSC institutions, 1958 and 1959 were dramatic years which have left their mark. The structural changes in the energy market led to a serious slump in the coal market. The High Authority tried to overcome these difficulties by taking a series of measures of which only the major ones will be mentioned here. The High Authority asked the governments to introduce a short-term economic policy involving building up stocks with a view to stabilizing production and employment.

After a number of abortive attempts, it finally succeeded in obtaining from the Council authorization – which, by the first paragraph of Article 95, had to have the unanimous assent of the Council – to provide the producers with 7 million u.a. from its own resources as aid for the building up of special stocks.

It was also in implementation of Article 95 that an ‘ ECSC aid ’ of 3 million u.a. financed by the levies, was adopted for the benefit of miners in Belgium who were particularly hard hit by the introduction of short-time working. The Council had rejected a similar aid for all the miners throughout the Community.

As regards imports, the High Authority appealed to the solidarity of the Member States and, invoking Articles 26 and 57 of the Treaty, attempted to persuade them to harmonize their import policies. The representatives of the governments in the Council pointed out, however, that any restriction of national sovereignty of the Member States in respect of commercial policy was unacceptable. Only Germany was prepared, following a recommendation by the High Authority (Articles 74 and 3), to levy customs duties on imports of coal exceeding a certain quota.

Since the other measures aimed at stabilizing sales and production remained ineffective and the situation was, in fact, deteriorating rapidly, the High Authority decided in the spring of 1959 to propose an extensive plan of action to combat the coal crisis. This plan involved the implementation of Articles 58 and 74, together with the abovementioned aid to Belgian miners affected by short-time working (Article 95). The aim was to cut down production by a flexible application of the quota system provided for in Article 58. The level of activity would be regulated by means of levies on mining undertakings continuing to produce more than the amount envisaged. In addition, the High Authority would make a recommendation to the governments by virtue of Article 74(3) requesting them to restrict their imports of coal from third countries to a tonnage not more than 25 % greater than the amount imported in 1954, i.e. a total of 17.4 million tonnes for the Community as a whole. These measures were to be valid for six months.

At its meeting of 14 May 1959, the Council decided that it could not give the assent required by virtue of Articles 58 and 74, although the High Authority had on two previous occasions stated that it was prepared to make a number of modifications to its crisis plan. Thus Community-level action failed to materialize. Faced with this situation, the High Authority submitted a special report to the European Parliament. It then turned its attention to the urgent issue of the Belgian coal market.

## Isolation of the Belgian market (Article 37)

The import restrictions accompanied by mutual assistance (Article 71) introduced by the Belgian Government in February 1958 proved inadequate to cope with the decline in the coal sector. In addition, without the assistance provided for by the Treaty in the event of a manifest crisis, and since the Council had rejected the crisis plan proposed by the High Authority, the Belgian Government requested that special measures to remedy the situation be adopted by virtue of Article 37. Decision No 46/59 was taken on 23 December 1959. This Decision involved a restriction of imports both from third countries and from other Member States of the Community. Imports of coal from non-member countries, excluding supplies under a contract for work, were reduced to 0.6 million tonnes for 1960, that is, 0.4 million tonnes less than in 1959. In implementing these restrictions the Belgian Government undertook to avoid discrimination of any kind.

Various factors had to be taken into account in connection with the supply of coal and patent hard coal fuels from ECSC countries, which had been restricted to 2.95 million tonnes, namely:

- requirements of the Belgian consumers according to categories and types;
- availability of Belgian producers and producers in other ECSC countries according to categories and types;
- traditional patterns of trade.

As a *quid pro quo* and in order to avoid the problems being simply passed onto its neighbours, exports from Belgium to the other countries were also controlled and limited to 1.9 million tonnes. Thus the Belgian Government had to take measures to avoid tonnage from reserves *in situ* causing further difficulties on the market. A limit of 20 % per year was set for the disposal of pithead stocks.

These various measures were accompanied by a revised plan for the rationalization of the Belgian coal industry and an increase in the shut-down rate. In the course of the financial year and in consultation with the governments involved, the tonnage destined for trade with other countries of the Community was increased slightly.

In spite of the closure plan and the undeniable results of Decision No 46/59, there was still an imbalance between production and outlets on the Belgian coal market. It was necessary to extend the period of application of the Decision, while at the same time increasing slightly both the export quotas and

the quotas for trade with other countries of the Community. Thus Decision No 46/59 was extended for two successive years with certain minor modifications to its terms.

The final Decision, No 13/61, particularly stressed the need for rationalization in coal undertakings while introducing a greater degree of flexibility in the quotas, i.e. both import and export quotas could be increased tonne for tonne. Decision No 8/62 lifted the supply restrictions on anthracite and low volatile coals. In addition, trade quotas were increased by 10 %.

Since the situation in Belgium had improved as a result of an improvement in the economic climate, it was decided not to prolong the isolation of the Belgian coal market, which was reintegrated with effect from 1 January 1963. However, the improvement was only superficial and the basic problem of the full integration of the Belgian coal industry into the common market continued to exist, particularly as Belgium's neighbours in the Community had not been idle, and had also taken rationalization measures.

## **Revision of Articles 56 and 65**

### *Article 56*

According to the Treaty, Article 56 on the re-employment of workers made redundant by a large reduction in labour requirements in the coal or steel industry is only applicable if this reduction results from the introduction of new technical processes or equipment within the framework of the general objectives of the High Authority.

The marketing difficulties for coal which arose from the changes in the energy market – particularly those taking place after 1958 – resulted in a scale of employment problems with which the Treaty was unable to cope. In 1959, the High Authority carried out a minor revision of the Treaty in application of paragraphs 3 and 4 of Article 95 and on the basis of proposals drawn up jointly by the High Authority and the Council, which were submitted to the Court of Justice for an opinion and then put to the vote in the European Parliament.

A proposed revision of Article 56 was submitted for discussion, but this only applied to coal and was limited to a period of three years. The text was deemed by the Court of Justice to be incompatible with the Treaty. A new text was finally adopted by Parliament in March 1960.

The new Decision extended the provisions relating to the granting of aids. It took account of the marketing conditions in the coal and steel industry with a view to dealing with far-reaching changes not directly connected with the establishment of the common market.

The new provisions of Article 56, together with the original provisions, were intended to help establish a balance between economic requirements and social exigencies. They were not subject to any time limit other than that of the ECSC Treaty itself. This was the only case in which the Community succeeded in amending the Treaty.

### *Article 65*

In contrast, the second attempt to modify the Treaty by means of the 'minor revision' provided for in paragraphs 3 and 4 of Article 95 ended in failure. Following an initiative on the part of the European Parliament, the High Authority and the Council of Ministers had in November 1960 given a joint study committee the task of examining the possibility of revising certain provisions concerning economic law in the Treaty establishing the ECSC. Following extensive discussions in the Council, a draft modification of Article 65 was submitted to the Court of Justice in June 1961. In view of the radical and permanent changes in the conditions of sale practised on the coal market, this draft proposed extending the derogations from the principle of prohibition of agreements, clearly defined in Article 65, to cover agreements which would permit the achievement of readaptation goals recognized as necessary by the Executive (readaptation and rationalization agreements).

However, the Court of Justice, which in questions of amendments under Article 95 has full power to assess all points of fact and law, declared in its opinion that the proposed revision of Article 65, which would have involved more than simple adaptation of the proposals, went beyond the competence of the High Authority and, in addition, was in conflict with the fundamental provision laid down in Article 4, indent(d). In the light of this opinion, the High Authority and Council abandoned any idea of revising the rules on competition. Since then, there have been no attempts to modify the provisions of the ECSC Treaty as regards economic law.

### **Commercial policy**

According to Article 71 of the Treaty, 'the powers of the governments of Member States in matters of commercial policy shall not be affected by this Treaty, save as otherwise provided therein'.

This Article put the High Authority in a somewhat delicate position as regards the management of coal imports from third countries which were in competition with Community coal, and were frequently offered at lower prices. The problems became apparent, and indeed acute, in 1958 with the collapse of the Community coal market, together with the existence of numerous import obligations, which in many cases arose from medium-term contracts concluded as a result of the supply difficulties in 1956/57.

As early as 1957, the High Authority had taken steps to ascertain accurately the extent of current contracts. This provided an overall view of the import situation, but did not permit measures to be taken for the Community as a whole. In 1958, the Belgian and German Governments introduced the first restrictions on the import of coal from third countries. These restrictions were accompanied by conservation measures ensuring competition with other Member States, and permitting Belgium and Germany to verify the origin of coal from Member States with a view to avoiding indirect imports of coal from third countries.

The High Authority, acting in accordance with the spirit rather than the letter of the Treaty tried to integrate somewhat the measures taken by the Member States. In spite of the support it received from a resolution of the European Parliament the action plan proposed by the High Authority in May 1959, which proposed solutions involving coordination of imports, was not adopted. Thus each country acted separately.

As from September 1958, Germany imposed a ban on the conclusion of new import contracts. However, German importers and consumers already held contracts concluded prior to that date representing nearly 40 million tonnes. The High Authority, acting by virtue of Article 74(3) of the Treaty, therefore, sent a recommendation to the Federal Government inviting it to impose a provisional customs duty not exceeding DM 20/tonne on all imports of coal from third countries, and to fix a minimum free quota of 5 million tonnes for 1959. Protected by this tariff quota the German coal undertakings used the funds made available to them to establish a repurchasing and compensation system with a view to reducing the volume of existing contracts.

The German tariff quota, adapted on various occasions in the light of the situation in the coal sector, is still in force.

In the case of Belgium, Decision No 46/59 in implementation of Article 37 provided for a maximum quota of 600 000 tonnes for imports from third countries for 1960. The quota was distributed among the supplying countries

according to the principle of non-discrimination. In 1961, the quota was raised to 620 000 tonnes, i.e. the increase was proportional to those imposed on the countries of the Community for their deliveries to Belgium.

The measures taken by Germany and Belgium to restrict imports of coal from third countries in both cases followed discussions with the suppliers involved, involved, i.e. the USA and the United Kingdom. In the latter case, the discussions were held within the Association Council.

A system of licences to control imports was introduced for all the countries of the Community, with the exception of Italy. In France, a government regulation system operated by a semi-public body, the Association Technique de l'Importation Charbonnière (ATIC), allowed imports to be harmonized with production programmes and the general economic situation. In Belgium, apart from the period in which Article 37 was applied, and in the Netherlands, thanks to the licences, it was possible to keep the volume of imports to a reasonable level. In Luxembourg as in France, the State intervened to prevent coal from third countries coming on the market except as part of an import programme. In Italy, no restrictions were imposed on the importing of coal.

This brief description effectively demonstrates the need for Community-level solutions in the field of commercial policy. The High Authority, and subsequently the Commission have frequently proposed the coordination of import policies, but neither has had any real success, since the governments have constantly invoked Article 71. During certain periods, e.g. the Suez crisis, import programmes have been discussed and compared at quarterly information sessions with government representatives (p. 70) thus enabling each of the governments to hear the views of the other Member States.

### **National aids to the coal industry**

During the period 1958-72, the governments of the coal-producing countries were obliged to take various measures at national level to assist the coal producing undertakings which were feeling the full impact of competition from hydrocarbons, particularly oil. Aids intended to cover financial deficits were frequently supplemented by coalfield-base selective production programmes linked to the degree of resistance to competition and the category of coal produced. The most important of these aid and protection measures are listed below for each of the coal-producing countries of the Community.

## *Germany*

- 1959 :** Law introducing a customs duty of DM 20/tonne coal and provisions for the introduction of quotas on imports of coal from third countries. The law is still in force in a modified form.
- 1960 :** Law on the taxation of fuel oil. This measure was intended to make it easier for coal producers to find outlets. The law is still in force, but the rates have been reduced.
- 1960 :** Establishment of the 'Notgemeinschaft Deutscher Kohlenbergbau'. This was an organization of coal producers which was intended to alleviate the consequences of the coal crisis.
- 1960 :** Subsidies for the transport of coal with a view to reducing the carriage-paid price of German coal.
- 1963 :** Law on the establishment of a Federal organization governed by public law known as the 'Rationalisierungsverband des Steinkohlenbergbaus' the aims of which were as follows:
- (a) payment of a premium of DM 25/tonne of production capacity closed down;
  - (b) aid for the payment of sums owing under the tax known as 'Lastenausgleich' (equalization of burdens);
  - (c) guarantees and loans for investments.
- 1965 :** Federal Government programme for financing stocks for a period of four years, involving a total of 4 million tonnes of coal.
- 1965 :** Law to ensure the consumption of coal by power stations (first 'Verstromungsgesetz') (Electricity-from-coal law). Under this law tax reductions were granted to power stations undertaking to burn exclusively Community coal for a certain period.
- 1966 :** Establishment of the 'Aktionsgemeinschaft Deutsche Steinkohlenreviere GmbH'. The purpose of this organization was to set up new industries in the coalfields on the sites of disused mines.
- 1966 :** Law to reinforce the use of coal by power stations (second 'Verstromungsgesetz')
- 1967 :** Law for the adaptation and rationalization of the coal industry and coal producing regions. Appointment of a Federal Coal Commission with extensive powers.



- 1969** : Establishment of the Ruhrkohle AG (RAG). Concentration and rationalization of the production of the former individual undertakings in the Ruhr coalfield.
- 1970** : The RAG was granted investment subsidies and subsidies for financing drainage operations. These were rationalization measures.
- 1972** : Credit and guarantee measures aimed at avoiding a crisis in the RAG. Guarantee of DM 1 000 million by the Federal Government and the Land of North Rhine-Westphalia used to cover losses.

*Belgium*

- 1964** : Closure of pits according to plans for the economic conversion of the coalfields. Covering of operating losses by the State.
- 1966** : Positive aids to rationalization. These aids were introduced with a view to promoting the modernization of mines which were, relatively speaking, economically viable and to guaranteeing technical safety during mining operations.
- 1967** : Introduction of a 'cahier des charges', i.e. a set of conditions to be used as a basis for calculating subsidies to the coal industry.

The Government wished to avoid a situation whereby the fact that operating losses were covered by the State led to abnormal reductions in price and hence artificial conditions of competition. On the other hand, the 'cahier des charges' standardized for all mines the rules for the calculation of production costs and the appropriations necessary for the covering of losses by means of State aid.

- 1968** : From this point onwards and on the basis of the 'cahier des charges', subsidies were granted each year to cover losses, amortization and capital investment. These measures were designed to prevent regional problems and to promote the rationalization of mines.

*France*

- 1965** : Measures designed to adapt the production of the coalfields to market conditions. Closure of mines according to the plans for the economic conversion of the coalfields. Covering of operating losses. Despite the fact that High Authority Decisions Nos 3/65 and 3/71 afforded various possibilities for aids, virtually all the aids granted by the French

Government went only to provide partial cover for operating losses. The Charbonnages de France suffered substantial losses and cut down production considerably.

The Government introduced a coal production programme which was intended to lead to a relatively large reduction by 1980.

*1970* : Contract between Électricité de France and Charbonnages de France designed to guarantee the use of coal by power stations.

*1971* : The French Government granted a special subsidy to the Charbonnages de France designed to assist them in implementing social and regional programmes in a more rational manner.

*1971* : With the authorization of the French Government, the Charbonnages de France cancelled FF 1 400 million of their debts and increased their own capital by FF 700 million with a view to consolidating their balance sheets, which showed substantial indebtedness.

### *Netherlands*

*1967* : Aids to private mines to compensate for operating losses with a view to avoiding social and regional problems.

## **Protocol of Agreement of 21 April 1964 on energy problems**

During the period 1959-63, the Community coal industry was faced with pressing difficulties; there was an increasing divergence in the ways in which these were dealt with by the various countries, thus making a common energy policy difficult to achieve.

The impossibility of reaching agreement on the basic elements of a long-term energy policy (Council meeting of 2 December 1963) made it necessary to establish ground rules for a pragmatic coordination of the policies of the various countries and to take immediate measures in the coal sector.

The inter-executive (ECSC, EEC, Euratom) working party on energy, under the chairmanship of the High Authority, clarified the salient points of the Protocol of Agreement of 21 April 1964 between the governments of the Member States, i.e. the need to find a way of approximating national policies with a view to ultimately establishing a common energy policy. The coal situation was accorded special treatment in the Protocol, which also contained under-

takings entered into by the governments with regard to other energy products, in particular, hydrocarbons. The objectives of the Protocol were as follows:

- cheap supplies;
- security of supply;
- progressive introduction of substitutes;
- stability of supply as regards prices and availability;
- free choice on the part of the consumer;
- fair competition on the common market between the various sources of energy;
- general economic policy.

The elaboration of a common energy policy requires long-term action which would have been incompatible with the immediate measures called for by the existing situation on the coal market. In addition, the Protocol of Agreement contained the following text in respect of coal: <sup>(1)</sup>

‘The governments:

7. Recognize the necessity, in accordance with the appropriate legal procedures and by means of State aids, to support measures, particularly rationalization measures, taken by the coal industry with a view to adapting to market conditions, and in addition to assist the coal industry, in most cases on a degressive basis, by means of protection or support measures;
8. Will, where necessary, take effective measures to prevent cyclical factors becoming an obstacle to the realization of their energy policy and to the proper functioning of the common market;
9. Consider that energy policy measures should enable the countries involved to draw up medium-term quantitative production forecasts by coalfield;
10. Undertake to direct the measures envisaged under paragraph III and those already taken towards the objectives set out in paragraph I above,
  - Have decided to consult with the High Authority within the special Council of Ministers on the measures envisaged under paragraph III before their entry into force, except in cases of particular urgency,
  - Will endeavour to coordinate all these measures;
11. Invite the High Authority to make proposals within the framework of the Treaty of Paris, and as necessary, regarding the procedures to be used for the implementation of a Community system of State aids;

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<sup>(1)</sup> OJ 69 of 30.4.1964.

12. Consider that the Council must give particular attention to the problem of long-term supplies of coking coal to the Community. '

In the coal sector, the first result of the Protocol of Agreement was Decision No 3/65 on aids to coal undertakings, which was followed by Decision No 1/67 on coking coal and coke for the iron and steel industry.

### **Community system of measures taken by Member States to assist the coalmining industry - Decision 3/65 of 17 February 1965 and subsequent decisions**

The profound structural changes in the energy market after 1958 forced the coal industry to make exceptional efforts towards rationalization and led to a financial burden out of all proportion to that borne by other industries. In addition to competition from oil and gas, there was increasing competition from coal imported from third countries. Almost all coalmining undertakings have experienced financial difficulties. For this reason increased assistance has proved necessary in order to cover the losses (Table 29). Aid schemes need not necessarily be financed by the Community, but must meet criteria which will ensure that the assistance is in fact in the common interest and does not go beyond what is strictly necessary. The system of aid was established on the basis of Article 95 of the ECSC Treaty. It stipulated that national assistance measures were permissible, notwithstanding Article 4c of the Treaty, which prohibits subsidies. The Member States were required to obtain prior authorization from the High Authority, which had supervisory powers. In exercising these powers, the High Authority was to ensure in particular that assistance given to coalmining undertakings did not result in the operation of artificial prices, either through the application of sales quotas or by means of price alignment. In addition, it can sometimes be necessary to adjust the rate of pit closures in order to avoid serious disturbances in the economic and social life of the regions concerned and ensure continuity of employment, thus leading to additional expenditure which justifies temporary assistance from the public purse.

In the social field, benefits paid in the coal industry are appreciably higher than in other industries, if only because of the considerable reduction in the number of active miners. Compensating for these increased burdens by means of public contributions merely serves to re-establish the balance of competition and can be considered compatible with the Treaty.

Decision No 3/65 of the High Authority took effect on 1 March 1965 and remained in force until 31 December 1967. It was extended for three years by Decision No 27/67. Subsidies paid by national governments must be in accordance with the provisions of Decision No 3/65 and subsequent decisions.

Decision No 3/71, which replaced Decision No 3/65, reiterated its essential principles. In addition, however, there was the concept of aid for the constitution of exceptional stocks to increase the elasticity of supplies. The basis of assessment for this aid was the quantities of coking coal and coke stocked in excess of one-twelfth of the annual output of the coalfield or undertaking concerned. Introduced for a period of five years, Decision No 3/71 ceased to have effect on 31 December 1975.

The profound change in the energy situation as a result of the oil crisis at the end of 1973 led to changes in the pattern of coal policy. Problems of the security of energy supplies became of prime importance, while the rise in energy prices improved the competitive position of the coal industry.

Taking account of this situation, the Commission proposed to the Council a new Decision, which was adopted. This new Decision No 528/76, appears in a very different light from the previous one. The emphasis is on maintaining total coal production in the Community in satisfactory economic conditions and on investing both in suitable existing coalfields where capacity can be increased and in new mines. Attention is also paid to increasing productivity, rationalizing production and lowering costs, with due regard to an active manpower policy, training and stabilization of the work force. This general line of action does not preclude the pursuance of a policy of negative rationalization and the closure of uneconomic pits.

Despite the improvement in the industry's competitiveness, these guidelines cannot be followed effectively without assistance. There remain in fact abnormal inherited liabilities which must be met, particularly in the social field. These liabilities are especially onerous in the coal industry, where the disproportion between active and inactive manpower continues to grow on account of the general reduction in the work force. It is also necessary to take account of inherited liabilities resulting from closures, such as subsidence damage and supplies of coal to former miners, quite apart from the specific costs of closure such as those for the withdrawal of equipment.

Decision No 528/76 also takes up the concept of assistance for the holding of stocks which was already included in the previous Decision, whether for emergency stocks or anti-cyclical stocks. Finally, a new concept is intro-

duced that of assistance for the use of Community coal in power stations in order to stabilize the market for coal in this sector in the long-term.

The Decision may be suspended if its application threatens to cause major disturbances in the common market for coal or appreciable changes in the volume of intra-Community trade. Like its predecessors, this Decision must be applied in a manner consonant with the Decisions on coking coal. Decision No 528/76 entered into force on 1 January 1976 for a period of ten years.

The practical application of Decisions Nos 3/65 and 3/71 indeed posed certain problems. Difficulties are, however, inevitable and every effort has been made to minimize them. These difficulties do not arise from the systems of subsidies themselves, but relate to the nature of aid – in other words they arise wherever aid is granted.

In general, the objectives laid down in Decisions Nos 3/65 and 3/71 have been achieved:

- production has been adjusted to market conditions;
- production has been concentrated in the most profitable collieries;
- regional and social problems have largely been avoided in the coal-mining areas;
- any modifications to the conditions of competition between coal producers in the Community have been minimal.

### **Decision on coking coal and coke for use in the Community iron and steel industry - Decision No 1/67 of 21 February 1967 and subsequent Decisions**

Like the measures taken by the Member States to assist the coalmining industry, the specific measures introduced by the Community in the field of coking coal are derived from the Protocol of Agreement of 21 April 1964, in which the governments ' Consider that the Council must give particular attention to the problem of long-term supplies of coking coal to the Community '.

From the very beginning the system for coking coal has had two objectives: to ensure the maintenance of sufficient production capacity for coal and coke to supply the Community's iron and steel industry; and, to facilitate the marketing of these two products, in particular by means of intra-Community trade.

Three schemes have so far been devised. On 16 February 1967 the governments of the Member States adopted a Protocol of Agreement on coking coal and coke for use in the Community iron and steel industry, which was followed

by Decision No 1/67 of the High Authority of 21 February 1967. Originally intended to last for two years, this Decision was extended by one year.

It was followed by a Commission Decision, No 70/1/ECSC of 19 December 1969, and this was succeeded by Decision No 73/287/ECSC of 25 July 1973, which was originally to remain in force only until the end of 1978 but has just been extended to 1981.

The main instruments of the special scheme for coking coal (Table 29) have remained unchanged since 1967 and are as follows:

- aids which coal-producing States are authorized to grant to their coal-fields up to a certain limit;
- price reductions, with more scope for alignment than that offered by the Treaty;
- Community finance for certain aids.

The rules for applying these instruments have developed over the years and important criteria were introduced in the texts adopted in 1970 and 1973.

In 1967 there was only one form of aid for the purpose of promoting the production and sale of coking coal in the Community. The rate was 1.7. u.a. per tonne; some modulation of this figure was permitted but the rate was not to exceed 2.2. u.a. per tonne.

The second part of Decision No 1/67 consisted of a system of compensation between Member States for aids relating to intra-Community trade (deliveries to iron and steel undertakings situated in a Member State other than that producing the coal).

The compensation was restricted to an annual amount of 22 million u.a., divided among the four producing countries in proportion to the volume of their intra-Community exports (some 90 % of which originated in Germany).

Of the total amount of aid under consideration, 40 % was to be met by the producing State, 60 % being financed by the six Member States in accordance with the following scale:

Belgium	11 %
France	28 %
FR of Germany	28 %
Italy	14 %
Luxembourg	9 %
Netherlands	10 %
	<hr/>
	100 %

The average annual amount financed in this way was 12.8 million u.a. Any aid granted to a coalmining undertaking had to be balanced by a discount on the list prices applicable on 1 January 1967. This did not give rise to any particular problems, in view of the fact that production costs in the Community and prices of American coking coal remained stable for almost the whole of the period during which this Decision was in force.

Decision No 1/70 was also in force for a period of three years, ending on 31 December 1972. It comprised two types of aid: production aid and sales aid.

Production aid was up to a maximum of 1.50 u.a. per tonne of coking coal; the rate was fixed annually by the governments, taking into account the average production costs in each coalfield, the prices of coking coal in the corresponding principal sales area and the long-term supply situation. The rates were subject to the Commission's approval. Production aid was supplemented by a sales aid at a uniform but degressive rate:

0.70 u.a./tonne of coking coal for the first year,  
0.55 u.a./tonne of coking coal for the second year,  
0.40 u.a./tonne of coking coal for the third year.

Multilateral compensation in respect of sales aids for intra-Community trade replaced by Community financing with contributions from the Member States of the ECSC. Community financing was confined to 17 million tonnes of coking coal per year.

Taking into account the amounts of aid actually paid and the rules governing the contributions from the ECSC and the Member States, the breakdown of these contributions for the whole three-year period during which the scheme was in operation is given in the following table (annual averages):

total amount: 9.2 million u.a., comprising:

ECSC	27 %		
Member States	73 %, comprising:	Belgium	20 %
		France	40 %
		Italy	16 %
		Luxembourg	14 %
		Netherlands	10 %.

Coalmining undertakings were authorized to grant discounts on the list prices applicable on the delivery date under the same conditions as before, i.e.



even where there was no actual competition from coking coal or coke from non-member countries at the point of consumption.

Under the terms of the Decision the Commission is entitled to publish guide prices. Since 1970, guide prices cif Community ports for comparable transactions have been regularly published for coking coal imported from non-member countries, so as to enable the calculation of delivered prices and hence the possible discounts at the various points of consumption (Table 25).

Decision No 73/287/ECSC, originally adopted for six years and extended in March 1977 to last until the end of 1981, assigns to the scheme for coking coal an additional objective, that of promoting the conclusion and operation of long-term contracts between Community undertakings: accordingly, only these contracts are eligible to benefit from aid and from the notional alignment.

Apart from this, the main features of the previous Decision have been maintained, although there are changes in a number of details.

The aid to production, for which no upper limit is set, is subject to the same criteria as before, under the Commission's supervision.

The rate of the sales aid varies depending on whether or not the installation receiving supplies can be supplied directly by sea. If it can, the rate is 3 u.a. (3.165 EUA), otherwise it is 1.60 u.a. (1.688 EUA). These rates apply until 1979; the rates for 1980 and 1981 have still to be fixed.

Community finance for sales aids in respect of intra-Community trade covers a maximum of 15 million tonnes per annum. It is funded by contributions from the ECSC, the Member States and the iron and steel industry. The overall cost for the first three years was divided as follows (annual average 1973-75):

amount: 29.6 million u.a., comprising:

ECSC	17 %		
Iron and steel industry	55 %		
Member States	28 %, comprising:	Belgium	13 %
		France	28 %
		FR of Germany	31 %
		Italy	12 %
		Luxembourg	10 %
		Netherlands	6 %.

The rules for alignment have not been changed and the Commission continues to publish a guide price regularly. The method of calculating this price has been modified slightly, since 1974, imports of Australian coal under longterm contracts have been included in the calculation on the same basis as those of American coal.

### **Investment credit**

By virtue of Article 54 of the ECSC Treaty, the High Authority is entitled to raise loans on the capital market in order to procure the funds which it makes available to undertakings for financing investment coming within its scope.

The High Authority began these operations in 1954. At the end of 1976 the the total amount of loans that it had thus been able to grant to the coalmining industry had reached 810 million u.a. If this figure is compared with the amount of investment approved during the same period – 5 400 million u.a. – it can be seen that the ECSC contribution represents some 15 % of the total. The ECSC's efforts have been guided by criteria that have evolved to take account of the changes in the coal industry.

During the 1950s, the Community paid particular attention to promoting modernization, mechanization and the development of coal production. Later, it encouraged mainly investment aimed at making better use of products – coking plants and power stations. The desire to improve the sales prospects for coal has led it to grant its loans not only to colliery-owned power stations but also to power stations or district heating systems belonging to organizations which do not come within the coal sector but undertake to consume in the plant concerned substantial quantities of Community coal.

Since 1973, and more particularly since drawing up the new Medium-term guidelines for coal 1975-85, the Commission has made every effort to increase the level of its loans to the coal industry, which have amounted in successive years to:

- 54 million u.a. in 1973,
- 73 million u.a. in 1974,
- 161 million u.a. in 1975,
- 180 million u.a. in 1976,

i.e. more than 20 % of actual capital investment. At regional level, the ECSC's financial contribution has been greatest in those coalfields where the amount of investment approved has been highest.

The following table gives the breakdown by country of loans granted to the coal industry during the period 1954-76 (in million u.a.):

<i>Belgium</i>	<i>France</i>	<i>FR of Germany</i>	<i>Italy</i>	<i>United Kingdom</i>	<i>Total</i>
13.1	100.2	368.2	6.5	321.6	809.6

The low level of loans granted to the Belgian coal industry is due to the amount of assistance granted by the Belgian authorities and credit institutions.

There is no doubt that stabilization of output at a level sufficient to assure the Community of an acceptable degree of self-sufficiency in energy can only be achieved if there is a further increase in investment in the most productive coalfields. The Commission is contributing to this end without prejudice to any other measures intended to assist the production and sale of coal and the financing of investment for conversion in those coalfields where a decline in mining activity is inevitable.

### **Aid for technical research**

Article 55 of the ECSC Treaty confers on the Commission the task of promoting research. From its inception the ECSC has endeavoured to arrange suitable contacts between undertakings and research organizations in the Community and to lay the foundations of technical cooperation between research workers and mine operators in the coal-producing countries of the Community. It was only in 1957/58 that the High Authority first granted financial assistance to basic research projects on mining hazards (firedamp, rock pressure, ventilation) coking techniques and the chemistry and physics of coal.

Later, attention was given more to research projects such as winning techniques and roof supports, in order to improve operating results in mines, and to the development of high-grade products in order to open new markets for coal.

In 1967, with a view to coordinating and channelling the ECSC's financial activity, a first programme of aid to research was instituted for a period of three years. This covered various important subjects in the field of mining techniques and the utilization of coal. A second programme was drawn up for five years (1970-74) with the aim of ensuring that efforts were concentrated on the fields most likely to provide concrete results. This programme covered firstly underground working (drivage techniques, coal winning, haulage

and automation), with the aim of developing high-performance faces, and secondly the processing of coal (coking, briquetting and other new techniques) in order to improve coke supplies.

Under this programme, some 3 million u.a. were disbursed for each of the years 1970 to 1972, with 6 million u.a. in 1973 and 11 million u.a. in 1974.

A third research programme (1975-80) <sup>(1)</sup> with revised selection criteria to take account of the new situation arising from the energy crisis, was drawn up, and this is currently still in operation. For this programme some 12 million u.a. were disbursed in 1975 and 17 million EUA in 1976, while for 1977 the expected figure is 16.5 million EUA.

### *Scope of research assistance*

Financial support for research in the coal industry has resulted in the disbursement since 1958 of nearly 110 million EUA for 370 research projects, of which two-thirds have been devoted to technical research in the mining industry and one-third to the processing of coal. In order to ensure greater involvement of the part of those carrying out the work, the ECSC has restricted its contribution to between 50 % and 70 %, depending on the importance and value of the projects.

At present some 170 research contracts are in operation; they run in general for a period of three or four years.

To give an idea of ECSC financial support in relation to the volume of research carried out in the Community, aid for research at present covers about 30 % to 35 % of expenditure for all research in the coal sector. This figure was previously far lower, at less than 10 %. This shows that the ECSC's activities in the field of research are of major importance and play a real and significant part in the Community's coal policy'. There are whole fields – for example rock pressure and the chemistry and physics of coal – in which all research is under the aegis of the High Authority/Commission.

### *Organization of research in the coal industry*

The present situation is the fruit of many years of experience. The projects submitted to the Commission are selected, on the basis of specific criteria (value of the research, importance for the Community, time anticipated for

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(<sup>1</sup>) OJ C 60 of 25.5.1974 and OJ C 160 of 31.12.1974.

completion of work, etc.), from among the fields featuring in the medium-term programme for research assistance.

This selection is carried out in conjunction with the Coal Research Committee (CRC) a body created by the Commission to advise it on research matters. The CRC comprises producers, research workers, independent experts (university professors) and trade unionists from the coal-producing countries concerned.

After the Commission has given its approval, and with the assent of the competent authorities (Consultative Committee and Council), research contracts are signed with the beneficiaries.

Supervision of the research projects which have received aid from the ECSC is entrusted to various experts' committees created by the Commission for the purpose of ensuring that the work is properly carried out. Each committee is given precise terms of reference. At present there are nine of these committees, which correspond to the fields designated in the medium-term programme. The committees, which are composed of producers and research workers from the countries concerned, meet twice yearly in the various coal-mining regions of the Community; they are administered by the Commission, which is thus kept regularly informed of progress made in the various projects.

#### *Dissemination of research results*

The dissemination of research results, as required by the Treaty, is carried out in various forms:

- collections of research reports. Each completed research project is the subject of a final report; these are published in collected form and made available to interested parties in the Community;
- organization by the Commission of symposia which are held annually in Luxembourg to survey research results and the state of progress in a particular field. To date the Commission has held 12 such symposia, each one attended by some 350 participants from the coal industry;
- the quarterly 'Euro-Abstracts', which present in condensed form everything relating to coal and steel, such as summaries of completed research, annual reports, projects approved by the Commission, patents and licences, etc.

It is worth noting that research in the coal industry financed by the ECSC has yielded about 140 currently-valid patents. The ECSC also supports the translation and abstracting of technical literature in 'difficult' languages.

### *Results obtained from coal industry research*

Apart from the technical results obtained and disseminated to all interested parties in the Community, the concrete results of the ECSC activity in this field can be summarized as follows:

- the coordination, rationalization and promotion of research projects; the not inconsiderable aid grants enables the Commission to direct research work towards the objectives it has adopted;
- effective cooperation and collaboration between research workers and mine operators in the Community, an achievement of which the ECSC can be proud; the work of the various experts' committees, the contacts between the Commission's departments and the undertaking or organization engaged in research, the regular visits and continual exchanges of experience and of specialists have given rise to such close and lasting collaboration that the working methods and processes in each of the coal-producing countries of the Community are increasingly influenced by those of the other countries.

### **Social policy measures**

Although the provisions of the ECSC Treaty do not go very far in this field, the Community institutions have made considerable efforts to deal with the many problems of a social nature. It will be sufficient here to mention the main fields of activity.

#### *Joint Committee for the Harmonization of Working Conditions in the Coalmining Industry*

On a proposal from the Consultative Committee, the High Authority instituted this Committee in spring 1955 with a view to promoting improvements in the living and working conditions of mine workers. During the first phase of its existence (1955-60), the Joint Committee drew up a basic dossier on existing working conditions in the coal industry, particularly working hours and conditions of employment. Subsequently (1960-66), it examined specific problems of current interest: measures taken in the member countries with regard to rehabilitation and retraining of miners, fluctuations in the work force in the coal industry and the protection of young workers.

In 1975 the Commission adopted a statute for the Joint Committee, the presidency of which is held alternately by representatives of the employers and the workers, and a Working Party on the Social Action Programme was set up.

The Joint Committee has proved to be a permanent centre for consultation between employers and employees in the coal sector and provides information which helps to achieve more uniform working conditions in the coalmining industry.

### *Housing programme*

Although housing policy is not expressly included in the provisions of the Treaty, the High Authority was concerned from 1954 onwards to provide support for rehousing miners and workers in the iron and steel industry. An initial programme, based indirectly on Article 54.2, was aimed at compensating for housing losses resulting from the war – ‘no houses, no miners; no miners, no coal; no coal, no steel’. Action in this field has subsequently had a threefold impact:

- it is closely linked with industrial reorganization (e.g. in the Ruhr, a northwards shift in mining);
- it stimulates regional development, not only in new industrial areas but also by modernizing old buildings in the traditional coalfields;
- it has a social impact through the reduction of workers’ monthly rent or mortgage payments.

The ECSC’s operations take the form of long-term (20 year) loans at a low rate of interest (1 %). In the course of eight ordinary housing programmes and three experimental programmes, a total of 158 million u.a. of the ECSC’s own funds has been distributed among the coal and steel industries of the nine Member States.

With regard to the actual results obtained, the 150 000th dwelling unit will shortly benefit from an ECSC loan, while in the course of the 8th programme (1975-78) the ECSC will have contributed to financing 30 000 units. The projects undertaken include a large-scale pilot scheme for modernizing old dwellings, a pilot scheme directed at the social integration of migrant workers, the organization of an architectural competition on town planning, etc.

### *Activity in respect of safety and accidents*

Following the disaster at Marcinelle (Belgium), which claimed the lives of 262 miners on 8 August 1956, the ‘Mines Safety Commission’ was set up on the recommendation of a ‘Conference on Safety in Mines’. Under its terms of reference from the Council it was to make recommendations direct to the governments for improving safety in coalmines. Its mandate was extended

in 1963 to cover health and in 1974 to all other extraction industries, including gas and oil.

The Mines Safety and Health Commission is chaired by a member of the High Authority/Commission and consists of two representatives of the government, one representative of the employers and one representative of the workers from each country. It is assisted by a Restricted Committee and by Working Parties on Technical Problems, Human Factors and Health in Mines.

To date, some 400 recommendations for improving safety and health have been sent to the governments, who have incorporated them in their mining regulations. Studies which do not give rise to any regulation are sent for information to interested parties.

The meetings of the Mines Safety and Health Commission (three or four per year) and those of its working parties (some 80 per year, involving 250 experts appointed on a tripartite basis) serve to establish permanent contact between those responsible for safety at government level and in the undertakings. The MSHC also sees that close contacts are maintained between rescue centres, and when accidents occur it instructs the relevant Working Parties (e.g. 'Ventilation and Methane Control' and 'Strata Control') to investigate the causes and the problems raised.

Symposia have been held annually since 1964 in the various coalfields for representatives of workers' organizations, engineers and managerial staff. Since 1971, twelve safety campaigns have been arranged in various coalfields, and these have received Community aid totalling FB 6 million.

In the event of accidents, the Commission's disaster fund provides for assistance payments to meet the most urgent expenses. From 1970 to 1976 this aid amounted to some FB 11 million. The amounts most recently allocated to beneficiaries were FB 67 500 for each widow, FB 27 000 for each child and FB 40 500 for each dependant of a single person.

Following the Luisenthal disaster in Germany, which claimed the lives of 299 miners on 7 February 1962, the High Authority decided to create the Paul Finet Foundation. This foundation, dedicated to the former president of the High Authority, exists to help children whose fathers were employed in an ECSC undertaking and died as the result of an industrial accident or occupational disease to undertake or continue their studies. From its creation up to the beginning of 1977 more than 6 000 scholarships totalling FB 52 million were awarded.



### *Social research*

In the practical interpretation of the Treaty (Article 55), the notion of 'occupational safety' has been extended, and it has been accepted that financial assistance can be granted to research relating to occupational hygiene, occupational medicine and ergonomics, as well as measures to combat the pollution for which the ECSC industries are responsible. All such research is termed 'social research' to distinguish it from technical research (coal and steel).

With regard to safety in mines, research has been financed on the following subjects: mine fires and underground combustion (particularly belt conveyor fires and spontaneous combustion), explosion barriers (for protection against dust explosions), rescue of trapped miners, protection of electrical circuits (intrinsic safety). To date, research credits granted in this field amount to 3.1 million u.a.

In 1976, the Commission launched an outline research programme on 'Mine Safety' with an overall allocation of 7.5 million EUA for a period of five years.

With regard to measures to combat pneumoconiosis among miners, three outline research programmes, covering dust control and hygiene in mines, have been adopted by the High Authority/Commission since 1957. These programmes have dealt with the reduction of dust emission (injection of water into seams, roadway drivage machines, determination of the laws governing sprinkling and spraying of water), the measurement of dust levels in mines and the rationalization of these measurements (introduction of gravimetry) and the epidemiology of pneumoconioses, with a view to laying down threshold values for the protection of underground workers. Total financial assistance for these three research programmes has amounted to 12.9 million u.a.

In 1978 the ECSC is to launch a fourth programme on 'Health in Mines' in order to extend the work of the previous programmes and adapt the prevention systems to developments in production techniques. This is to have an overall allocation of 7 million EUA for a period of five years.

These technical research projects are carried out in parallel with programmes of clinical research (especially on chronic lung diseases and occupational accidents) and research on human factors and working conditions in mines. For these projects of a medical nature a total of 17 million u.a. has been made available to research workers since the inception of the ECSC.

In all, the development of 'social' research covers a period of twenty-two years (1955-77) and the total amount allocated to it so far is 33 million u.a.

### *Rehabilitation of workers*

Acting initially under paragraph 23 of the Convention on the Transitional Provisions and then in accordance with Article 56(2)(b), the High Authority/Commission assists workers in ECSC industries in the event of loss of employment as a result of fundamental changes in market conditions for ECSC products.

These aids for rehabilitation are granted in accordance with agreements between the Commission and the governments of the Member States.

The payment of aid by the Commission is conditional on payment by the State concerned of a special contribution of not less than the amount of that aid, unless an exception is authorized by the Council.

The agreements generally cover the following aids:

- a tideover allowance in the event of unemployment, which may in some cases be converted into a contribution to the costs of premature retirement;
- an earnings allowance if the new job has a lower rate of pay;
- financing of vocational re-training;
- payment of removal and resettlement allowances.

Accordingly, the High Authority/Commission has allocated a total of 255 million u.a. in respect of 466 000 workers made redundant in the coal industry, as shown in the table below (situation as at the end of 1976):

	<i>Number of workers</i>	<i>Amount allocated (million u.a.)</i>
Belgium	88 000	26
France	39 000	50
FR of Germany	271 000	110
Italy	6 000	2
Netherlands	41 000	32
United Kingdom	21 000	35
Total	<hr/> 466 000	<hr/> 255

By their scope and their diversity, the social operations of the ECSC have made an important contribution to alleviating the hardships of the decline in the Community coal industry.

## **Guidelines and other recommendations for an energy policy (1968-72)**

### *First guidelines, 1968*

In 1968, the Commission – which had resulted from the merger of the executives of the three Communities the previous year – submitted to the Council its 'First guidelines for a Community energy policy', which gave priority to monitoring and envisaged interventionist measures only as a last resort. In the context of these guidelines, coal was seen as a special case. In the hope of establishing a policy for reliable, low-cost supplies, the Commission proposed comparing the medium-term production prospects for each coalfield with a view to adapting production to sales prospects and concentrating production on the mines with the highest productivity taking account of their location and of the economic and social development of the regions concerned. The level of production to be maintained for reasons of security and the extent of the process of adaptation could only be determined if imports were controlled. The Commission envisaged the coordination of national import programmes and the exchange of information on their implementation.

The Commission proposed the setting up of a Community aid scheme which, in conjunction with the measures to be taken in the field of commercial policy, would allow the extraction of the quantities regarded as necessary to meet Community demand.

### *Problems and instruments of energy policy for the period 1975-85*

After a period between 1960 and 1970 when the energy market was characterized by plentiful supplies at relatively low prices, the world was faced in 1972 with a change in the conditions of oil supply, with a less flexible market as a result of increased purchases by the United States and Japan and more particularly because of the oil producers' desire to create a sellers' market.

This new situation necessitated a reassessment of the long-term trends of supply and demand for energy, which would take account of the Community's position in the wider context of the international market. An overall estimate of energy requirements in 1985, drawn up by the Commission in 1972 on the basis of an average annual economic growth rate of 5 %, arrived at a figure of 2 000 million tce for consumption in the six-member Community, compared

with 973 million in 1970. These requirements would be met in 1985 as follows:

Hard coal	7 %
Lignite	2 %
Natural gas	15 %
Oil	65 %
Primary electricity	11 %

More than half of the energy requirements would have to be met by imports. As regards coal, Community production was bound to continue to decline, and to reach a level of scarcely more than 100 million tce in 1985. It would serve mainly to meet the demand for coking coal. The inevitable quantities of steam coal involved would find an outlet in power stations, provided prices were competitive.

World trade in steam coal, while still on a small scale, was expected to show an upward trend. Community imports would be no more than 30 or 40 million tonnes per year. Any increase in this figure would involve the adoption of certain measures, both by the exporting countries and on the part of their customers, with corresponding investment.

#### *Steps to be taken to develop a Community energy policy*

A memorandum from the Commission to the Council of 13 October 1972 summarized various ideas and proposals for action already put forward with regard to coal:

- establishing medium-term guidelines,
- pursuing a policy of aid for coking coal and coke,
- developing a policy concerning stocks of Community coal,
- implementation of a coordinated import policy, with an obligation to hold emergency stocks in respect of imported coal.

The Commission also raised new issues linked with protection of the environment and the rational use of energy. During the period 1968-1972, the measures to assist Community coal (pp. 91 and 94) were renewed but were not supplemented by any other arrangements.

## 5. New guidelines for Community energy policy (since 1974)

### **Energy crisis (1973/74)**

For a period of 15 years from 1958, the Community coal industry was under pressure from other sources of energy, primarily from oil and, to a lesser extent, natural gas. During this period the share of oil and gas in meeting energy needs in the six-member Community increased from 26 % to 75 %, while consumption increased in absolute terms from 112 million tce in 1958 to 737 million tce in 1973.

Europe was thus a rapidly expanding market, and each of the oil companies was anxious to gain as large a share as possible, whether in the form of new outlets created by the rapid expansion of the economy or as a result of the vulnerability of the market for coal on account of the relatively high cost of solid fuels. Prices of fuel oil were kept at a low level – even aggressively so in order to win markets. Prices for heavy fuel oil were in some cases lower than those for crude as a result of the fierce competition and of the distillation ratio. With the faster expansion of the market for light products, the heavy fuel oils became, in effect, products to be disposed of at any price.

In 1972, import prices for oil began to show a rising trend, of the order of a few US cents per year, then the curve turned sharply upwards at the end of 1973 when political considerations began to influence the sales prices fixed by the oil-producing States in the Middle East at the time of the Yom Kippur war between Egypt and Israel. Oil prices rose rapidly to reach \$ 12 per barrel fob, having remained for many years in the region of \$ 1.8 per barrel.

A large part of coal production thus became competitive, particularly in German and British coalfields and also Lorraine. However, while the other coalfields were also in an improved position, their production costs were still too high. The fall of the dollar against a number of European currencies, in particular the Deutschmark, has lessened the impact on the energy market

of the rise in oil prices, and has made European coal less competitive than might have been expected following the quadrupling of oil prices.

The position of imported coal is very different from that of Community coal. Here, the suppliers lost no time in bringing their prices into line with new oil prices, which was all the easier to do because of the dominant position of oil on the energy market.

Despite the existence of medium-term contracts, the suppliers quickly increased their prices and brought them into line on an equivalent heat basis with those of oil. In the case of coking coal, on account of its being produced specifically for the iron and steel industry, which was in a period of expansion in 1973/74, there were even black-market rates, particularly because of the relatively tight situation in the United States, where coking coal was being diverted to power stations short of their normal fuels. This new situation for imported coal naturally strengthened the position of Community coal.

### **New strategy on energy policy (May 1974)**

The change in the energy supply situation of the Community at the end of 1973 and the beginning of 1974 was so far-reaching that it became necessary to revise the energy policy objectives. In general, dependence on imported energy – and particularly on oil – was to be reduced as far as possible.

In its Communication of May 1974 concerning a 'New energy policy strategy', the Commission put a series of proposals to the Council. The objective, a reduced dependence on imported energy was justified by the fact that the escalation of oil prices was likely to lead to:

- a slowdown in the growth in demand for oil;
- increased prospects for nuclear energy;
- a possible increase in natural gas supplies;
- an improvement in the competitiveness of the Community coal industry;
- the development of an enlarged potential market for imported coal.

In general terms, the strategy to be adopted was to apply at various levels:

- fostering structural changes in demand so as to reduce its rate of growth;
- fostering the adaptation of demand to a new structure of supplies in which the proportion of energy supplied from less reliable sources is reduced as far as possible;
- fostering the development of new sources.

With regard to the use of energy, a deliberate policy of rationalizing consumption, encouraged by the effects of the rise in prices, was expected to lead to a reduction in the annual rate of growth in energy requirements between 1973 and 1985. By comparison with initial estimates, internal consumption in 1985 would be down by 10 %.

With regard to supply, the objective of reducing the proportion of imports to only 40 % of energy requirements would imply a virtual tripling of domestic energy production by 1985. Figures put forward for nuclear energy in the Community (200 GW) were soon to prove unrealistic from many points of view – financially, industrially, ecologically etc. Total investment necessary to achieve these energy objectives was estimated at \$ 300 000 million at 1973 prices for the period 1975/85, most of this being devoted to electricity.

As for coal, 80 % of demand is equally divided between the iron and steel industry and power stations. Despite fluctuations in the economic situation, the iron and steel industry represents a stable outlet in view of the specific nature of the use made of coal. The same cannot be said of the electricity sector, which offers substantial prospects for a planned reduction in dependence on oil products. Coal production in the Community was to be maintained at the 1973 level of 250 million tce. Since demand exceeded Community capacity, an increase in imports was to be expected, without prejudice to the principle of long-term security. Finally, the Commission proposed a stockpiling policy in order, firstly, to stabilize supplies despite cyclical changes in demand, and secondly, to create strategic stocks to guard against interruptions in supplies not only of coal, but also of other sources of energy such as oil.

## **Medium-term guidelines for coal 1975-85 (November 1974)**

### *Quantitative guidelines*

In 1974, the Commission applied to the period ending 1985 the ideas expressed in the 'new strategy' and quantified the respective contributions of the various forms of energy, including coal, to meeting fuel requirements. Coal requirements in the iron and steel industry were expected to remain stable over the next few years, the expansion in steel production being offset by a reduction in coke consumption. There was a different picture with regard to power stations, where the part played by coal was capable of being expanded considerably. Rates of increase for electricity consumption were put forward assuming an economic recovery, with consumption even doubling in less than 10 years after 1980. Grave doubts were to be cast on these estimates

shortly afterwards. For the Community, the scope for coal supplies, both of domestic origin and imported, is still restricted. In other words, the part to be played by coal in firing power stations is not without limits.

In addition, there was the economic factor of the extent to which coal could be competitive against other forms of energy, in particular oil. The increase in the amount of coal used in power stations between 1973 and 1985 was estimated at 25 %, which corresponds to about 30 million tce. Taking all sectors together, annual coal consumption in 1985 was expected to be about 300 million tce.

In 1974, it was possible to sell a large part of the coal produced in the Community at prices which covered costs. The forecast production figure of 250 million tce was within reasonable limits which it would, however, be difficult to extend. This was an overall objective, based on declining production in collieries with high extraction costs and further development in the others – not forgetting the opening of entirely new collieries. These results could only be obtained by increased effort, an active manpower policy, a policy of selective investment and intensified technological research.

Assuming production of 250 million tce, imports from non-member countries could be increased to 50 million tonnes, compared with 30 million in 1973, which was within the feasible limits of the world market. There must, however, be the will to make these extra quantities available. With regard to costs, imported coal would continue to be more competitive than a large part of Community output, at least in coastal regions.

### *Elements of a coal policy*

Sound management of the mining industry involves taking long-term measures to regulate both production and sales. For coking coal for use in the iron and steel industry, Decision No 73/287, which provides for a system of aids combined with long-term contracts, was to expire at the end of 1978. It thus seemed advisable to see that these long-term contracts were maintained for the period 1978-85. For steam coal for use in power stations, there was no similar arrangement at Community level. It would be in the interest of power station operators to secure supplies on the basis of long-term agreements with the producers in the Community – accompanied, by financial arrangements to guarantee the latter a stable outlet while still covering their costs. Various measures already exist and are in operation in certain Member States. These, however, are not sufficient to ensure that coal takes its rightful place in the Community.



Attention was drawn to the concept of stockpiling, which could take two complementary forms:

- anti-cyclical stocks built up in periods of low economic activity; and
- emergency stocks to deal with interruptions in supplies.

On the production side, maintaining output at 250 million tce would involve an increase of 8 % in output from the coalfields which were regarded as relatively promising, and this would require finance for underground investment of the order of 4 000 million u.a. over the period 1974/85. In addition to these financial requirements, it would be necessary to provide for additional investment to develop existing collieries and create new ones. The production capacity to be created by 1985 was estimated at 75 million tonnes, for which the financial requirements were put at 2 000 million u.a. for the same period 1974/85. Total investment required would thus amount to 6 000 million u.a. at 1973 prices. The Commission would endeavour to release funds to facilitate the implementation of investment programmes. To support this new phase of investment in the coal industry, it would be necessary to arrange for launching aids to be granted by the governments of the Community member countries in the form of either non-repayable capital payments or interest rebates to which the Commission could make a contribution.

On imports, it was still a question of developing a Community import policy which would allow all consumers access to the world market, while at the same time fostering the participation of Community undertakings in joint ventures. In general, the emphasis was to be on restoring a climate of confidence in the face of the new energy supply situation in order to ensure that a reasonable portion of these supplies continued to be covered by coal.

### **Council Resolutions (1974-75)**

The various ideas put forward by the Commission on the subject of new energy objectives after the oil crisis are contained in two Council Resolutions: the Resolution of 17 December 1974 concerning Community energy policy objectives for 1985, and the Resolution of 13 February 1975 concerning the measures to be implemented to achieve these objectives.

#### *Resolution of 17 December 1974*

The Council considered that a continuing high degree of Community dependence on energy sources, especially oil, imported from third countries was likely to jeopardize the economic balance and the economic and social

progress of the Community. It also examined the prospects held out by the various sources of energy for the attainment of this objective, the time required to put them into use, the potential long-term contribution and the economics of making them available.

On the basis of prospects within the Member States, the Community's dependence on imported energy was to be reduced to 50 % by 1985 and, if possible, to 40 % (63 % in 1973). The share of coal in Community energy supplies – 22.6 % in 1973 – was to be limited to 17 % in 1985, representing a production level of 250 million tce in satisfactory economic conditions, and imports of 50 million tonnes from third countries.

As regards demand, the rate of growth of energy consumption in the Community as a whole had to be reduced. In 1985, the level of consumption was to be 15 % lower than the estimates made two years before. This percentage could vary between Member States. The pattern of energy consumption was to be altered by progressively increasing the use of reliable energy sources, i.e. by relying more and more on electricity as nuclear energy in particular was developed. Electricity could cover 35 % of energy consumption by 1985.

#### *Resolution of 13 February 1975*

The pursuit of the objectives laid down in the Resolution of 17 December 1974 required the implementation of appropriate measures at Community level as well as by each Member State. The Commission was invited to recommend, periodically, long-term guidelines on investment for the pursuit of these objectives.

For all energy sectors, these guidelines were to take particular account of the need:

- to develop reliable energy sources under satisfactory economic conditions;
- to aim at achieving the optimum location of energy investment and to ensure the best return on this investment – while taking into account safety and environmental aspects – by the optimum development of production and transport systems.

As regards supplies of solid fossil fuels, the maintenance of coal production at its 1973 level required financial investment and the availability of a suitable labour force. In addition, a stable and regular market for coal under satisfactory economic conditions had to be ensured, and consumer interests had to be taken into account. The build-up of stocks to offset the effects of

fluctuations in demand and to avoid the interruption of supplies was still recommended.

Finally, free access to the world market was to be progressively extended to all Community coal consumers, in a manner consistent with the attainment of Community production targets.

### **Council Directives on thermal power stations**

Whatever the increase in electricity supplies from nuclear sources, conventional thermal power stations will still have to meet the greater part of electricity requirements in the next 10 years. This sector is ideally suited for the realization of new energy policy objectives. Conventional thermal power stations can make use of the whole available spectrum of primary fuels. In order to reduce the consumption of hydrocarbons in power stations, fuel oil and natural gas must be replaced as far as possible by other energy sources, notably solid fossil fuels.

These considerations led the Council to adopt, on a proposal from the Commission, two Directives designed to restrict the use of natural gas and petroleum products in power stations. These Directives – No 75/404/EEC of 13 February 1975 and 75/405/EEC of 14 April 1974 – require prior authorization from the authorities of the Member States for the following:

- the construction of power stations using natural gas and the conclusion of new contracts and extension of old contracts for the supply of natural gas to power stations;
- the construction of new power stations using fuel oil and the reconversion of power stations to fuel oil.

However, the two Directives provide for possible derogations to take into account not only certain technical requirements – such as the seasonal fluctuations to which sales of natural gas are subject – but also the general requirements of profitability.

### **Coal policy proposals**

Hopes of a lasting recovery in the Community coal industry were short-lived following another reversal of the general economic situation in 1975. There was a clear downturn in industrial activity and even a major slump in the

iron and steel industry. Added to this there was an energy saving campaign, although at that time it had not had much impact. For the first time in more than 20 years electricity production was falling and this had a direct effect on the fuel requirements of thermal power stations.

The effects of this reversal were immediately apparent on the Community coal market which is sensitive to all fluctuations in energy trends.

The vulnerability of Community coal led to further falls in sales and to stockpiling by the producers despite a reduction in production which was contrary to the new policy of maintaining output at its 1973 level. It was even necessary to introduce short-time working again in certain collieries to reduce the amount of coal being stockpiled. At the time this text was drafted (second half of 1977) there was no sign of an upturn in the coal industry, but this does not mean that there will be no moves to encourage an increase in coal consumption in power stations if the implementation of nuclear programmes is further delayed. In these circumstances the need for coal policy measures is increasingly evident, but the implementation of these measures is still fraught with major difficulties.

In the Council Resolution of 17 December 1974, the Community set itself the objective of reducing its dependence on oil imports, but 1975 passed without any major concrete decisions being taken on a common energy policy. The European Council of the Heads of State or Government of the nine Member States in Rome on 1 and 2 December 1975, nevertheless recognized the need for Community solidarity in the event of an oil crisis and instructed the Council to take the appropriate decisions on the basis of proposals from the Commission.

By January 1976, the Commission had already submitted to the Council a whole series of relevant proposals which also provided for measures in the coal industry sector, notably regarding sales of coking coal to steelworks, sales of steam coal to thermal power stations and the stockpiling of coal by producers. Furthermore, at the beginning of 1977, the Commission submitted a proposal to the Council for a system of automatic licences which would allow imports of coal from third countries to be monitored more closely.

In December 1976, after the necessary preliminary work, the Commission submitted a proposal to the Council to extend until 1985, the validity of Decision No 73/287/ECSC (p. 94) relating to coking coal, and to amend certain points therein. This proposal was mainly concerned with raising the financing ceiling for aids relating to intra-Community sales from 15 to 18 million tonnes per annum. The Council has not given the assent required

under Article 95 of the Treaty establishing the ECSC, but in March 1977 it decided to extend the aid scheme only until 1981.

In January 1977 the Commission submitted to the Council a proposal on steps to maintain the use of coal in power stations. It estimated that the available capacity for coal consumption in the Community could fall to such a degree that by 1985 coal consumption for electricity production could be far below the level considered essential. For this reason the Commission, acting on the basis of Article 235 of the EEC Treaty, proposed to stimulate investment by electricity undertakings, to construct new coal-fired power stations, to modernize older thermal power stations and to convert others to coal. The aids provided for were to cover 30 % of the additional investment costs incurred by replacing other fuels by coal and were only to be granted upon presentation by the electricity producer concerned, of a coal utilization programme, covering the first seven years of production. Priority was to be given to those projects which planned to use only Community coal. The Commission estimated that an average of 500 million EUA would be required for a period of 10 to 12 years.

No decision had been taken on this proposal when this report was completed. The Council, meeting in June and October 1977, found major differences of opinion between the Member States on this subject and asked the competent bodies to seek a compromise. The European Parliament and the Economic and Social Committee had already given favourable opinions.

The third measure concerned the stockpiling of coal. Here, the Commission mentioned the costs which would have to be borne by coal producers if they had to build up stocks of coal in the event of a downturn in the economy, and it pointed out that there was a danger that the coal mining industry, as a result of its lack of flexibility, might only be able to restrict its production temporarily. A reduction of capacity on such grounds was contrary to the energy policy objective of 1974, which was aimed at maintaining coal production at its 1973 level.

In March 1977, the Commission submitted a proposal to the Council, under Article 235 of the EEC Treaty, to take Community measures to finance cyclical stocks of coal, coke and briquettes. In 1978, 1979 and 1980 a uniform aid per tonne, amounting to 50 million EUA per year was to be granted on a non-discriminatory basis according to the stocks of coal, coke and briquettes held by the producers. This subsidy was to apply to a maximum amount of 20 million tonnes—a figure situated between the minimum reserves whose financing is the sole responsibility of the coal undertakings, and the maximum

amount above which aids are no longer granted. The aids were to amount to 2.50 EUA per tonne and would cover only part of the costs borne by the undertakings.

No decision had been taken on this Proposal when the drafting of this report was completed; most Member States considered that the financing of stocks was not really desirable. The European Parliament and Social Committee had given favourable opinions.

In December 1976 and March 1977 the Council examined the position of the coal market and of the coal industry in the Community. It agreed with the opinion of the Commission, which found that the trend towards recession on the coal market – falling consumption, lower production and growing stocks – affecting the coal-mining industry alone, since imports from third countries had increased in relative and absolute terms. The uncertainty surrounding sales of Community coal and the continuing growth of imports made all production and investment planning hazardous for the coal undertakings.

In view of this situation the Commission found it necessary to monitor closely the growth of imports in order to be able to attain the objective laid down in 1974, namely to maintain the Community's own production at 250 million tce and increase imports to 50 million tonnes by 1895. The Commission proposed to keep a close watch on coal imports from third countries by means of automatic licences and to submit a detailed annual report to the Council on market trends, especially with regard to imports and intra-Community trade. In March 1977 the Council recognized the usefulness of supplying the Commission with a constant flow of information on the state of imports, but stressed that such an information system should neither entail nor occasion restrictions on coal imports. In October 1977, the Council agreed to the setting up of a monitoring system to provide accelerated information on imports of power station coal from third countries (including information on average cif prices). This authorization was given in the form of a decision by government representatives of the ECSC Member States – meeting within the Council – on the understanding that the system would be re-examined after a period of two years.

Recommendation No 77/328 is concerned with the protective measures to be taken against imports which cause or threaten to cause serious injury to the production of similar or directly competing products in the common market. It is based on Article 74 of the ECSC Treaty and states that Member States are to inform the Commission of any dangerous increase in imports which would require measures to be taken.

The second Recommendation (No 77/329) is concerned with the protective measures to be taken against dumping or the granting of bounties or subsidies by countries not belonging to the ECSC. This Recommendation is also based on Article 74. It specifies the general provisions contained in paragraph 1 and provides for measures which are in keeping with the rules and procedures contained in the EEC Treaty which, in turn, are consistent with those of GATT and are applied by most of the Community's trading partners.

### **National measures to assist the coal industry (1973/77)**

The oil crisis of 1973/74 and the quadrupling of oil prices within a period of several months led the governments of the coal-producing Member States to lay more stress on the availability of supplies and to cancel plans to reduce production – at least partially in some countries. The main points of the measures taken to aid the coal industry are listed below for each of the coal-producing countries of the Community.

#### *Germany*

- 1974 :** Revision of the Federal Government's energy programme (first published in September 1973). Among other points, the revised programme provided for the maintenance of coal consumption at 82 and 79 million tce for 1980 and 1985 respectively. The Federal Government found it necessary to move towards a coal production capacity of 94 million tonnes in 1980.
- 1974 :** Passing of the third ' Verstromungsgesetz ' (electricity-from-coal law), for a period of 3 years, providing for an equalization fund to offset the extra costs resulting from the use of coal in power stations in the place of fuel oil. The fund was financed by a special levy, called ' Kohlepfennig ', which was not paid for out of the national budget but was expressed as a percentage of the invoiced price for electricity consumed by industrial and domestic users. By this means it was planned to maintain average annual coal consumption in power stations at 33 million tonnes.
- 1975 :** Increase of the ' Kohlepfennig ' to 4.5 % of the invoiced price of electricity, giving a revenue of DM 1 500 million in 1977.
- 1976 :** The Federal Government took measures to purchase 10 million tonnes of coal and coke as a national stockpile.

**1977 :** Within the framework of the third 'Verstromungsgesetz' the coal undertakings and power stations began to conclude 10-year agreements in order to reach the consumption target of 33 million tonnes of steam coal. The Federal Government prepared to extend the third 'Verstromungsgesetz' in a modified form, for a period of 10 years (1978-87). Further revision of the Federal Government's energy programme on the basis of energy consumption 10 % below the 1974 forecasts, providing for coal consumption of 72 and 73 million tce for 1980 and 1985 respectively.

### *Belgium*

**1974/75 :** Decision by the Belgian Government to maintain coal production in the Campine field at 7 million tonnes and to close the Sud coalfield by 1981. Production in Campine was seen as an extra source of reliable coking coal supplies to the Belgian iron and steel industry.

### *France*

**1976 :** Upward revision of coal production programmes in order to cover coal consumption of between 35 and 45 million tce in 1985. Object to stabilize coal production in Lorraine and to reduce it in Centre-Midi. Nord/Pas-de-Calais coalfield to be closed early in the 1980s.

### *Netherlands*

**1974 :** Coal production discontinued in the Netherlands.

### *United Kingdom*

**1973 :** When Britain joined the common market, the British Government took various measures to assist the coal industry. The legal basis for these aids was mainly provided by the Coal Industry Act 1973. Some measures were based on the Coal Industry Acts of 1965 and 1967 but were maintained in force under the Coal Industry Act 1973.

The aids relate to:

- social measures (pensions, early retirement contributions, etc.).
- measures to provide retraining and a stable work force,
- stock financing,
- cover for production losses,
- steam coal for power stations.



The measures were designed to avoid the social problems which could result from a crisis in the National Coal Board and to ensure the long-term supply of energy. By taking these measures the British Government conformed with the provisions of Commission Decision No 528/76 regarding the Community system of measures taken by the Member States to assist the coalmining industry. One of the most notable examples of aid granted in the years before 1973 was the partial writing-off of the NCB debt to the Government, namely 1 000 million u.a. in 1965 and 1 100 million u.a. in 1972.

*1974* : As a result of a lengthy strike, the Government, acting with the authorization of the Commission, suspended sales of coal to other Member States.

*1974/77* : ' Plan for coal ' : a tripartite commission consisting of representatives from the Government, the NCB and the miners ' unions, under the chairmanship of the Secretary of State for Energy, examined the future of the coal industry.

The plan contained proposals for the creation of new production capacity amounting to 42 million tonnes per year to offset the closure of old mines and thus to maintain total production capacity at a minimum of 135 million tonnes until 1985. To achieve this objective the NCB's initial investment programme (£ 800 million) was to be increased to £ 1 400 million at 1974 prices.

In 1977 the tripartite commission endorsed the objectives of the ' Plan for coal ' in a further report (Coal for the future). In the intervening period the NCB's borrowing limit had been increased to £ 1 100 million.

## **International Cooperation**

Under Article 93 of the Treaty ' The High Authority shall maintain all appropriate relations with the United Nations and the Organization for European Economic Cooperation and shall keep these organizations regularly informed of the activities of the Community '.

The major differences in the composition of these two organizations led the High Authority to adopt different approaches towards them. At the United Nations the Economic Commission for Europe (ECE), based in Geneva, consists of all the countries of Europe – including those of Eastern Europe, headed by the USSR. These socialist countries not only refused to recognize the ECSC

but also attacked it fiercely in speeches, but this policy did not prevent the High Authority from sending representatives to the meetings, shortly after its creation, as guests of the Secretariat of the United Nations. After a few years the ECSC had its own place at the table like all the other countries belonging to the ECE. The ECE has a Coal Committee which assumed the functions of the ECO (European Coal Organization) in London, the first international organization to deal with coal matters and established just after the war. The High Authority has worked closely with the Coal Committee and its subsidiary bodies over the years.

The Organization for European Economic Cooperation (OEEC, now the OECD in Paris), comprising the countries of Western Europe, and gradually enlarged to include the United States, Canada, Japan, Australia and New Zealand, presented no difficulties. All these countries recognized the ECSC which, from the outset, had no difficulty in participating in the work of the Coal Committee (which continued its work until 1965) and then of the Energy Committee. The member countries of the ECSC were at pains to present a common front both at the ECE in Geneva and at the OECD in Paris. In order to prepare their joint position, coordination meetings – initially consisting of six countries, later of nine – were organized in conjunction with the Council of Ministers, and presided over by an official from the High Authority and later from the Commission. It was not unknown for a Community document to be drawn up by the High Authority and then, after discussion and approval by the governments, to be submitted by the High Authority on behalf of the six Member States to the OECD or ECE.

During the period 1950-52, as a result of the fuel shortage during the Korean War, an international sharing-out of available coal supplies took place in a sub-committee of the Coal Committee of the ECE, then also in the Coal Committee of the OEEC, the latter organization being anxious at a political level to ensure supplies to those industries important for arms production, such as the iron and steel industry. Article 59 of the Treaty lays down the procedures to be followed, in the case of a serious shortage, in allocating the coal resources of the Community between the industries within its jurisdiction, other consumers, intra-Community trade and exports to third countries. Shortly after the establishment of the common market in coal, the High Authority contacted the OEEC, which was concerned about the effect the application of Article 59 could have on certain of its member countries not belonging to the ECSC and which purchased substantial amounts of Community coal, such as Switzerland, Austria and the Scandinavian countries. Following discussions a protocol was adopted safeguarding the position of these countries. This

protocol is still in force but has not been used, since the High Authority has not invoked Article 59.

Until now, cooperation between the Commission and the International Energy Agency (IEA - Paris), which was set up by the industrialized States of the free world in 1974, has been only of limited importance in the coal sector as the work of the IEA has centred on other parts of the energy sector. However, a Working Party on Coal Technology was formed which has drawn up five joint projects - the establishment of a technical information service for coal, a centre for compiling and disseminating information on mining methods, a data bank on world coal reserves, a department to study the profitability of new mining technologies, and the launching of a joint research project on 'fluidized bed combustion'. 19 member countries of the Agency are taking part in these projects according to their individual interests. Although the Community was unable to become a member of the Agency because of France's refusal to participate in the activities of the IEA, the Commission takes part in IEA discussions at the request of the eight other Member States and with the tacit consent of France. The same applies to the work of the Working Party on Coal Technology. The Commission has shown great interest in the establishment of a data bank on world coal reserves, one of the five projects mentioned above.

Apart from these multilateral relations within the framework of international organizations, the High Authority/Commission has maintained regular or occasional bilateral contacts with the authorities and industrial circles of numerous coal-producing or coal-consuming countries since the common market in coal was established. These contacts not only ensure the inflow of information required for the work of the Commission departments, but also provide the opportunity to create and maintain an atmosphere of trust between the Community and its trading partners, who are thus kept informed of the Community's economic problems and policy in the coal sector.

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## 6. The other ECSC institutions

This review of the first twenty-five years of the common market in coal would be incomplete without reference to the work of the other Community institutions – the Consultative Committee, the European Parliament and the Court of Justice. Their activities have been and still are closely linked with the the present and future existence of the common market in coal.

### **Consultative Committee**

The Consultative Committee of the ECSC consists of equal numbers of representatives of producers, workers, consumers and dealers in coal and steel. Within its ranks is assembled a considerable amount of practical experience and technical knowledge. In numerous cases, specified in the ECSC Treaty, the Executive must consult the Consultative Committee before taking a decision, but in practice the High Authority, and subsequently the Commission of the European Communities, has asked for the opinion of the Consultative Committee, on, or informed it of important developments in the Community, even in other circumstances. On 26 January 1953, the first President of the High Authority, Jean Monnet, gave the following definition of what the Executive expected from this consultative body: 'Your Committee brings to the High Authority the sound and solid experience of men who face the realities of everyday life. But the High Authority will not judge the Committee's opinions by the number votes cast, since majorities can sometimes reflect a very temporary union of interests, but by the force of the arguments, the concern and the experience expressed in your discussions by the various groups which make up your Committee, and even by each one of you.'

During its twenty-five years of existence the Consultative Committee has lived up to this expectation. Almost two hundred plenary meetings, and more than three hundred sub-committee meetings have allowed it to consult, as provided for in the Treaty, or to produce resolutions or opinions in some five

hundred cases. It has certainly not always been possible to reach unanimous or even a large measure of agreement, but this is surely normal in a committee where conflicting group interests are represented. For many, cooperation between the two sides of industry in a collegiate atmosphere subject to a set of unwritten rules was something new. In practice, the joint discussion of problems has given rise to improved mutual understanding and an atmosphere of trust which has made it possible to find common ground between conflicting requirements and to adopt a realistic attitude towards the Executive.

## **European Parliament**

The Common Assembly, now the European Parliament, owes its existence to the basic democratic principle that an executive body endowed with considerable powers over the market, such as the High Authority of the ECSC, should be subject to effective public control. The aim, moreover, was to sow the seeds of real European popular representation. The rights granted by the ECSC Treaty to this parliament were limited. Even today – in contrast to the provisions of the Rome Treaties – there is no obligation to consult the Assembly before taking decisions within the framework of the ECSC Treaty; nevertheless, the Commission has been doing so for some time. In accordance with the Treaty, the European Parliament must give its opinion on the general report of the High Authority once a year, and on this basis submit the activities of the Executive to critical scrutiny. It could even oblige the Executive to resign by a vote of no confidence, passed with a two-thirds majority.

From the very beginning, the Common Assembly endeavoured to acquire the structure and rights of a sovereign parliament, and has become a parliament with limited but effective powers. Of the various committees of the Assembly, the Common Market Committee took action in matters relating to the organization of the market, supply, price, competition, etc. When the Treaties of Rome came into force the 'sole Assembly' for the three European Communities transformed itself into the European Parliament; of its 12 committees, the Committee on Energy and Research deals with the problems of coal policy. Since 1953 the Parliament has drafted a large number of reports dealing with coal and energy problems, adopted an equally large number of resolutions approving the activities and proposals of the executive body, often going beyond its proposals, and constantly reminded the Council of Ministers of the duties incumbent on it by virtue of the spirit and letter of the Treaties.

## **Court of Justice**

The Community has been called a 'Community of law' and this aspect is most manifest in the duties and activities of the Court of Justice. The Court has the task of ensuring that the law is observed in the interpretation and application of the three Community Treaties, and of the rules laid down for their implementation. It has been granted extensive judicial powers for this purpose and various types of actions and proceedings are heard before it. These are mainly actions for annulment of acts of the institutions, actions for compensation for wrongful acts or omissions, proceedings against the Member States for infringement of the Treaties and procedures for dealing with questions submitted by national courts on the validity and interpretation of Community law.

At present, the Court of Justice consists of nine Judges – one for each Member State – and four Advocates-General. The Court of Justice of the ECSC commenced its activities at the time the common market in coal was established. The case-law it has produced in these twenty-five years fills a whole series of imposing volumes which contain approximately 1 500 judgments. Some 500 of these have been on questions submitted by national courts on the interpretation of Community Law. Although the case law of the Court of Justice is largely concerned with the EEC Treaty, a significant proportion deals with questions of commercial law in the areas covered by the ECSC Treaty. The common elements of the Treaties, and the fact that the Court of Justice has endeavoured to work out common principles for European commercial law based on the Treaties, give its case law particular importance. Since the Court of Justice not only applies the substantive law of the Treaties but also bases itself on the legal principles common to the Member States, its case-law has furthered the process of integrating national laws into European law.

The major guiding principle of the Court's case-law has always been the achievement of the objectives of the Community. It has always given priority to safeguarding the common interest, which is clearly also the interest of each of the Member States and their citizens. It has been said, quite justifiably, that the Court of Justice is 'a major factor making for integration'.

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## 7. Concluding remarks

The common market for coal has now been in existence for twenty-five years – a quarter of a century of economic history, marked, for the most part, by economic growth of unparalleled dynamism and by extraordinary upheavals in the energy sector and, hence, in the coal industry. Above all, however, this period has witnessed twenty-five years of European integration and of activity by the institutions of the European Coal and Steel Community. The coal and steel policy, which represented the first steps on the path to European integration, was developed at such a pace that politicians were able to concern themselves with even more ambitious projects such as the European Defence Community and the European Political Community. In those early days a wide range of tools of economic policy and integration policy were tried out with the result that some time later, the authors of the Treaties of Rome were able to draw on the practical experience already gained in the ECSC.

Actual achievements can, if wished, be measured against the objectives of the ECSC Treaty; it is not difficult to produce evidence of economic expansion, the growth of employment and a rising standard of living in the Member States, for which provision is made in Article 2 of the Treaty. The annuals of the ECSC contain, for example, the General Objectives for Coal, formulated by the High Authority in 1956. The authors assumed that the gross domestic product of the six-member Community would double between 1955 and 1975, in fact it exceeded original expectations, expanding more than one-and-a-half times by 1974.

For coal, however, the economic reality was rather less satisfactory. Although energy consumption developed almost in parallel with economic activity, the prediction made in the General Objectives in 1956 that coal would still satisfy over half of the Community's energy requirements in 1975, proved incorrect; its share in satisfying primary energy consumption had dropped to one-fifth by 1975. The oil boom, which determined the energy scene of the 1960s could not be foreseen in 1956. For the coal industry, a situation of expansion changed to one of decline and the institutions of the Commu-

nity came to give priority to the other objectives of Article 2 of the Treaty 'safeguarding continuity of employment and taking care not to provoke fundamental and persistent disturbances in the economies of Member States'.

In retrospect, it can be seen that the interruption in the growth of the energy sector – usually referred to as the coal crisis – which occurred in 1958/59, brought about a change in the coal policy of the Community. Until that date, the establishment of the common market and its operation were the main priorities. The Treaty establishing the ECSC contained all the necessary tools for this purpose (price regulation, rules on competition, etc.) and it was the High Authority of the ECSC which, as the executive body, determined the course of events. Chapter 3 of this report gives only a necessarily brief and incomplete picture of all the tasks that were taken on and accomplished. There was a progressive and virtually trouble-free transition from a regulated system still marked by the controls imposed by war, to a free market determined more by the forces of competition. This period also saw the introduction of through tariffs for international railway traffic, whose importance as an integration factor cannot be rated too highly.

In 1956/57 the Community was confronted with its first test of strength in the form of an energy-supply crisis. At that time, all those concerned – coal producers, coal users and governments – were ready to act in concert under the direction of the High Authority. Without keeping too strictly to the letter and procedures of the Treaty, the first crisis of the young Community was overcome. In a spirit of solidarity, delivery plans were agreed and demand effectively brought into line with limited supplies.

The upheavals which occurred on the energy market from 1958 onwards, marked the emergence of a new trend. The era of autonomous coal policy was at an end and subsequently, coal policy was conceivable only as one element of energy policy. The more oil displaced coal from its traditional markets the more it became apparent that the ECSC Treaty only covered one of the energy sectors, while from 1958 onwards the other sources of energy, which were primarily the responsibility of national governments, were subject to the provisions of the Treaties establishing the EEC and the EAEC. The protocol on the ways and means of achieving a coordinated energy policy, concluded in October 1957 between the Council of Ministers and the High Authority, showed, in its explanatory memorandum and in terms which are still relevant today, why such a Community policy was necessary. But it was not until 1964 that the protocol on energy problems was adopted by

the governments of the Member States. It opened the way for aid and protection measures for coal which were subject, nevertheless, to prior scrutiny and authorization by the High Authority, since they were exceptions to the strict ban on State aids imposed in Article 4 of the Treaty. The 1964 Energy Protocol, which set out for the first time a complete catalogue of aims for a Community energy policy, was followed in 1968, 1972, and especially in 1974 following the oil crisis, by equally comprehensive and far-reaching programmes both in the form of communications from the Commission and Council Resolutions. There is an imbalance between these programmes and actual achievements in terms of practical energy policy at Community level.

Since the Council meeting of 14 May 1959, decisions on the coal sector have increasingly been taken at national level. At this meeting, the High Authority had hoped to obtain agreement to a plan, based on Article 58 of the ECSC Treaty, to deal with the acute coal crisis. Although Article 58 is admittedly not ideal for initiatives aimed at overcoming crises of a structural nature, it is regrettable that from the outset, any Community approach to crisis management was nullified by the Council's negative vote. The 'minor revisions' procedure (Article 95, paragraphs 3 and 4) has only been applied in the field of social policy (Article 56); for legal reasons it has not proved possible to use it to amend the rules on competition (Article 65).

In the first half of the 1960s, both the High Authority and the individual governments introduced *ad hoc* measures to control the worst effects of the crisis and then, from 1965 onwards, the coal-producing Member States proceeded to grant subsidies. After obtaining the unanimous assent of the Council, the High Authority created the necessary legal framework through Decision No 3/65. However, the governments adopted different methods for granting these aids. Some instructed undertakings to bring their price and marketing policies into line with the market situation and then made up the resulting losses. Others preferred indirect measures, such as consumer subsidies, to allow the mining industry to set prices which would cover costs. The High Authority/Commission no longer had to take the initiative in this context: aids could not be paid without its prior approval and the paramount consideration was to ensure that the proper functioning of the common market was not unduly disturbed. This function has been performed conscientiously. In the final analysis it can be said that, as a result of the various measures taken at Community and national level, this 'movement away from coal' – which involved the loss of 700 000 jobs in the mining industry and the closure of more than 400 mines in the six-member Community, was handled without serious disruption of the economic life of the Member States

affected. Given the scale of the problem this crisis could easily have become a catastrophe. The existence of the Community, the cooperation between institutions and the close links which had been established between all interested parties ensured that no country attempted to offload its own difficulties on to its neighbours.

However, even though the Community coal market has been shaken by structural crisis, integration has had a visible impact on the development of intra-Community trade. The volume of trade between the six founding States of the ECSC has been no greater in recent years than when the common market for coal was established, but the percentage involved (20 % of the output of the continental coal-producing countries) is considerably higher than twenty-five years ago (13 %).

Although most of the Member States of the Community have inadequate indigenous sources of energy, it was widely believed by the general public that it was easy to obtain sufficient energy supplies. At the end of 1973, the oil crisis destroyed this illusion. In consequence, greater emphasis was placed on security of supply in the Council's energy policy Resolutions of late 1974 and early 1975.

A firm role was assigned to Community coal, with the objective of maintaining output at 250 million tce albeit 'under satisfactory economic conditions'. However simple and straightforward this form of words might appear – seeming to place the emphasis on market forces as the control mechanism – it is equivocal if one attempts to define it. Energy policy throughout the world is in fact characterized by intervention and political manoeuvring with the boundaries between fair and distorted competition often hazy.

Output and consumption of Community coal have dropped since 1973, while imports from outside the Community have expanded rapidly; producer stocks of unsold coal and coke in the Community reached record levels in 1977. The coal industry has thus felt the full force of the economic recession, even though in certain coal-producing countries aid to the coal industry has been reorganized or supplemented. The general energy surplus has made it increasingly difficult, however, to help the coal industry, particularly at Community level.

As for the future, it is clearly impossible to predict what will happen over the next twenty-five years, but none the less, energy experts have to look ahead and endeavour to form a perspective from numerous elements of uncertainty; e.g. the long-term rate of economic growth, which in turn affects the development of energy consumption; energy-market price relationships;

inter-relationship between energy prices and energy conservation; the different sources of energy and their part in the supply mix, etc.

Energy policy at national, Community and international level will in its turn, affect these factors, and it is still uncertain what the details and impact will be. At the time of going to press (Autumn 1977), there was still no broad consensus on Community coal policy. This does not mean that the Community has been deprived of all powers to act; those courses of action for which express provision is made in the ECSC Treaty – the laying down of general objectives under Article 46, the granting of investment loans under Article 54 – the promotion of research under Article 55 – and the granting of redeployment assistance to workers under Article 56 – are proven instruments available to the Commission by virtue of the ECSC's financial autonomy.

The Community arrangements for coking coal and coke for the iron and steel industry could remain in their present form until 1981; this is now the only measure in which the six founding Member States are financially involved (about 8 million EUA annually).

A more difficult problem, however, is to determine the appropriate role for coal in thermal applications, or to be more precise, in power stations. The Commission is still convinced that, because of the slowing down of nuclear energy development and the insignificant supply, as yet, from alternative energy sources, the immediate need in most of the Member States is to build large capacity coal-fired power stations which take adequate account of environmental protection. Known plans for thermal power stations and building projects already started, in Autumn 1977 – which will be linked into Community electricity grids between now and 1985 – give grounds to fear a marked imbalance in favour of power stations burning oil and gas. This is all the more worrying since it has long been expected that there will be a swift reduction in the generation of electricity from coal in the 1980s, following the closure of obsolete, coal-fired power stations. Highly industrialized economies such as those of the Member States of the European Community require secure long-term energy supplies. This is a basic prerequisite for industrial activity and, as regards private consumption, of the standard of living. The focal point of any really long-term energy policy is resource availability. In a market economy, as is found, with certain variations, in all Member States of the Community, energy policy must ensure that short-term advantages do not endanger the long-term security of energy supply. Community reserves of coal, dwarf those of other primary energy sources, and hence coal is the only energy carrier which is readily available on a secure, long-term basis.

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***ANNEX I***

**Nature of the decision-making  
process of the High Authority/  
commission**

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## **Nature of the decision-making process of the High Authority/Commission**

In order to carry out the tasks assigned to it under the ECSC Treaty the High Authority (now the Commission) may take decisions, make recommendations or deliver opinions (Article 14).

Decisions are binding in their entirety. Decisions may be general or specific (e.g. addressed to an undertaking). In certain cases the Consultative Committee and the Council are consulted before a decision is taken; in many cases a qualified majority or the unanimous agreement of the Council is required.

Recommendations are binding as to the aims to be pursued but leave the choice of the appropriate methods for achieving these aims to those to whom the recommendations are addressed.

Opinions have no binding force.

Decisions, recommendations and opinions must set out the grounds on which they are based.

Within the framework of the EEC and Euratom Treaties the power to take decisions lies mainly with the Council, while the Commission primarily has the right of initiative and proposal. In order to carry out their task the Council and the Commission, in accordance with the provisions of the Treaties, make regulations, issue directives, take decisions, make recommendations or deliver opinions (EEC Treaty Article 189, and EAEC Treaty Article 161).

The Regulations have general application; they are binding in their entirety and directly applicable in all Member States.

Directives are binding, as to the results to be achieved, upon each Member State to which they are addressed, but leave to the national authorities the choice of form and methods.

Decisions are binding in their entirety upon those to whom they are addressed (Member State, legal or natural person).

**Recommendations and opinions have no binding force.**

**Regulations, directives and decisions must set out the grounds on which they are based.**

**The issue of regulations and directives is generally within the jurisdiction of the Council; in most cases the European Parliament and the Economic and Social Committee are consulted before a final pronouncement is made by the Council. Decisions are generally taken by the Commission.**

*ANNEX II*

**Statistical Tables**

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TABLE 1

## INDICES OF:

- Gross domestic product (GDP) <sup>(1)</sup>
- Industrial production (IP)
- Gross internal consumption of primary energy (Energy cons.)
- Gross internal coal consumption (Coal cons.)

EUR 6: 1953-1976

EUR 9: 1973-1976

(1953 = 100)

Year	GDP (1)		PI		Energy Cons.		Coal cons.	
	EUR 6	EUR 9	EUR 6	EUR 9	EUR 6	EUR 9	EUR 6	EUR 9
1953	100	100	100	100	100	100	100	100
54	105		110		107		102	
1955	114		124		115		108	
56	118		134		124		115	
57	124		142		126		114	
58	128		146		123		109	
59	135		155		126		100	
1960	148		173		137		104	
61	157		184		142		102	
62	165		195		154		106	
63	173		205		169		108	
64	183		220		175		102	
1965	192		229		182		97	
66	201		239		186		88	
67	207		243		195		86	
68	220		261		211		86	
69	236		286		229		87	
1970	250		301		247		81	
71	259		307		251		73	
72	269		325		267		68	
73	285	283	347	317	286	226	68	70
74	291	288	352	319	283	222	70	65
1975	284	283	327	298	267	209	57	57
76	299	295	354	320	285	221	63	61

(1) At 1963 prices and exchange rates.

## Indices of industrial production by member country

(1953 = 100)

Year	B	D	F	I	L	NL	EUR 6	DK	IRL	UK	EUR 9
1953	100	100	100	100	100	100	100	100	100	100	100
1955	113	129	122	119	116	119	124	111	108	114	
1960	127	182	164	185	138	154	173	150	119	129	
1965	167	238	208	247	151	205	229	207	164	150	
1970	207	308	274	352	174	312	301	273	225	169	
1973	240	349	327	403	201	367	347	302	268	188	317
1974	250	345	336	419	207	379	352	301	276	183	319
1975	225	324	311	382	162	362	327	289	258	174	298
1976	246	346	339	426	172	388	354	311	—	177	320 <sup>(1)</sup>

(1) Weighting: 1970.

TABLE 3

## Gross internal consumption of primary energy

EUR 6: 1953-1973

EUR 9: 1973-1976

(%)

Year	Hard Coal	Lignite	Crude oil	Natural gas	Primary electricity	Miscellaneous	Total	
							%	million tce
1953	66.8	7.9	15.3	1.0	9.0	—	100.0	342.9
1955	64.5	7.7	18.4	1.4	8.0	—	100.0	394.9
1960	52.0	6.9	30.1	2.7	8.3	—	100.0	471.1
1965	36.3	5.4	48.5	3.3	6.4	0.1	100.0	622.5
1970	22.4	4.0	59.2	8.6	5.6	0.2	100.0	847.5
1973	16.4	3.6	61.7	13.5	4.6	0.2	100.0	980.5
1973	20.9	2.8	59.3	12.6	4.3	0.1	100.0	1337.4
1974	20.7	3.0	56.6	14.7	4.9	0.1	100.0	1311.8
1975	19.4	3.1	55.1	16.4	5.8	0.2	100.0	1236.0
1976	19.6	3.2	55.1	16.8	5.1	0.2	100.0	1306.1

TABLE 4

Position of hard coal in primary energy consumption

	1953	1955	1960	1965	1970	1973	1986
(a) million tce							
Belgique/België	24.6	26.8	23.4	22.2	18.9	16.7	14.0
BR Deutschland	114.9	131.3	127.8	119.7	97.9	85.2	73.5
France	60.4	65.1	63.5	61.2	50.0	39.7	40.2
Italia	9.6	10.8	10.5	11.3	12.1	11.0	12.0
Luxembourg	3.4	3.8	4.4	3.9	3.8	3.5	2.7
Nederland	16.3	17.0	15.4	13.3	7.3	4.5	4.4
EUR 6	229.2	254.8	245.0	225.6	189.9	160.7	146.7
Danmark						3.2	4.2
Ireland						0.8	0.7
United Kingdom						115.3	104.6
EUR 9						280.0	256.2
(b) % of primary energy consumption							
Belgique/België	83.4	80.6	69.0	52.7	32.4	25.1	22.4
BR Deutschland	74.3	72.4	60.6	43.2	28.9	22.4	19.7
France	64.1	61.6	51.3	37.8	23.3	15.5	16.2
Italia	24.9	24.0	16.0	10.7	7.6	6.0	6.2
Luxembourg	95.1	93.8	91.4	69.7	58.4	48.7	40.9
Nederland	73.3	66.0	47.9	29.8	10.5	5.1	4.7
EUR 6	66.8	64.5	52.0	36.3	22.4	16.4	15.0
Danmark						11.5	15.9
Ireland						7.8	7.4
United Kingdom						36.2	35.6
EUR 9						20.9	19.6



## Quantities of coal delivered by sector

EUR 6: 1953-1973

EUR 9: 1973-1976

(million t = t)

Year	Power stations			Coking plants	Gasworks	Industry	Mines' own consumption	Patent fuel plants	Domestic heating and supplies to mine workers	Transport	Total
	Publicly owned	Mine owned	Total								
1953	20.1	15.5	35.6	80.7	11.9	41.1	13.2	13.8	29.8	19.5	245.6
1954	21.1	16.5	37.6	79.8	11.5	43.0	13.0	14.3	31.7	20.0	250.9
1955	21.7	18.2	39.9	91.7	11.5	45.7	12.6	15.4	32.3	19.1	268.2
1956	24.8	20.6	45.4	99.1	12.4	46.2	12.1	17.6	35.1	19.6	287.5
1957	27.5	21.7	49.2	102.0	12.9	43.8	11.3	18.6	33.4	18.3	289.5
1958	24.4	20.6	45.0	97.9	10.2	38.6	10.9	14.5	28.2	15.5	260.8
1959	23.4	20.0	43.4	93.2	9.5	37.6	9.8	12.8	26.1	13.0	245.4
1960	25.9	19.6	45.5	98.2	9.3	38.5	9.6	13.3	27.2	12.4	254.0
1961	27.0	20.4	47.4	97.7	8.5	36.1	8.9	13.1	27.2	11.5	250.4
1962	30.8	22.8	53.6	96.5	8.5	35.7	8.3	15.0	29.3	10.6	257.5
1963	34.3	22.7	57.0	94.2	8.5	35.6	8.2	17.9	33.4	10.7	265.5
1964	34.0	25.3	59.3	97.3	7.9	32.2	7.7	14.5	27.6	8.9	255.4
1965	34.5	22.1	56.6	97.7	6.3	28.3	7.8	12.3	24.9	6.8	240.7
1966	34.5	20.3	54.8	92.0	5.2	25.0	7.1	11.0	21.8	5.4	222.3
1967	37.2	20.1	57.3	85.0	4.2	22.9	5.5	10.0	20.9	3.9	209.7
1968	38.3	18.7	57.0	86.0	3.5	23.0	5.0	9.9	20.2	3.0	207.6
1969	38.6	19.9	58.5	90.0	3.2	22.9	4.7	9.7	18.4	2.5	209.9
1970	35.6	23.1	58.7	93.0	3.4	19.1	2.9	9.5	16.6	2.2	205.4
1971	34.8	26.5	61.3	85.1	2.7	15.3	3.0	7.5	12.4	1.8	189.1
1972	35.1	18.7	53.8	81.6	2.3	15.7	2.5	6.5	11.0	1.4	174.8
EUR 6 1973	31.8	17.5	49.3	82.3	1.8	16.5	2.1	6.0	10.3	1.1	169.4
EUR 9 1973	109.3	17.9	127.2	106.9	2.5	28.8	3.1	7.4	27.2	1.2	304.3
1974	100.2	18.4	118.6	108.0	2.2	28.1	2.8	7.1	26.5	0.9	294.2
1975	112.2	12.8	125.0	103.1	1.9	22.8	2.2	6.2	21.9	0.5	283.6
1976	123.6	17.6	141.2	99.7	1.4	21.7	2.6	5.3	20.3	0.3	292.5

TABLE 5

## Electricity production

Country	Year	Net output TWh	% of output							Overall Total	
			Hydro- electric	Nuclear	Traditional thermal sources						
					Hard Coal	Lignite and Peat	Oil	Natural gas	Other		Thermal total
Belgique/België	1953	9.6	0.9	—	84.2	—	2.1	—	12.8	99.1	100.0
	63	17.8	0.8	0.3	71.1	—	19.5	0.1	8.2	98.9	100.0
	73	39.1	1.5	0.2	12.5	—	52.0	23.6	10.2	98.3	100.0
	74	40.8	1.7	0.3	17.0	—	46.0	25.6	9.4	98.0	100.0
	75	39.0	1.1	16.4	15.7	—	38.3	21.9	6.6	82.5	100.0
	76	44.8	0.7	21.2	17.3	—	34.0	20.5	6.3	78.1	100.0
BR Deutschland	1953	59.5	15.2	—	55.9	22.8	0.6	—	5.5	84.8	100.0
	63	140.4	8.6	0.1	55.6	26.0	6.3	0.4	3.0	91.3	100.0
	73	280.2	5.4	4.0	33.8	25.4	14.5	12.1	4.8	90.6	100.0
	74	292.6	6.0	3.9	30.9	26.1	10.0	17.9	5.0	90.1	100.0
	75	283.8	5.9	7.1	24.2	28.0	10.1	20.3	4.4	87.0	100.0
	76	313.9	4.0	7.1	30.6	29.6	9.0	15.6	4.1	88.9	100.0
France	1953	41.6	50.9	—	38.0	0.4	4.4	—	6.3	49.1	100.0
	63	88.5	49.1	0.7	32.1	0.5	7.5	5.8	4.3	50.2	100.0
	73	174.5	27.2	8.0	14.2	1.4	39.5	5.6	4.1	64.8	100.0
	74	180.4	31.5	7.7	13.0	1.4	36.7	5.7	4.0	60.8	100.0
	75	178.5	33.5	9.8	15.5	1.4	30.0	6.4	3.4	56.7	100.0
	76	194.8	25.0	7.7	23.1	2.0	33.1	5.2	3.9	67.3	100.0
ITALIA	1953	32.2	91.5	—	2.5	—	2.8	2.8	0.4	8.5	100.0
	63	69.7	69.1	0.4	1.7	1.7	22.2	3.4	1.5	30.5	100.0
	73	139.1	29.7	2.1	1.2	0.8	60.6	3.0	2.6	68.2	100.0
	74	142.3	29.1	2.3	1.9	0.7	60.6	2.7	2.7	68.6	100.0
	75	140.9	31.7	2.6	1.2	0.9	55.9	5.1	2.6	65.7	100.0
	76	155.6	27.8	2.3	2.3	0.9	54.6	8.7	3.4	69.9	100.0
Luxembourg	1953	0.9	0.3	—	—	—	—	—	99.7	99.7	100.0
	63	1.8	27.5	—	3.1	—	9.0	—	60.4	72.5	100.0
	73	2.1	39.2	—	0.6	—	17.5	6.5	36.2	60.8	100.0

	74	.	.	—	1.	—	1.3	5.7	.2	54.9	100.0
	75	.	.	—	1.	—	1.4	15.8	.2	65.7	100.0
	76	.	.	—	0.	.	1.8	27.1	.5	65.5	100.0
Nederland	1953	9.0	—	—	91.5	—	5.8	—	2.7	100.0	100.0
	63	19.8	—	—	66.1	—	30.7	0.7	2.5	100.0	100.0
	73	50.2	—	2.0	2.9	—	12.3	79.7	3.1	98.0	100.0
	74	52.9	—	5.9	1.5	—	7.4	82.0	3.2	94.1	100.0
	75	51.7	—	6.1	0.8	—	6.4	81.7	5.0	93.9	100.0
	76	55.7	—	6.6	5.4	—	8.6	75.0	4.4	93.4	100.0
EUR 6	1953	152.8	38.9	—	43.4	9.1	2.5	0.6	5.5	61.1	100.0
	63	338.0	30.3	0.9	39.5	11.3	12.0	2.4	3.6	68.8	100.0
	73	685.2	15.3	4.3	18.6	10.9	32.2	14.2	4.5	80.4	100.0
	74	711.0	16.5	4.5	17.4	11.4	28.8	16.9	4.5	79.0	100.0
	75	695.3	17.6	7.3	15.1	11.9	25.8	18.3	4.0	75.1	100.0
	76	766.3	13.7	7.1	20.4	13.2	25.3	16.2	4.1	79.2	100.0
Danmark	1973	18.0	0.1	—	35.7	—	64.2	—	—	99.9	100.0
	74	17.6	0.1	—	29.5	—	70.4	—	—	99.9	100.0
	75	17.6	0.1	—	33.3	—	66.6	—	—	99.9	100.0
	76	19.5	0.1	—	47.2	—	52.7	—	—	99.9	100.0
Ireland	1973	7.0	9.2	—	1.0	23.4	66.4	—	—	90.8	100.0
	74	7.5	13.3	—	0.9	21.6	64.2	—	—	86.7	100.0
	75	7.3	9.8	—	0.9	22.7	66.6	—	—	90.2	100.0
	76	8.2	10.7	—	1.2	29.9	58.2	—	—	89.3	100.0
United Kingdom	1973	262.8	1.7	9.2	61.4	—	26.1	1.0	0.6	89.1	100.0
	74	254.5	1.9	11.5	57.1	—	25.2	3.9	0.4	86.6	100.0
	75	254.1	1.9	10.4	62.4	—	21.6	3.4	0.3	87.7	100.0
	76	258.1	2.0	12.0	65.4	—	17.3	2.8	0.5	86.0	100.0
EUR 9	1973	973.0	11.3	5.5	31.0	7.6	31.0	10.3	3.3	83.2	100.0
	74	990.6	12.4	6.2	27.7	8.3	28.9	13.2	3.3	81.4	100.0
	75	974.3	13.1	7.9	27.7	8.7	25.7	14.0	2.9	79.0	100.0
	76	1 052.1	10.6	8.1	32.5	9.6	24.0	12.2	3.0	81.3	100.0

TABLE 7

## Thermal power station consumption

(million tce)

Country	Year	Hard coal and coke	Lignite	Oil	Natural gas	Other fuels	Total
Belgique/België	1953	4.6	—	—	—	0.8	5.4
	63	5.2	—	1.5	—	0.7	7.4
	73	1.9	—	7.1	3.3	1.5	13.8
	74	2.7	—	6.4	3.8	1.4	14.3
	75	2.2	—	5.0	3.2	1.0	11.4
	76	2.8	—	5.4	3.3	0.9	12.4
BR Deutschland	1953	17.3	8.5	0.2	—	2.3	28.3
	63	32.0	16.6	3.3	0.5	1.7	54.1
	73	35.6	27.7	13.7	11.1	5.4	93.5
	74	34.3	29.8	9.6	16.7	6.0	96.4
	75	26.3	30.0	9.5	18.4	5.0	89.2
	76	33.9	32.9	10.0	17.4	4.5	98.7
France	1953	8.1	0.2	0.9	—	1.8	11.0
	63	10.5	0.6	2.4	1.3	2.2	17.0
	73	9.0	1.0	22.1	3.0	2.6	37.7
	74	8.5	1.1	20.8	3.2	2.7	36.3
	75	9.5	1.0	16.8	3.6	2.3	33.2
	76	15.0	1.3	21.5	3.4	2.5	43.7
Italia	1953	0.6	—	0.4	0.4	0.1	1.5
	63	0.5	0.5	3.6	0.9	0.5	8.0
	73	0.6	0.4	27.6	1.5	1.5	31.6
	74	0.9	0.4	28.4	1.3	1.6	32.6
	75	0.6	0.5	25.9	2.4	1.6	31.0
	76	1.2	0.5	28.1	4.5	1.7	36.0
Luxembourg	1953	.	0	.	—	0.5	0.5
	63	.	0	—	—	0.7	0.7
	73	.	0	0.2	0.1	0.3	0.6
	74	.	0	0.2	0.1	0.2	0.5
	75	.	0	0.1	0.1	0.3	0.5
	76	.	0	0.1	0.2	0.2	0.5

TABLE 7 (cont'd)

## Thermal power station consumption

		(million tce)					
Country	Year	Hard coal and coke	Lignite	Oil	Natural gas	Other fuels	Total
Nederland	1953	4.3	0	0.2	—	0.1	4.6
	63	5.6	0	2.2	—	0.2	8.0
	73	0.6	0	2.4	13.4	0.5	16.9
	74	0.3	0	1.4	14.6	0.7	17.0
	75	0.2	0	1.2	14.1	0.8	16.3
	76	1.0	0	1.6	13.9	0.8	17.3
	EUR 6	1953	34.9	8.8	1.9	0.4	5.3
63	53.8	17.6	15.0	2.8	5.8	95.0	
73	47.7	29.1	73.1	32.2	12.1	194.2	
74	46.8	31.2	66.8	39.7	12.7	197.2	
75	38.8	31.4	58.6	41.6	11.0	181.6	
76	53.9	34.6	66.8	42.6	10.8	208.7	
Danmark	1973	2.6	0	4.1	0	—	6.7
	74	2.1	0	4.3	0	—	6.4
	75	2.3	0	4.1	0	—	6.4
	76	3.4	0	3.7	0	—	7.1
	Ireland	1973	—	0.9	1.7	0	—
74	—	0.8	1.8	0	—	2.6	
75	—	0.8	1.7	0	0.1	2.6	
76	—	1.0	1.9	0	—	2.9	
United Kingdom	1973	62.2	—	26.8	1.3	0.9	91.2
	74	54.2	—	27.0	3.6	0.7	85.5
	75	59.6	—	20.5	3.1	0.8	84.0
	76	63.6	—	16.8	2.7	0.5	83.6
	EUR 9	1973	112.6	29.9	105.6	33.6	12.8
74	103.1	32.1	100.0	43.4	13.2	291.8	
75	100.8	32.3	84.9	45.0	11.6	274.6	
76	120.9	35.6	89.2	45.3	11.3	302.3	

TABLE 8

## Iron and steel industry

EUR 6: 1953-1973

EUR 9: 1973-1976

*(million tonnes)*

Year	Crude steel production	Pig iron production	Specific coke input kg/t	Coke consumption			
				Blast furnaces	Sintering	Other	Total
1953	39.7	31.5	..	..	..	..	..
1954	44.0	33.1	960	31.8	1.0	1.0	33.8
1955	52.8	41.0	970	39.8	0.9	1.1	41.8
1956	57.0	43.6	969	42.2	0.9	1.2	44.3
1957	60.0	45.1	972	43.8	1.1	1.1	46.0
1958	58.2	43.5	949	41.3	1.4	1.0	43.7
1959	63.4	46.7	911	42.5	1.7	1.0	45.2
1960	73.1	54.0	883	47.7	2.2	1.1	51.0
1961	73.5	54.6	857	46.8	2.5	1.0	50.3
1962	73.0	53.7	814	43.7	2.9	0.9	47.5
1963	73.2	53.2	769	40.9	3.4	1.0	45.3
1964	82.9	60.8	733	44.6	4.1	0.8	49.5
1965	86.0	63.2	702	44.3	4.3	0.7	49.3
1966	85.1	61.7	660	40.8	4.2	0.7	45.7
1967	89.9	65.9	628	41.4	4.3	0.5	46.2
1968	98.6	72.1	611	44.1	4.4	0.5	49.0
1969	107.3	79.3	594	47.1	4.5	0.5	52.1
1970	109.2	80.5	582	46.9	4.7	0.4	52.0
1971	103.4	75.7	554	41.9	4.6	0.4	46.9
1972	113.1	81.3	526	42.7	4.8	0.3	47.8
EUR 6 1973	122.9	89.8	526	47.2	5.3	0.3	52.8
EUR 9 1973	150.1	106.9	534	56.9	6.9	0.5	64.3
1974	155.6	112.1	536	60.2	7.5	0.3	68.0
1975	125.2	88.6	522	46.3	6.9	0.4	53.6
1976	134.1	94.6	520	48.2	7.0	0.5	55.7

TABLE 9

## Iron and steel industry by member country

EUR 6: 1953-1973

EUR 9: 1973-1976

(million tonnes)

Country	Year	Crude steel production	Pig iron production	Specific coke input kg/t	Coke consumption			
					Blast furnaces	Sintering	Other	Total
Belgique/België	1954	5.0	4.6	885	4.0	0.1	0.2	4.3
	63	7.5	7.0	757	5.3	0.3	0.1	5.7
	73	15.5	12.8	557	7.1	0.8	—	7.9
	74	16.2	13.2	564	7.4	0.8	—	8.3
	75	11.6	9.2	545	5.0	0.7	—	5.7
	76	12.1	10.0	539	5.4	0.7	—	6.1
BR Deutschland	1954	20.2	15.0	955	14.3	0.7	0.3	15.4
	63	31.6	22.9	726	16.6	1.6	0.3	18.5
	73	49.5	36.8	494	18.2	2.7	0.1	21.1
	74	53.2	40.2	517	20.8	3.1	0.1	24.1
	75	40.4	30.1	497	15.0	2.8	0.1	17.9
	76	42.4	31.8	482	15.4	2.6	0.1	18.1
France	1954	10.6	8.8	993	8.8	0.1	0.4	9.3
	63	17.6	14.3	846	12.1	1.1	0.4	13.5
	73	25.3	20.3	558	11.3	0.8	0.1	12.2
	74	27.0	22.5	551	12.4	1.0	0.1	13.5
	75	21.5	17.9	531	9.5	1.0	0.1	10.6
	76	23.2	19.0	520	9.9	1.0	0.1	11.0
Italia	1954	4.3	1.3	779	1.0	0.1	0.1	1.1
	63	10.1	3.8	636	2.4	0.1	0.1	2.7
	73	21.0	10.1	518	5.2	0.6	—	5.8
	74	23.8	11.8	500	5.9	0.8	—	6.7
	75	21.8	11.4	479	5.5	0.8	—	6.3
	76	23.4	11.7	471	5.5	0.9	—	6.4
Luxembourg	1954	2.8	2.8	1 093	3.1	—	0.1	3.2
	63	4.0	3.6	964	3.4	0.2	—	3.7
	73	5.9	5.1	601	3.1	0.2	—	3.3
	74	6.4	5.5	538	2.9	0.2	—	3.2
	75	4.6	3.9	525	2.0	0.2	0.1	2.3
	76	4.6	3.8	493	1.9	0.2	0.1	2.2

TABLE 9 (cont'd)

## Iron and steel industry by member country

EUR 6: 1953-1973

EUR 9: 1973-1976

(million tonnes)

Country Year	Crude steel production	Pig iron production	Specific coke input kg/t	Coke consumption			
				Blast furnaces	Sintering	Other	Total
Nederland 1954	0.9	0.6	948	0.6	—	—	0.6
63	2.4	1.7	657	1.1	0.1	—	1.2
73	5.6	4.7	475	2.2	0.2	—	2.4
74	5.8	4.8	465	2.3	0.2	—	2.5
75	4.8	4.0	467	1.9	0.2	—	2.1
76	5.2	4.3	441	1.9	0.2	—	2.1
EUR 6 1954	44.0	33.1	960	31.8	1.0	1.0	33.8
63	73.2	53.2	769	40.9	3.4	1.0	45.3
73	122.9	89.8	526	47.2	5.3	0.3	52.8
74	132.6	97.9	528	51.7	6.2	0.3	58.2
75	104.8	76.4	508	38.9	5.7	0.3	44.9
76	111.0	80.5	506	39.9	5.6	0.3	45.8
Danmark 1973	0.5	—	—	—	—	—	—
74	0.5	—	—	—	—	—	—
75	0.6	—	—	—	—	—	—
76	0.7	—	—	—	—	—	—
Ireland 1973	0.1	—	—	—	—	—	—
74	0.1	—	—	—	—	—	—
75	0.1	—	—	—	—	—	—
76	0.1	—	—	—	—	—	—
United Kingdom 1973	26.6	17.1	576	9.7	1.6	0.2	11.5
74	22.4	14.2	597	8.4	1.2	—	9.7
75	19.8	12.1	609	7.4	1.2	0.1	8.7
76	22.4	14.1	601	8.3	1.4	0.1	9.8
EUR 9 1973	150.1	106.9	534	56.9	6.9	0.5	64.3
74	155.6	112.1	536	60.2	7.5	0.3	68.0
75	125.2	88.6	522	46.3	6.9	0.4	53.6
76	134.1	94.6	520	48.2	7.0	0.5	55.7



TABLE 10

## Coke supplies

EUR 6: 1953-1973

EUR 9: 1973-1976

(million tonnes)

Year	Coke-oven coke				Gas coke	Total coke
	Iron and steel industry	Other industries	Domestic (1) heating	Total		
1953	32.9	7.4	10.2	..	8.0	..
1954	33.4	7.8	11.2	..	8.9	..
1955	41.5	8.8	11.9	66.2	8.9	75.1
1956	44.5	9.5	12.8	71.0	9.0	80.0
1957	46.6	9.1	13.7	73.2	7.8	81.0
1958	44.3	8.5	11.2	67.0	7.6	74.6
1959	44.6	7.7	9.4	66.2	7.2	73.4
1960	50.2	8.0	10.7	72.6	7.0	79.6
1961	49.9	7.8	9.9	70.6	6.2	76.8
1962	47.1	7.6	11.3	69.6	6.2	75.8
1963	45.0	8.0	14.4	71.6	5.8	77.4
1964	49.5	7.5	11.1	70.5	5.6	76.1
1965	49.2	7.1	11.4	69.5	4.6	74.1
1966	45.4	6.4	10.0	64.2	3.9	68.1
1967	46.4	5.9	9.2	63.7	3.2	66.9
1968	48.9	6.0	9.4	65.7	2.6	68.3
1969	52.4	6.4	8.6	69.1	2.6	71.7
1970	52.8	6.4	7.3	67.4	2.7	70.1
1971	46.9	5.0	4.9	57.6	2.1	59.7
1972	47.5	4.7	4.1	56.7	1.8	58.5
EUR 6 1973	53.1	4.7	4.0	62.4	1.5	63.9
EUR 9 1973	65.2	5.2	8.0	79.6	1.8	81.4
1974	69.3	5.4	7.9	83.4	1.6	85.0
1975	54.7	3.8	6.3	64.8	1.3	66.1
1976	56.3	3.8	5.5	65.6	1.1	66.7

(1) Including supplies to mine workers.

TABLE 11

**Consumption for domestic heating**  
(Including supplies to mine workers)

(thousand tce)

Country	Year	Hard coal and patent fuel	Coke	Lignite and briquettes	Oil products	Gas	Total
Belgique/België	1953	7 227	221	47	686	300	8 481
	63	8 877	394	71	3 630	496	13 468
	76	1 931	36	15	10 213	4 006	16 201
BR Deutschland	1953	12 646	6 935	7 360	1 067	1 728	29 736
	63	14 221	11 391	11 066	23 133	2 759	62 570
	76	2 762	2 387	2 636	66 835	15 791	90 411
France	1953	15 584	1 989	306	2 304	1 250	21 433
	63	20 090	2 871	421	11 909	2 442	37 733
	76	5 853	306	144	41 712	13 046	61 061
Italia	1953	1 047	1 214	28	1 639	563	4 491
	63	1 938	1 921	176	8 497	1 889	14 421
	76	229	200	38	31 441	12 469	44 377
Luxembourg	1953	85	60	90	23	10	268
	63	117	64	104	194	13	492
	76	9	2	24	548	119	701
Nederland	1953	4 127	1 333	167	869	514	7 010
	63	5 875	1 023	207	5 077	940	13 122
	76	106	4	8	5 780	21 701	27 599
EUR 6	1953	40 716	11 752	7 998	6 588	4 365	71 419
	63	51 118	17 664	12 045	52 440	8 539	141 804
	76	10 890	2 935	2 865	156 529	67 132	240 351
Danmark	1976	47	70	—	10 084	262	10 463
Ireland	1976	602	6	( <sup>1</sup> ) 280	1 015	218	2 121
United Kingdom	1976	13 854	2 880	—	17 133	25 597	59 478
EUR 9	1976	25 393	5 891	3 145	184 761	93 209	312 413

<sup>(1)</sup> Peat.

TABLE 12

## Consumption by other industries

(thousand tce)

Country	Year	Hard coal and patent fuel	Coke	Oil products	Gas	Total
Belgique/België	1953	3 357	548	1 321	307	5 533
	63	1 498	717	3 646	352	6 213
	76	662	261	4 174	3 870	8 967
BR Deutschland	1953	14 781	4 896	450	2 651	22 778
	63	12 939	4 527	18 396	3 996	39 858
	76	2 316	1 531	26 540	17 241	47 628
France	1953	10 242	2 123	4 750	716	17 831
	63	9 656	2 005	14 094	2 632	28 387
	76	1 301	1 081	24 650	7 394	34 426
Italia	1953	2 259	794	3 399	1 706	8 158
	63	1 138	1 060	15 109	3 933	21 240
	76	156	414	20 273	11 694	32 537
Luxembourg	1953	50	15	7	2	74
	63	26	7	87	2	122
	76	0	1	137	39	177
Nederland	1953	2 473	79	838	593	3 983
	63	705	170	4 656	959	6 490
	76	72	170	3 137	8 410	11 789
EUR 6	1953	33 162	8 455	10 765	5 975	58 357
	63	25 962	8 486	55 988	11 874	102 310
	76	4 507	3 458	78 911	48 648	135 524
Danmark	1976	458	—	2 829	200	3 487
Ireland	1976	30	10	1 663	110	1 813
United Kingdom	1976	5 923	297	20 934	14 210	41 364
	EUR 9 1976	10 918	3 765	104 337	63 168	182 188

TABLE 13a

**Coal industry work force**  
A — Employment trend <sup>(1)</sup>

(in thousands)

Country	Year	Workers			Officials	Total workers + officials
		Underground	At the face <sup>(2)</sup>	Total		
Belgique/België	1955	106.8	36.0	142.8	14.8	157.6
	63	59.3	21.1	80.4	10.2	90.6
	76	17.3	5.2	22.5	3.4	25.9
BR Deutschland	1955	366.2	170.3	536.5	49.3	585.8
	63	242.1	120.0	362.1	49.9	412.0
	76	104.2	59.3	163.5	32.9	196.4
France	1955	140.9	74.2	215.1	26.6	241.7
	63	114.2	55.6	169.8	23.8	193.6
	76	36.8	27.3	64.1	14.2	78.3
Italia	1955	5.0	1.5	6.5	0.7	7.2
	63	1.4	1.4	2.8	0.4	3.2
	76	—	—	—	—	—
Nederland	1955	30.4	24.1	54.5	6.3	60.8
	63	25.3	22.7	48.0	7.9	55.9
	76	—	—	—	—	—
EUR 6	1955	649.4	305.9	955.3	97.8	1053.1
	63	442.3	220.6	662.9	92.4	755.3
	73	175.4	108.0	283.4	57.9	341.3
	76	158.3	91.8	250.1	50.5	300.6
United Kingdom	1955	553.6	158.5	712.1	44.4	756.5 <sup>(3)</sup>
	63	416.0	120.7	536.7	44.9	581.6
	76	191.7	79.3	271.0	..	..
Ireland	1955	..	..	..	..	..
	63	1.2	..	..	..	..
	76	0.3	..	..	..	..
EUR 9 <sup>(4)</sup>	1973	369.1	192.2	561.3	84.6	645.9
	76	350.0	171.1	521.1	..	..

(1) At end of year.

(2) Auxiliary plants included.

(3) NCB only.

(4) Without Ireland.

.. Not available.

TABLE 136

**Coal industry work force**  
**B — Age distribution of wage earners underground**

(in % by age group)

Country	Year	Under 18 years	18 to 19	20 to 24	25 to 29	30 to 39	40 to 49	50 to 54	55 to 59	60 to 64	65 years and over
Belgique/België	1963	0.3	1.1	8.4	17.3	42.3	22.5	5.8	1.9	0.4	—
	76	2.3	5.2	13.5	12.0	29.3	31.5	4.5	1.4	0.3	—
BR Deutschland	1963	1.3	2.6	10.1	14.8	34.1	20.0	9.0	7.1	1.0	—
	76	2.3	4.2	5.9	9.0	24.8	37.6	13.3	2.8	0.1	—
France	1963	2.9	1.9	8.8	16.5	36.8	27.0	5.3	0.8	—	—
	76	0.4	1.2	6.7	12.6	24.9	45.0	8.7	0.5	—	—
United Kingdom	1963	2.3	3.7	6.1	9.0	21.1	24.5	12.2	11.7	9.1	0.3
	76	1.6	3.5	8.4	8.5	18.6	22.0	15.8	13.5	8.1	—

TABLE 14

## Output per manshift underground

(kg - kg)

Year	Belgique/België	BR Deutschland	France	Nederland	United Kingdom
1952	1 146	1 531	1 353	1 642	1 775
1953	1 164	1 521	1 416	1 599	1 786
1954	1 198	1 563	1 504	1 533	1 761
1955	1 252	1 621	1 583	1 519	1 769
1956	1 266	1 652	1 645	1 533	1 769
1957	1 253	1 658	1 682	1 544	1 767
1958	1 261	1 708	1 680	1 572	1 804
1959	1 388	1 904	1 717	1 668	1 901
1960	1 577	2 126	1 798	1 833	1 994
1961	1 714	2 279	1 878	2 103	2 084
1962	1 818	2 459	1 922	2 117	2 245
1963	1 820	2 618	1 958	2 137	2 406
1964	1 763	2 717	2 046	2 208	2 505
1965	1 874	2 815	2 039	2 253	2 621
1966	1 996	3 050	2 104	2 305	2 741
1967	2 102	3 393	2 241	2 428	2 993
1968	2 232	3 685	2 347	2 574	3 278
1969	2 408	3 837	2 522	2 927	3 384
1970	2 630	3 941	2 643	3 260	3 469
1971	2 623	4 038	2 626	3 348	3 453
1972	2 638	4 249	2 709	3 276	3 460
1973	2 555	4 321	2 767	3 809	3 583
1974	2 597	4 196	2 799	4 219	3 350
1975	2 426	4 062	2 761	—	3 493
1976 (1)	2 524	4 151	2 785	—	3 400

(1) Provisional figures.

TABLE 15

## Indices of output per manshift underground

(1952 = 100)

Year	Belgique/België	BR Deutschland	France	Nederland	United Kingdom
1952	100	100	100	100	100
1953	102	99	105	97	101
1954	105	102	111	93	99
1955	109	106	117	93	100
1956	111	108	122	93	100
1957	109	108	124	94	100
1958	110	112	124	96	102
1959	121	124	127	102	107
1960	138	139	133	112	112
1961	150	149	139	128	117
1962	159	161	142	129	126
1963	159	171	145	130	136
1964	154	177	151	134	141
1965	164	184	151	137	148
1966	174	199	156	140	154
1967	183	222	166	148	169
1968	195	241	173	157	185
1969	210	251	186	178	191
1970	230	257	195	199	195
1971	229	264	194	204	195
1972	230	278	200	200	195
1973	223	282	205	232	202
1974	227	274	207	257	189
1975	212	265	204	—	197
1976 <sup>(1)</sup>	220	271	206	—	192

(1) Provisional figures.

**TABLE 16**

**Number of collieries in operation**  
(at the end of each year)

	1953	1955	1960	1965	1970	1973	1976
Belgique/België	139	127	75	54	24	18	13
BR Deutschland	182	175	146	107	69	53	42
France	137	117	95	70	46	35	31
Italia	5	3	2	1	1	1	—
Nederland	12	12	12	11	5	2	—
EUR 6	475	434	330	243	145	109	86
Ireland	10	10	10	10	9	5	5
United Kingdom	875	850	698	504	293	261	234
EUR 9						375	325



TABLE 17

**Capital expenditure in the coal industry <sup>(1)</sup>**  
**1954-1976**

(million u.s.)

Year	EUR €	EUR €	
1954	333		
1955	328		
1956	310		
1957	354		
1958	344		
1959	293		
1960	268		
1961	283		
1962	266		
1963	249		
1964	235		
1965	219		
1966	189		
1967	159		
1968	150		
1969	101		
1970	108		
1971	137		
1972	142		
1973	148	} 956	336
1974	165		393
1975	262	607	
1976	381	851	
<b>Total</b>	<b>5 424</b>	<b>2 187</b>	

(1) Collieries, mine-owned and independent coking plants, patent fuel.

TABLE 18

**Capital expenditure in collieries**  
(at current prices and exchange rates)

(million u.s.)

Year	Belgique/ België	BR Deutschland	France	Italia	Nederland	United Kingdom	Total
1954	38.03	111.55	79.33	1.28	11.60	198.90	440.69
1955	35.76	126.32	75.05	2.40	16.87	218.00	474.40
1956	42.39	124.98	68.06	0.17	12.96	229.70	478.26
1957	45.55	154.09	67.66	1.60	12.55	257.00	538.45
1958	38.47	158.69	57.51	1.12	12.63	270.50	538.92
1959	23.33	132.86	51.45	0.55	18.63	297.40	524.22
1960	16.49	140.01	58.92	1.00	9.57	222.20	448.19
1961	15.40	163.32	43.96	0.61	12.05	242.40	477.74
1962	15.18	150.60	37.89	1.12	15.71	228.80	449.30
1963	21.00	142.52	39.90	1.68	12.39	290.60	508.09
1964	17.02	141.04	34.90	—	9.92	222.00	424.88
1965	12.06	135.93	35.33	—	7.04	213.60	403.96
1966	9.77	113.20	32.73	3.51	3.63	226.80	389.64
1967	11.21	91.32	30.61	4.66	2.08	178.30	318.18
1968	13.39	82.14	28.45	2.13	1.80	125.00	252.91
1969	8.22	58.89	16.17	2.46	0.50	121.60	207.84
1970	7.52	61.08	13.65	2.10	1.02	138.00	223.37
1971	7.20	70.62	12.96	2.01	0.28	135.30	228.37
1972	8.54	73.08	16.00	—	0.23	169.90	267.75
1973	5.96	81.22	16.19	—	0.23	163.74	267.34
1974	4.42	94.34	16.22	—	—	210.67	325.65
1975	8.00	170.15	30.15	—	—	353.43	561.73
1976	14.90	214.61	43.96	—	—	357.94	631.41

TABLE 19

Capital expenditure per tonne of output (t = t) in the coal industry  
(u.a. at current exchange rates)

Year	Belgique/België	BR Deutschland	France	Nederland	United Kingdom
1955	1.20	0.83	1.37	1.39	1.03
1956	1.44	0.80	1.24	1.07	1.09
1957	1.56	0.98	1.20	1.07	1.22
1958	1.42	1.02	1.00	1.03	1.34
1959	1.03	0.89	0.90	1.51	1.52
1960	0.73	0.94	1.06	0.75	1.19
1961	0.71	1.10	0.86	0.93	1.33
1962	0.72	1.03	0.73	1.33	1.20
1963	0.98	0.95	0.84	1.05	1.20
1964	0.80	0.95	0.66	0.84	1.19
1965	0.61	0.97	0.69	0.60	1.21
1966	0.56	0.88	0.65	0.35	1.36
1967	0.68	0.80	0.64	0.25	1.06
1968	0.91	0.68	0.66	0.22	0.79
1969	0.62	0.50	0.46	0.09	0.81
1970	0.66	0.53	0.37	0.22	1.02
1971	0.66	0.59	0.39	0.08	1.23
1972	0.81	0.59	0.55	0.08	1.45
1973	0.68	0.78	0.63	—	1.26
1974	0.55	0.93	0.71	—	1.93
1975	1.07	1.72	1.35	—	2.77
1976	2.07	2.29	2.01	—	2.93

TABLE 20

**Spread of costs in collieries at current exchange rates**  
(average costs in Community = 100)

Year	Belgique/België	BR Deutschland	France	Nederland	United Kingdom
1954	144.1	108.6	131.0	112.0	79.7
1955	140.5	106.5	125.0	112.3	82.4 <sup>(a)</sup>
1956	142.5	101.7	126.2	113.1	85.3 <sup>(a)</sup>
1957	151.0	104.1	124.0	119.6	82.5 <sup>(a)</sup>
1958	148.4	102.5	111.5	115.7	87.5
1959	155.1	102.2	105.9	115.7	90.2
1960	129.1	99.8	109.6	111.8	92.9
1961	120.3	101.3	112.2	109.3	92.4
1962	122.9	101.7	116.4	119.7	90.5
1963	125.6	99.5	128.2	123.2	88.9
1964	130.5	100.7	119.5	129.8	88.5
1965	127.9	101.5	120.8	128.2	87.7
1966	131.1	97.7	120.3	129.5	90.5
1967	150.5	102.2	136.3	140.5	81.4
1968	153.7	97.1	149.8	143.9	81.8
1969	147.2	99.6	135.7	143.4	83.9
1970	144.8	111.3	115.0	132.2	81.6
1971	135.2	100.3	110.3	117.9	92.5
1972	149.6	104.1	122.9	136.1	86.8
1973	165.9	120.4	129.9	154.0	70.2
1974	151.8	117.7	109.9	Production discontinued	75.3
1975	161.4	114.7	121.2		79.5
1976 <sup>(1)</sup>	161.0	115.1	129.2		76.3

(1) 1.1.1976-30.9.1976.

(a) Estimated.

TABLE 21

## Indices of production costs in the coal industry in national currency

(1964 = 100)

Year	Belgique/België	BR Deutschland	France	Nederland	United Kingdom
1954	100.0	100.0	100.0	100.0	100.0
1955	101.5	102.1	97.9	104.3	107.4
1956	109.4	103.6	106.6	111.7	118.2
1957	124.6	114.5	116.5	126.9	122.9
1958	128.0	117.4	127.0	128.5	136.3
1959	121.6	111.7	135.3	122.5	133.9
1960	106.6	109.4	140.4	118.8	138.4
1961	104.8	112.7	151.7	117.7	143.3
1962	107.8	112.8	158.5	128.7	143.4
1963	112.5	112.7	178.4	135.3	143.9
1964	119.0	116.1	169.1	145.2	145.5
1965	122.4	122.8	179.5	150.4	151.6
1966	129.2	121.7	183.9	156.4	160.8
1967	136.4	117.1	191.8	156.2	133.2
1968	139.5	111.9	211.9	160.8	134.7
1969	141.5	118.3	213.2	168.9	145.5
1970	160.3	142.5	222.2	179.4	162.9
1971	177.9	152.6	253.3	190.1	219.5
1972	199.2	160.3	285.8	222.2	208.4
1973	233.8	176.3	326.0	263.8	218.7
1974	271.8	218.6	397.5	Production discontinued	315.8
1975	348.4	257.1	505.8		409.7
1976 <sup>(1)</sup>	370.9	274.0	549.9		510.3

(1) 1.1.1976-30.9.1976.

TABLE 22

Indices of production costs in the coal industry in units of account at current rates of exchange

(1954 = 100)

Year	Belgique/België	BR Deutschland	France	Nederland	United Kingdom
1954	100.0	100.0	100.0	100.0	100.0
1955	101.5	102.1	99.3	104.4	107.7
1956	109.4	103.6	106.6	111.7	118.5
1957	124.6	114.0	112.6	127.0	123.1
1958	128.0	117.4	105.9	128.5	136.6
1959	127.6	111.7	95.9	122.6	134.3
1960	106.6	109.4	99.5	118.8	138.8
1961	104.8	117.2	107.6	122.5	145.6
1962	107.8	118.4	112.4	135.1	143.6
1963	112.5	118.3	126.5	142.1	144.2
1964	119.0	121.9	119.9	152.4	145.9
1965	122.4	128.9	127.2	157.9	151.9
1966	129.2	127.7	130.4	164.2	161.3
1967	136.4	123.0	136.0	164.0	133.5
1968	140.2	117.5	150.3	168.9	134.9
1969	141.4	124.8	143.4	177.2	145.8
1970	160.3	163.5	140.0	188.4	163.4
1971	177.9	175.2	159.6	199.6	220.1
1972	199.2	184.0	180.1	233.2	209.0
1973	238.6	229.9	205.5	284.9	182.6
1974	277.1	285.2	220.7	Production discontinued	248.8
1975	355.4	335.3	293.6		316.8
1976 <sup>(1)</sup>	418.7	397.0	369.7		359.0

(1) 1.1.1976-30.9.1976.

List prices

TABLE 23 a

Year	Anthracite 80-80		Steam coal		Coking coal		Blast furnace coke > 40 mm	
	a	b	a	b	a	q	a	b
<b>Belgique/België - FB/tonne</b>								
1955	—	—	663	100	691	100		
1958	1 730	100	885	133	885	128		
1961	1 730	100	650	98	755	109		
1964	2 080	120	760	113	765	111		
1967	1 925	111	760	115	780	113		
1970	2 050	118	835	126	910	132		
1973	2 190	127	985	149	1 145	166		
1975	3 245	188	1 900	287	2 500	362		
1.4.1977	3 550	205	2 060	311	2 500	362		
<b>\$/tonne</b>								
1955	—	—	13.26	100	13.82	100		
1958	34.60	100	17.70	133	17.70	128		
1961	34.60	100	13.00	98	15.10	109		
1964	41.60	120	15.20	115	15.30	111		
1967	38.50	111	15.20	115	15.60	113		
1970	41.00	118	16.70	126	18.20	132		
1973	54.53	158	24.53	185	28.51	206		
1975	89.34	238	52.31	394	68.83	498		
1.4.1977	96.97	280	56.27	424	68.29	494		

a = List price. b = Index.

List prices

TABLE 23 b

Year	Anthracite 80-80		Steam coal		Coking coal		Blast furnace coke > 40 mm	
	a	b	a	b	a	b	a	b
<b>BR Deutschland - DM/tonne</b>								
1955	93.12	100	44.16	100	48.48	100	59.52	100
1958	105.82	114	55.49	126	58.85	121	75.50	127
1961	107.04	115	56.64	128	60.77	125	76.80	129
1964	127.68	137	60.96	138	63.84	132	80.26	135
1967	131.52	141	63.84	145	66.72	138	84.10	141
1970	144.00	155	71.00	161	74.00	153	99.00	166
1973	158.00	170	91.00	206	96.00	198	145.50	244
1975	207.00	222	136.00	308	158.00	326	246.00	413
1.4.1977	219.00	235	153.00	346	165.50	341	258.00	433
<b>\$/tonne</b>								
1955	23.28	100	11.04	100	12.12	100	14.88	100
1958	26.47	114	13.87	126	14.71	121	18.88	127
1961	26.76	115	14.16	128	15.19	125	19.20	129
1964	31.92	137	15.24	138	15.96	132	20.07	135
1967	32.88	142	15.96	145	16.68	138	21.03	141
1970	39.44	169	19.40	176	20.22	167	27.03	182
1973	55.06	237	31.71	287	33.45	276	50.71	341
1975	85.50	367	56.18	509	65.26	538	107.61	683
1.4.1977	91.64	394	64.03	580	69.26	571	107.96	726

a = List price. b = Index.

TABLE 23 c

## List prices

Year	Anthracite 80-90		Steam coal		Coking coal		Blast furnace coke > 40 mm	
	a	b	a	b	a	b	a	b
<b>France - FF/tonne</b>								
1955	107.98	100	39.80	100	46.00	100	64.80	100
1958	121.21	113	53.00	133	58.60	122	83.00	128
1961	149.00	133	61.00	153	69.50	145	97.00	150
1964	156.00	145	64.00	161	72.00	150	100.00	154
1967	148.00	138	64.00	161	72.00	150	100.00	154
1970	174.00	162	70.00	176	91.00	190	134.50	208
1973	189.00	176	100.00	251	140.00	292	215.00	332
1975	351.00	327	224.40	564	360.00	750	530.00	818
1.4.1977	381.00	355	261.00	656	320.00	667	480.00	741
<b>\$/tonne</b>								
1955	21.75	100	8.06	100	9.72	100	13.13	100
1958	24.55	113	1.74	133	11.87	122	16.81	128
1961	28.97	133	12.36	153	14.08	145	19.65	150
1964	31.60	145	12.96	161	14.58	150	20.26	154
1967	29.98	138	12.96	161	14.58	150	20.26	154
1970	31.32	144	12.60	156	16.38	169	24.21	184
1973	41.46	191	21.93	272	30.71	316	47.16	359
1975	83.29	383	50.29	624	80.68	830	118.78	905
1.4.1977	76.66	352	52.52	652	64.39	662	96.58	736

a = List price. b = Index.

TABLE 23 d

## List prices

Year	Anthracite 80-90		Steam coal		Coking coal		Blast furnace coke > 40 mm	
	a	b	a	b	a	b	a	b
<b>United Kingdom £/tonne</b>								
1955								
1958								
1961								
1964								
1967								
1970								
1973	19.88	100	9.85	100	9.80	100	17.75	100
1975	26.03	131	20.70	210	23.50	240	48.65	274
1.4.1977	40.00	201	27.50	279	31.80	324	66.15	373
<b>\$/tonne</b>								
1955								
1958								
1961								
1964								
1967								
1970								
1973	48.86	100	24.21	100	24.09	100	43.62	100
1975	57.87	118	46.02	190	52.25	217	108.16	248
1.4.1977	68.72	141	47.29	195	54.68	227	113.75	261

a = List price. b = Index.



TABLE 24

## Exchanges rates

1 \$ Year	DM	FB	FF	£
1955	4.00	50.00	4.93	0.416
1958	4.00	50.00	4.93	0.416
1961	4.00	50.00	4.93	0.416
1964	4.00	50.00	4.93	0.416
1967	4.00	50.00	4.93	0.416
1970	3.66	50.00	5.55	0.416
1973	2.69	38.99	4.47	0.406
1975	2.45	36.66	4.29	0.449
1.4. 1977	2.39	36.61	4.97	0.581

TABLE 25

## Guide prices (cif) in dollars and national currency

Date	\$	Index	DM	FB	FF	£	Lit
February 1970	17.50	100	64.05	875.—	97.20	—	10 937.50
1- 7-70	20.00	114	73.20	1 000.—	111.08	—	12 500.—
1- 1-71	23.60	135	86.38	1 180.—	131.08	—	14 750.—
1 -7-71	23.90	137	87.47	1 195.—	132.75	—	14 937.50
1- 1-72	23.65	135	76.21	1 060.—	120.99	—	13 752.48
1- 7-72	24.20	138	77.99	1 084.55	123.80	—	14 072.30
1- 1-73	26.05	149	83.46	1 146.70	133.62	11.10	15 191.71
1-10-73	27.55	157	66.63	1 017.70	117.14	11.42	15 542.88
1- 1-74	31.90	182	86.91	1 332.14	151.84	13.80	19 546.73
1- 4-74	40.50	231	102.63	1 585.07	193.29	16.89	25 302.38
1- 7-74	52.10	298	132.54	1 983.97	251.48	21.84	33 682.65
1-10-74	56.75	324	150.37	2 225.45	268.47	24.29	37 455.—
1- 1-75	59.55	340	144.17	2 162.86	265.71	25.49	38 770.03
1- 4-75	61.25	350	143.60	2 130.28	258.12	25.48	41 123.86
1- 7-75	62.20	355	146.47	2 192.55	251.29	28.30	41 123.86
1-10-75	63.80	365	167.95	2 527.28	286.27	31.37	43 669.51
1- 1-76	62.75	359	164.54	2 480.51	281.06	31.01	42 906.38
1- 4-76	63.35	362	159.96	2 464.16	296.26	33.35	53 296.—
1- 7-76	63.45	363	163.31	2 516.43	300.74	35.56	53 250.36
1-10-76	63.00	360	153.87	2 330.69	313.80	39.61	54 551.70
1- 1-77	61.65	352	144.28	2 203.—	303.62	36.13	53 945.29

TABLE 26

**Coverage of costs in the coal industry**  
(revenue per tonne of coal as % of total production costs)

Year	Belgique/België	BR Deutschland	France	Nederland	United Kingdom
1954	89.6	89.8	86.4	97.3	100.1
1955	90.7	90.9	85.1	97.5	98.3
1956	87.5	95.0	83.4	93.6	100.8
1957	88.9	91.9	83.3	90.6	98.1
1958	81.0	92.4	81.8	93.9	98.1
1959	73.4	93.6	87.2	93.1	97.7
1960	92.4	94.8	83.9	93.4	97.5
1961	83.1	90.7	79.7	93.2	98.2
1962	84.3	91.6	78.3	85.4	100.4
1963	86.5	95.1	72.6	87.0	100.2
1964	81.9	93.6	77.2	86.1	99.4
1965	77.6	91.4	71.5	83.8	98.3
1966	71.1	90.8	69.3	80.9	99.4
1967	62.9	93.2	64.7	81.7	99.3
1968	61.2	95.5	58.2	80.7	97.5
1969	60.1	93.7	59.1	76.6	94.4
1970	63.0	91.4	70.5	79.4	97.0
1971	65.8	95.5	74.9	80.3	80.3
1972	56.1	92.6	65.2	70.8	87.8
1973	48.0	89.0	60.1	63.2	84.2
1974	59.6	88.9	74.7	—	82.3
1975	67.0	91.9	74.4	—	93.9
1976 <sup>(1)</sup>	62.2	94.3	70.0	—	91.0

(1) 1.1.1976-30.9.1976.

TABLE 27

## Indices of coal industry revenue in national currency

(1954 = 100)

Year	Belgique/België	BR Deutschland	France	Nederland	United Kingdom
1954	100.0	100.0	100.0	100.0	100.0
1955	102.7	103.3	97.8	104.5	107.4
1956	106.9	109.6	103.0	107.5	115.9
1957	123.6	116.7	103.4	118.3	124.9
1958	115.7	120.7	110.8	123.8	133.7
1959	104.6	116.4	125.7	117.3	131.2
1960	98.0	115.3	125.6	114.0	135.6
1961	97.2	113.8	128.8	112.7	143.0
1962	101.4	115.0	132.3	112.9	144.4
1963	108.6	119.2	138.0	121.0	144.4
1964	108.8	129.3	139.2	128.4	144.4
1965	105.9	124.8	136.7	129.5	143.8
1966	102.5	123.0	136.0	129.9	158.4
1967	95.8	121.6	132.1	131.2	132.9
1968	94.1	119.0	131.5	133.4	132.2
1969	94.9	123.4	134.3	132.9	138.1
1970	112.7	144.9	166.8	146.4	157.5
1971	130.6	162.2	202.1	156.8	175.3
1972	126.5	164.6	200.0	161.2	188.2
1973	125.6	174.6	208.7	171.4	191.8
1974	180.7	216.3	316.5	Production discontinued	270.7
1975	260.3	262.9	400.9		400.5
1976 <sup>(1)</sup>	257.3	287.5	410.4		483.3

(1) 1.1.1976-30.9.1976.

TABLE 28

Indices of coal industry revenue in units of account at current rates of exchange

(1964 = 100)

Year	Belgique/België	BR Deutschland	France	Nedeland	United Kingdom
1954	100.0	100.0	100.0	100.0	100.0
1955	102.7	103.3	97.8	104.5	107.4
1956	106.8	109.6	102.9	107.5	116.0
1957	123.7	116.7	108.4	118.2	125.1
1958	115.7	120.7	100.2	123.9	133.9
1959	104.6	116.4	96.8	117.2	131.4
1960	98.0	115.4	96.7	114.0	135.7
1961	97.2	118.3	99.1	117.3	143.1
1962	101.4	120.7	101.8	118.5	144.5
1963	108.6	125.2	106.2	127.0	144.8
1964	108.8	127.0	107.1	134.8	144.5
1965	106.0	131.1	105.3	135.8	144.0
1966	102.5	129.2	104.6	136.4	158.4
1967	95.7	127.6	101.7	137.7	133.1
1968	94.1	125.0	101.2	140.1	132.6
1969	94.8	132.4	98.1	139.5	138.2
1970	112.7	166.3	114.2	153.6	157.7
1971	130.6	186.2	138.3	164.6	175.5
1972	124.7	189.7	135.9	169.6	188.5
1973	128.1	227.7	142.8	185.0	160.0
1974	184.3	282.1	190.7	Production discontinued	213.0
1975	265.6	342.8	252.7		309.4
1976 <sup>(1)</sup>	290.4	416.5	299.5		339.7

(1) 1.1.1976-30.9.1976.

## Aids to the coal industry

(u.s. / tonne)

TABLE 29

Year	Direct aids				Indirect aids	Aids to coking coal	Total (direct, indirect, coking coal)	
	Rationalization		Aid for Stockpiling	Compensation for operating losses				Total
	Negative	Positive						
EUR 6								
1965	0.06	—	—	0.31	0.37	0.20	0.57	
1966	0.08	0.02	—	0.68	0.78	0.35	1.13	
1967	0.20	0.03	—	1.44	1.67	0.40	2.48	
1968	0.16	0.14	—	2.05	2.35	0.47	3.29	
1969	0.07	0.33	—	2.05	2.45	0.56	3.46	
1970	0.06	0.40	—	1.54	2.00	0.50	3.01	
1971	0.28	0.42	—	1.56	2.26	0.56	3.10	
1972	0.40	0.44	—	2.83	3.67	0.66	4.80	
1973	0.56	0.62	—	2.50	3.68	0.57	5.81	
1974	1.36	0.78	—	2.10	4.24	0.88	5.67	
1975	1.48	1.18	—	1.98	4.64	0.18	5.91	
EUR 9								
1973	0.40	0.36	0.03	2.94	3.73	0.30	4.95	
1974	0.81	0.44	0.01	1.46	2.72	0.49	3.57	
1975	0.81	0.61	—	1.00	2.42	0.09	2.79	
BR Deutschland								
1965	0.09	—	—	0.05	0.14	0.24	0.38	
1966	0.13	—	—	0.14	0.27	0.48	0.75	
1967	0.32	—	—	0.57	0.89	0.56	1.95	
1968	0.25	0.18	—	0.55	0.98	0.60	2.17	
1969	0.10	0.46	—	0.08	0.64	0.73	1.89	
1970	0.08	0.56	—	—	0.64	0.65	1.89	
1971	0.23	0.57	—	0.36	1.16	0.71	2.16	
1972	0.31	0.57	—	1.98	2.26	0.84	3.66	
1973	0.41	0.79	—	0.15	1.35	0.63	3.52	
1974	1.39	0.98	—	0.35	2.72	1.04	4.16	
1975	1.52	1.49	—	0.29	3.30	0.09	3.78	
France								
1965	—	—	—	0.85	0.85	0.13	0.98	
1966	—	—	—	1.33	1.33	0.11	1.44	

1967	—	—	—	2.55	2.55	0.10	0.19	2.84
1968	—	—	—	5.12	5.12	0.24	0.21	5.57
1969	—	—	—	6.38	6.38	0.22	0.23	6.83
1970	—	—	—	4.70	4.70	0.12	0.24	5.06
1971	0.57	—	—	5.33	5.90	0.12	0.15	6.17
1972	0.88	—	—	5.39	6.27	0.18	0.11	6.56
1973	1.35	—	—	8.52	9.87	0.35	0.76	10.98
1974	1.68	—	—	6.13	7.81	0.31	0.35	8.47
1975	1.78	—	—	6.26	8.04	0.17	0.07	8.28

Belgique/België

1965	—	—	—	0.89	0.89	0.26	—	1.15
1966	—	0.21	—	2.91	3.12	0.27	—	3.39
1967	—	0.32	—	4.08	4.40	0.31	0.54	5.25
1968	—	0.31	—	4.93	5.24	0.30	0.60	6.14
1969	0.03	0.35	—	5.42	5.80	0.33	0.65	6.78
1970	0.05	0.30	—	5.43	5.78	0.32	0.70	6.80
1971	0.06	0.31	—	5.86	6.23	0.42	0.59	7.24
1972	0.06	0.42	—	10.10	10.58	0.37	0.66	11.61
1973	0.08	0.52	—	11.97	12.57	0.58	4.49	17.64
1974	0.11	0.52	—	10.60	11.23	0.67	3.02	14.92
1975	—	0.71	—	11.45	12.16	1.28	3.05	16.49

Nederland

1965	—	—	—	—	—	—	—	—
1966	—	—	—	0.67	0.67	—	—	0.67
1967	—	—	—	2.18	2.18	—	0.13	2.31
1968	—	—	—	2.70	2.70	—	0.09	2.79
1969	—	—	—	3.88	2.88	—	0.02	3.90
1970	—	—	—	5.31	5.31	—	—	5.31
1971	—	—	—	4.13	4.13	—	—	4.13
1972	0.24	—	—	4.52	4.76	—	—	4.76
1973	0.61	—	—	5.11	5.72	—	—	5.72
1974	—	—	—	22.75	22.75	—	—	22.75
1975	—	—	—	—	—	—	—	—

United Kingdom

1973	0.23	0.07	0.06	3.43	3.79	—	0.23	4.02
1974	0.15	0.03	0.02	0.66	0.86	—	0.12	0.98
1975	0.13	0.04	—	—	0.17	—	0.07	0.24

TABLE 30

## Hard coal production

(million tonnes, t = t)

Year	Belgique/ België	BR Deutschland	France	Italia	Nederland	EUR 6	Ireland	United Kingdom	EUR 9
1953	30.1	146.0	52.6	1.1	12.5	242.3	0.2	227.8	
1954	29.1	150.3	54.4	1.1	12.4	247.4	0.2	227.6	
1955	30.0	153.9	55.3	1.1	12.2	252.5	0.2	225.2	
1956	29.6	157.5	55.1	1.1	12.1	255.4	0.2	225.6	
1957	29.1	155.6	56.8	1.0	11.7	254.3	0.2	227.2	
1958	27.1	154.5	57.7	0.7	12.3	252.3	0.2	219.3	
1959	22.8	147.1	57.6	0.7	12.4	240.6	0.2	209.4	
1960	22.5	148.0	56.0	0.7	12.8	240.0	0.2	196.7	
1961	21.5	148.3	52.4	0.7	12.9	235.8	0.2	193.5	
1962	21.2	147.1	52.4	0.7	11.8	233.2	0.2	200.6	
1963	21.4	148.2	47.8	0.6	11.8	229.8	0.2	198.9	
1964	21.3	148.4	53.0	0.5	11.8	235.0	0.2	196.7	
1965	19.8	141.0	51.3	0.4	11.7	224.2	0.2	190.5	
1966	17.5	131.6	50.3	0.4	10.3	210.2	0.2	177.4	
1967	16.4	116.8	47.6	0.4	8.3	189.5	0.2	174.9	
1968	14.8	117.2	41.9	0.4	6.9	181.2	0.2	166.7	
1969	13.2	117.0	40.6	0.3	5.8	176.9	0.1	153.0	
1970	11.4	117.0	37.4	0.3	4.5	170.5	0.1	144.6	
1971	11.0	117.1	33.0	0.3	3.8	165.2	0.1	147.1	
1972	10.5	108.7	29.8	0.2	2.9	152.1	0.1	119.5	
1973	8.8	103.7	25.7	.	1.8	140.0	0.1	130.1	
1973	8.8	103.7	25.7	.	1.8	140.0	0.1	130.1	270.2
1974	8.1	101.5	22.9	.	0.8	133.3	0.1	109.2	242.6
1975	7.5	99.2	22.4	.	.	129.1	.	127.8	256.9
1976	7.2	96.4	21.9	.	.	125.5	.	122.1	247.6



## Hard coal production by grade and coalfield

(million tonnes, t = t)

Coalfield \ Grade	1964 (1)				1976			Total
	I + II	V + VI	III, IV + VII	Total	I + II	V + VI	III, IV + VII	
Kempen	—	9.2	—	9.2	—	6.1	—	6.1
Belgique-Sud	7.6	3.5	6.9	18.0	1.1	—	—	1.1
Belgique/België	7.6	12.7	6.9	29.2	1.1	6.1	—	7.2
Ruhr	7.6	108.2	6.9	122.7	3.1	74.5	1.4	79.0
Aachen	2.6	1.2	3.4	7.2	2.1	1.8	1.8	5.7
Niedersachsen	0.5	0.7	1.3	2.5	2.0	—	—	2.0
Saar	—	13.6	3.1	16.7	—	4.4	4.9	9.3
Minor collieries	—	—	—	1.2	—	—	0.4	0.4
Deutschland	10.7	123.7	14.7	150.3	7.2	80.7	8.5	96.4
Nord/Pas-de-Calais	7.3	15.7	5.7	28.7	3.7	0.1	3.5	7.3
Lorraine	—	10.3	2.7	13.0	—	8.4	1.6	10.0
Centre-Midi	3.3	7.3	1.7	12.3	1.2	1.9	1.5	4.6
Minor collieries	0.2	—	0.2	0.4	—	—	—	—
France	10.8	33.3	10.3	54.4	4.9	10.4	6.6	21.9
Italia	0.1	—	1.0	1.1	—	—	—	0.0
Nederland	3.6	6.4	2.4	12.4	—	—	—	—
EUR 6	32.8	176.3	38.3	247.4	13.2	97.2	15.1	125.5
Scotland	—	—	—	22.6	—	—	—	9.4
Northern	—	—	—	39.8	—	—	—	13.4
Yorkshire	—	—	—	46.1	—	—	—	31.0
North Western	—	—	—	15.6	—	—	—	11.6
Midlands	—	—	—	64.0	—	—	—	36.2
South Wales	—	—	—	26.8	—	—	—	7.9
Kent	—	—	—	2.1	—	—	—	0.8
Licensed Mines	—	—	—	10.2	—	—	—	11.8
Open-cast	—	—	—	227.2	—	—	—	122.1
United Kingdom	—	—	—	0.2	—	—	—	0.0
Ireland	—	—	—	—	—	—	—	—
EUR 9	—	—	—	—	—	—	—	247.6

(1) 1963 not available.

TABLE 32

## Coal imports from third countries by country of destination

(million tonnes)

	B	D	F	I	L	NL	EUR a	DK	IRL	UK	EUR a
1953	1.1	5.0	1.6	4.2	.	1.8	13.8				
1954	0.9	3.9	2.2	4.8	.	2.1	13.9				
1955	1.5	9.3	2.9	6.8	—	2.6	23.0				
1956	2.8	13.7	8.8	7.6	.	5.1	38.0				
1957	2.8	17.2	9.7	8.8	.	5.4	44.0				
1958	2.4	12.9	4.9	7.7	—	3.9	31.8				
1959	1.4	6.0	2.2	6.3	—	3.3	19.3				
1960	0.9	5.6	1.9	6.2	—	3.3	17.9				
1961	0.8	5.7	2.4	6.8	—	3.2	18.8				
1962	1.3	7.1	3.0	8.1	—	4.2	23.6				
1963	3.8	7.3	7.5	9.9	.	5.5	34.0				
1964	3.2	7.5	5.8	9.4	.	5.2	31.1				
1965	2.7	7.6	5.0	10.2	.	3.5	29.1				
1966	2.1	7.0	4.6	10.0	—	2.5	26.2				
1967	1.7	7.1	4.9	9.1	—	1.5	24.3				
1968	1.6	5.9	4.2	8.3	—	2.0	22.0				
1969	1.8	6.5	4.9	8.3	—	2.5	24.1				
1970	3.0	8.6	7.0	9.6	—	3.0	31.2				
1971	1.7	7.1	7.2	8.6	—	1.8	26.3				
1972	2.8	6.3	5.3	8.9	—	2.6	25.9				
1973	3.5	6.1	5.9	8.6	.	3.0	27.1				
1973	3.4	4.5	5.4	8.6	.	2.9	24.8	3.0	0.7	1.4	29.8
1974	4.3	4.8	8.8	9.3	.	3.0	30.4	3.5	0.7	3.4	38.0
1975	2.4	5.8	10.9	9.6	.	2.8	31.6	4.1	0.5	5.0	41.1
1976	3.5	5.4	13.8	10.0	0.1	3.8	36.6	4.2	0.5	2.4	43.7

N.B. 1953-73 including imports from UK.

1973-76 excluding imports from UK.

TABLE 33

## Coal imports from third countries by country of origin

EUR 6: 1953-1973

EUR 9: 1973-1976

(million tonnes)

	UK	USA	Poland	USSR	Australia	South Africa	Other	Total
1953	5.1	6.7	1.2	0.4		0.4		13.8
1954	5.3	6.2	1.2	0.7		0.6		13.9
1955	4.3	15.9	1.3	1.1		0.5		23.0
1956	3.6	30.4	2.2	1.2		0.7		38.0
1956	2.6	37.8	2.0	1.0		0.5		44.0
1958	1.6	25.8	2.6	1.2		0.6		31.8
1959	1.2	14.2	1.9	1.3		0.6		19.3
1960	1.7	12.5	1.7	1.4	—	0.1	0.5	17.9
1961	2.5	11.9	1.8	1.9	—	0.1	0.6	18.8
1962	3.1	15.3	1.8	2.4	—	0.2	0.8	23.6
1963	5.6	21.3	1.8	3.9	.	0.3	1.1	34.0
1964	4.1	20.5	1.6	3.6	.	0.4	0.9	31.1
1965	2.6	20.9	1.8	3.0	—	0.2	0.6	29.1
1966	2.0	18.5	2.1	3.0	—	0.2	0.4	26.2
1967	1.5	15.9	2.8	3.5	—	0.2	0.4	24.3
1968	2.2	12.0	4.1	3.3	—	0.1	0.3	22.0
1969	3.0	12.0	4.7	3.7	.	0.2	0.5	24.1
1970	2.7	15.5	6.6	3.8	0.7	0.6	1.3	31.2
1971	2.2	11.4	7.1	3.4	0.7	0.6	0.9	26.3
1972	1.5	10.4	7.7	3.2	1.8	0.4	0.9	25.9
EUR 6 1973	2.3	9.2	9.0	3.3	1.9	1.4	—	27.1
EUR 9 1973		10.1	12.3	3.7	2.2	1.4	0.1	29.8
1974		12.8	15.2	4.1	3.8	1.3	0.8	38.0
1975		13.8	14.6	3.7	5.8	1.6	1.6	41.1
1976		14.2	16.0	4.1	4.5	4.9		43.7

TABLE 34

## Coal imports from third countries by grade

(million tonnes)

	EUR 6			EUR 9			
	1954	1962	1973	1973	1974	1975	1976
Anthracite and low volatile (I + II)	..	3.9	2.5	3.2	3.7	3.4	3.6
Coking coal	2.8	6.4	16.0	17.0	19.4	17.7	19.9
Power station coal	}	13.3	7.3	8.0	11.7	17.8	18.8
Other			1.3	1.6	3.2	2.2	1.4
Total	13.9	23.6	27.1	29.8	38.0	41.1	43.7

TABLE 35

## Intra-Community trade in coal, patent fuel, coke (1)

(million tonnes)

	Coal	Patent fuel	Coke (1)	Total (2)	Total trade as % of coal production (3)
1953	19.1	0.6	8.6	30.9	12.8
1954	22.9	0.9	8.6	35.0	14.1
1955	21.6	1.1	9.3	34.8	13.8
1956	18.3	1.4	9.6	32.2	12.6
1957	18.5	1.6	10.1	33.2	13.1
1958	17.1	0.9	8.8	29.4	11.7
1959	18.6	0.8	9.0	31.1	12.9
1960	19.7	1.0	10.4	30.2	14.3
1961	19.8	1.0	10.7	34.7	14.7
1962	19.8	1.3	9.8	33.8	14.5
1963	18.6	1.9	11.1	34.9	15.2
1964	16.6	1.5	10.2	31.4	14.9
1965	16.9	1.2	9.8	30.2	13.5
1966	17.5	1.1	8.5	29.6	14.1
1967	20.1	1.0	8.1	31.6	16.7
1968	21.9	1.0	9.0	34.6	19.1
1969	19.6	1.1	9.7	33.3	18.8
1970	17.8	0.8	9.6	31.1	18.2
1971	16.2	0.5	8.4	27.6	16.7
1972	15.2	0.4	8.6	26.8	17.6
EUR 6 1973	15.9	0.4	9.0	28.0	20.0
EUR 9 1973	18.8	0.6	9.2	31.4	11.6
1974	19.8	0.3	10.6	33.9	14.6
1975	16.6	0.3	6.8	25.7	10.0
1976	14.4	0.3	6.3	22.9	9.2

(1) Including gas coke.

(2) Quantities of coke converted to coal equivalent (factor 1.5).

(3) Based on coal production t = t.

Intra-Community trade <sup>(1)</sup> in hard coal coke-oven coke in 1976

(thousand tonnes)

TABLE 36

To \ From	(thousand tonnes)										
	Belgique België	BR Deutschland	France	Italia	Luxembourg	Nederland	EUR 6	Danmark	Ireland	United Kingdom	EUR 9
Belgique/België											
Coal	—	3 433	79	—	—	—	3 512	—	—	216	3 728
Coke	—	165	111	—	—	154	430	—	—	40	470
BR Deutschland											
Coal	267	—	335	—	—	306	908	—	3	343	1 254
Coke	68	—	195	—	—	113	376	3	14	132	525
France											
Coal	44	4 566	—	—	—	14	4 624	—	—	457	5 081
Coke	48	2 257	—	32	—	350	2 687	—	—	20	2 707
Italia											
Coal	—	2 350	28	—	—	—	2 378	—	—	14	2 392
Coke	—	38	96	—	—	6	140	—	—	—	140
Luxembourg											
Coal	29	390	42	—	—	10	471	—	—	50	521
Coke	60	2 015	23	—	—	—	2 098	—	—	—	2 098
Nederland											
Coal	12	825	3	—	—	—	840	—	—	48	888
Coke	—	178	12	—	—	—	190	—	—	28	218
EUR 6											
Coal	352	11 564	487	—	—	330	12 733	—	3	1 128	13 864
Coke	176	4 653	437	32	—	623	5 921	3	14	220	6 158
Danmark											
Coal	—	1	—	—	—	—	1	—	—	29	30
Coke	1	22	57	—	—	9	89	—	—	27	116
Ireland											
Coal	—	27	—	—	—	—	27	—	—	105	132
Coke	—	—	—	—	—	—	—	—	—	11	11
United Kingdom											
Coal	82	169	8	—	—	131	390	—	14	—	404
Coke	—	—	—	—	—	—	—	—	—	—	—
EUR 9											
Coal	434	11 761	495	—	—	461	13 151	—	17	1 262	14 430
Coke	177	4 675	494	32	—	632	6 010	3	14	258	6 285

(1) As declared by importing countries.

TABLE 37

## Producers' stocks — Tonnage lost due to lack of demand

EUR 6: 1953-1973

EUR 9: 1973-1976

(million tonnes)

	Hard coal		Coke-oven coke		Total coal equivalent (1)		Tonnage lost due to lack of demand
	At end of year	Change from previous year	At end of year	Change from previous year	At end of year	Change from previous year	
1953	10.5	+ 3.4	4.3	+ 3.8	16.1	+ 8.3	—
1954	12.5	+ 2.0	2.6	— 1.7	15.9	— 0.2	—
1955	7.6	— 4.9	0.6	— 2.0	8.4	— 7.5	—
1956	5.9	— 1.7	0.6	—	6.7	— 1.7	—
1957	7.3	+ 1.4	1.7	+ 1.1	9.5	+ 2.8	—
1958	24.7	+ 17.4	7.0	+ 5.3	33.8	+ 24.3	6.4
1959	31.4	+ 6.7	8.6	+ 1.6	42.5	+ 8.7	12.3
1960	27.8	— 3.6	6.7	— 1.9	36.5	— 6.0	5.8
1961	25.0	— 2.8	6.4	— 0.3	33.3	— 3.2	1.2
1962	16.7	— 8.3	6.2	— 0.2	24.7	— 8.6	0.2
1963	10.9	— 5.8	2.5	— 3.7	14.1	— 10.6	—
1964	17.0	+ 6.1	2.6	+ 0.1	20.3	+ 6.2	—
1965	25.7	+ 8.7	4.1	+ 1.5	31.0	+ 10.7	2.2
1966	32.1	+ 6.4	7.3	+ 3.2	41.5	+ 10.5	4.6
1967	32.5	+ 0.4	5.2	— 2.1	39.2	— 2.3	8.3
1968	25.2	— 7.3	2.3	— 2.9	28.1	— 11.1	1.7
1969	14.4	— 10.8	0.8	— 1.5	15.4	— 12.7	0.1
1970	9.6	— 4.8	1.3	+ 0.5	11.2	— 4.2	—
1971	8.7	— 0.9	7.0	+ 5.7	17.8	+ 6.6	.
1972	15.5	+ 6.8	10.3	+ 3.3	28.8	+ 11.0	.
EUR 6 1973	13.0	— 2.5	8.8	— 1.5	24.4	— 4.4	—
EUR 9 1973	23.9	+ 10.9	11.0	+ 2.2	38.2	+ 13.8	—
1974	11.8	— 12.1	4.0	— 7.0	17.0	— 21.2	—
1975	26.2	+ 14.4	13.0	+ 9.0	43.1	+ 26.1	0.7
1976	28.0	+ 1.8	17.9	+ 4.9	51.2	+ 8.1	2.5

(1) Coke converted to coal equivalent (factor 1.3).

**Balance of supply and demand: hard coal, 1977**  
(forecast)

TABLE 39

(thousand tonnes - national series)

	Belgium België	Denmark	BR Deutschland	France	Ireland	Italy	Luxembourg	Netherlands	United Kingdom	Community
1. Production	7 250	—	87 800	20 800	50	—	—	—	125 000	240 900
2. Correction for recoveries	700	—	+ 6 300	+ 1 600	—	—	—	—	+ 1 600	+ 10 200
3. Imports from third countries	3 120	4 350	5 200	16 590	395	10 100	17	3 595	2 300	45 667
4. Receipts from other ECSC countries	3 770	110	1 100	4 910	220	3 050	595	1 200	100	(15 055)
5. Total availabilities	14 840	4 460	100 400	48 900	665	13 150	612	4 795	129 000	296 767
6. Inland demand:										
(a) power stations at mines	320	—	9 500	7 000	—	—	—	—	200	17 020
(b) public power stations	3 000	3 800	23 000	14 200	50	1 500	5	1 000	79 250	123 805
(c) coking plants	8 325	—	39 400	14 500	—	11 150	—	3 650	23 400	100 425
(d) iron and steel industry	200	—	1 400	1 800	—	50	600	—	375	4 405
(of which power stations)	(—)	(—)	(1 000)	(300)	(—)	(—)	(—)	(—)	(200)	(1 500)
(e) other industries	815	500	6 000	1 300	60	190	2	40	8 720	17 627
(of which power stations)	(—)	(—)	(4 000)	(—)	(—)	(—)	(—)	(—)	(1 000)	(5 000)
(f) domestic heating	1 600	40	1 000	3 000	500	150	5	100	9 000	
(g) miscellaneous:										15 395
(1) issued to workers	80	—	400	150	—	—	—	—	2 000	2 630
(2) patch fuel plants	145	—	1 400	2 200	—	50	—	—	1 250	5 045
(3) own consumption at mines	25	—	500	400	—	—	—	—	900	1 825
(4) gasworks	—	120	1 100	—	45	—	—	—	—	1 265
(5) railways	5	—	150	—	—	80	—	—	—	235
(6) others	—	—	1 100	—	—	—	—	—	—	1 100
Total	14 515	4 460	84 950	44 550	655	13 150	612	4 790	125 095	292 777
7. Exports to third countries	25	—	1 200	50	—	—	—	5	200	1 480
8. Deliveries to other ECSC countries	300	—	12 540	475	10	—	—	—	1 730	(15 055)
9. Total requirements	14 840	4 460	98 690	45 075	665	13 150	612	4 795	127 025	294 257
10. Producer's stocks (beginning)	1 120	—	11 645	4 416	30	9	—	—	10 658	27 878
11. Additions to/withdrawal	—	—	+ 1 710	—1 175	—	—	—	—	+ 1 975	+ 2 510
12. Producer's stocks (end)	1 120	—	13 355	3 241	30	9	—	—	12 633	30 388



Balance of supply and demand: coke-oven coke, 1977  
(forecast)

(thousand tonnes)

	Belgique België	Danmark	BR Deutschland	France	Ireland	Italia	Luxembourg	Nederland	United Kingdom	Community
1. Production	6 350	—	30 600	11 000	—	8 500	—	2 750	16 000	75 200
2. Imports from third countries	40	10	800	—	—	25	30	—	—	905
3. Receipts from other ECSC countries	560	80	400	2 800	10	75	2 210	240	—	(6 375)
4. Total availabilities	6 950	90	31 800	13 800	10	8 600	2 240	2 990	16 000	76 105
5. Inland demand:										
(a) iron and steel industry	6 350	40	19 000	11 000	10	6 900	2 235	2 150	10 130	57 815
(b) other industries	240	10	1 400	1 200	—	600	2	225	1 300	4 977
(c) domestic users	45	30	1 100	150	—	250	3	5	3 150	4 733
(d) miscellaneous:										
— issues to workers	15	—	700	140	—	5	—	—	—	860
— own consumption	—	—	200	320	—	50	—	—	200	770
— others	—	—	200	10	—	—	—	—	70	280
Total	6 650	80	22 600	12 820	10	7 805	2 240	2 380	14 850	69 435
6. Exports to third countries	70	—	2 200	450	—	800	—	60	940	4 520
7. Deliveries to other ECSC countries	230	10	5 000	335	—	70	—	520	210	(6 375)
8. Total requirements	6 950	90	29 800	13 605	10	8 675	2 240	2 960	16 000	73 955
9. Producers' stocks (beginning)	90	—	12 779	1 497	—	900	—	35	3 025	18 326
10. Addition/withdrawal from producers' stock	—	—	+ 2 000	+ 195	—	— 75	—	+ 30	—	+ 2 150
11. Producers' stocks (end)	90	—	14 779	1 692	—	825	—	65	3 025	20 476

TABLE 39

European Communities — Commission

**Twenty-five years of the common market in coal 1953-1978**

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The development of the common market for coal is traced from its creation on 10 February 1953 by the High Authority of the European Coal and Steel Community up to the recent past. The publication describes the position assumed by coal in the Community's energy supply, the changes on the individual markets for solid fuels and the development of the factors affecting supply, including technical progress in the Community's coalmining industry. The changes which have transformed the world energy market are also described. There follows an account of the role played by the Community, in particular the ECSC executive, in the various stages of development of the common market in coal. Chapter 3 deals with the consolidation during the transitional period provided for in the ECSC Treaty; Chapter 4 describes the events of the coal crisis and Chapter 5 is devoted to Community energy policy since the oil crisis of 1973/74 from the coal industry's viewpoint. The Annex contains 39 tables of statistics covering all important aspects of the coal sector since the common market was established.