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Contents

### I *Information*

#### Commission

The Community coal market in 1977 and forecasts for 1978 .....	1
I. Summary survey .....	1
1. The coal market in 1977 .....	1
2. The coal market outlook for 1978 .....	3
II. General economic situation and outlook .....	4
III. Coal demand by sectors .....	5
1. Steel industry and other coke users .....	5
2. Power stations .....	5
3. Various industries .....	6
4. Domestic .....	7
IV. Community coal production .....	7
1. Production statistics .....	7
(a) Quantitative analysis of output .....	7
(b) Manpower and productivity .....	8
2. Financial developments .....	8
(a) Production costs and proceeds .....	8
(b) Financial intervention by Member States .....	8
3. Developments in productive capacity .....	9
(a) Investments in coal production and preparation .....	9
(b) Pit closures .....	9
V. Coal prices .....	9
1. Coal price developments .....	9
2. Coking coal .....	9
3. Steam coal .....	10
4. Outlook for 1978 .....	10

c.É.É. xvii/48

Contents (continued)	VI. Coke .....	10
	1. Development of coking capacity .....	10
	2. Coke production and coal supplies to cokeries .....	10
	VII. Trade in coal and coke .....	11
	1. Intra-Community trade .....	11
	2. Imports from third countries .....	11
	VIII. Coal and coke stocks .....	12
	1. Producers' coal and coke stocks .....	12
	2. Coal stocks at power stations .....	13
	IX. Tables .....	14

## I

*(Information)*

## COMMISSION

## THE COMMUNITY COAL MARKET IN 1977 AND FORECASTS FOR 1978

## I. SUMMARY SURVEY

## 1. The coal market in 1977

The Community's energy demand in 1977 is provisionally estimated to have been only 1.1 % above that of the previous year due mainly to low economic growth with deliberate energy conservation playing a minor role. However, this figure will probably still require correction.

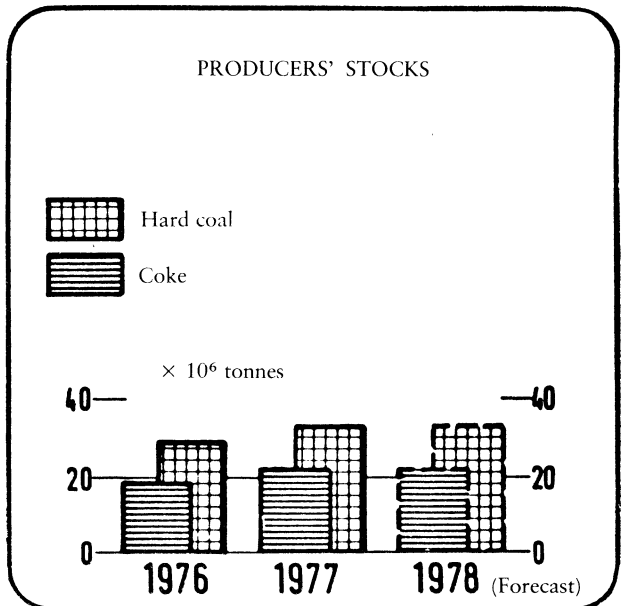
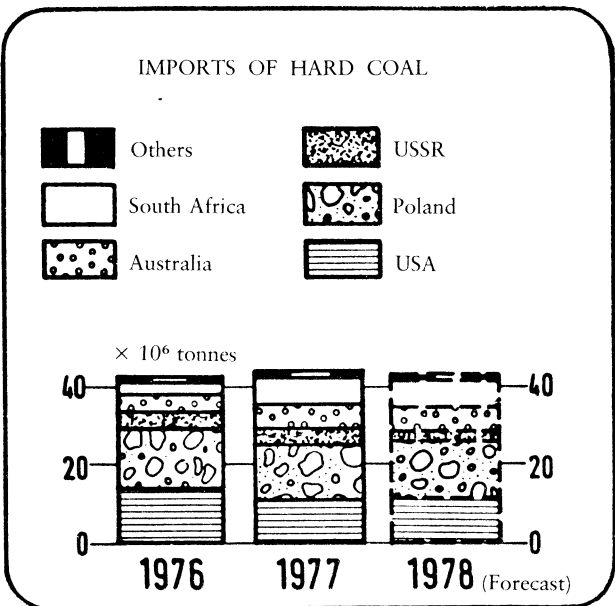
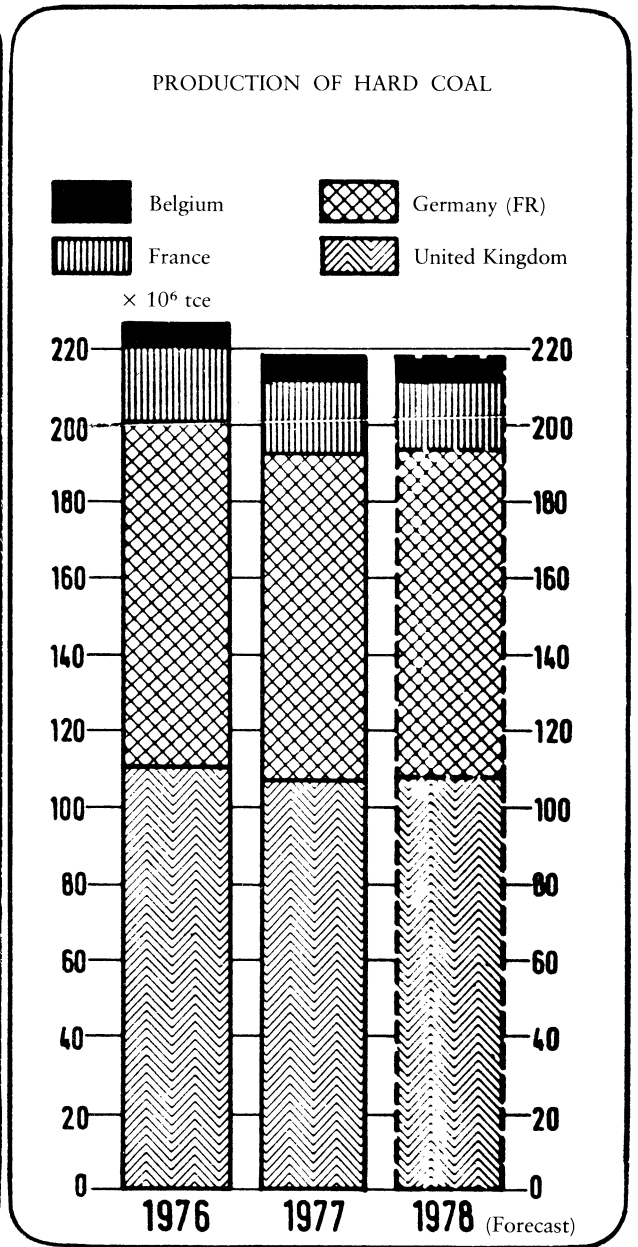
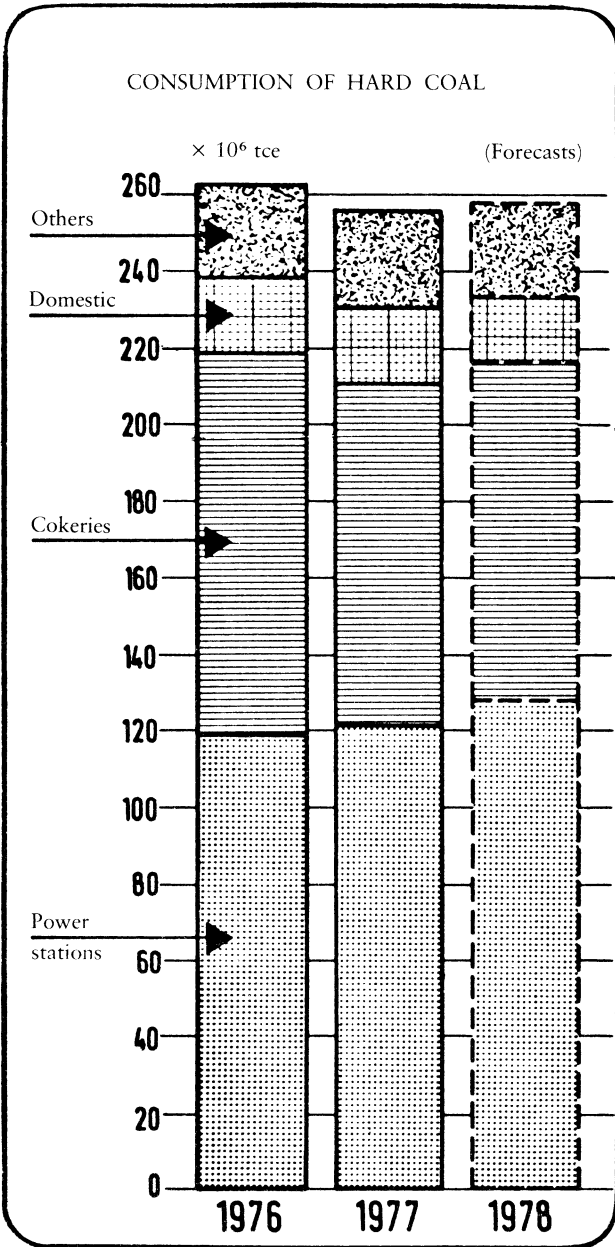
Natural gas, nuclear and hydro-electricity all increased their share, the total from these sources rising from 22 % in 1976 to 24.6 % in 1977. By contrast, the share of oil dropped from 55.3 % to 53.7 %, that of coal from 19.5 to 18.8 % and that of lignite and similar fuels from 3.2 to 2.9 %. In total, solid fuels thus met 21.7 % of the Community's energy requirements in 1977 compared to 22.7 % the previous year. Table 1 gives detailed figures by country based on estimates made on 14 December 1977 as these figures were the only ones available at the moment of going to press.

Coal consumption in the Community in 1977 amounted to about 255 mtce (million tonnes of coal equivalent) compared to 263 mtce in 1976. However, neither this nor the percentage decrease mentioned above represents a drop in the absolute contribution of coal to meeting the Community's energy needs, if the requirements of the steel industry are left out of account. On the contrary, coal consumption rose from 160 mtce in 1976 to slightly over 162 mtce last year after deducting coal consumed by cokeries and for various other uses in the steel industry.

The modest improvement in the steel industry in 1976 was reversed again in 1977. As a result, coke consumption by that industry reached barely 52 million tonnes, 6.8 % below 1976. This was 16 million tonnes less than in 1974, representing a drop in terms of coal of nearly 21 mtce from the level during the last year of a strong steel market.

Coal consumption for electricity generation has seen a further slight rise in 1977, following a spectacular jump of close on 18 % the previous year. Bearing in mind that, unlike in 1976, there was ample water for hydro-electricity in 1977 and that the nuclear contribution to the Community's energy requirements had increased substantially, the progress of coal in electricity generation appears fairly satisfactory. However, from the point of view of developing a Community energy policy, it is less satisfactory that nine-tenths of the 121 mtce used in power stations was burned in just three member countries: the UK, Germany and France.

Community coal production in 1977 was about 218 mtce, down 9 mtce from the previous year. The principal causes were the same as for a similar drop from 1975 to 1976: production cutbacks in Germany in response to market conditions and falling productivity in the UK. In spite of these adverse factors, investment in coal production and preparation continued at substantial levels in both these countries and in France.



The rise in production costs continued to slow down in 1977 but market conditions did not allow them to be recouped through sufficient price increases except in the UK. As a result, the financial position of the coal industries in Germany, France and Belgium deteriorated during the year and their need for State aids increased appreciably.

In general, price increases have been moderate but their impact on the market has been obscured by movements in rates of exchange. Thus, while prices of German coal remained unchanged in 1977, its competitive position deteriorated due to the appreciation of the DM in terms of most other currencies including the US dollar. On the other hand, price rises of the order of 15 % by the UK coal industry did not seriously affect its competitiveness. Likewise, the tendency towards price stability for third country coking coal at around \$ 62 cif ARA and of steam coal in the 30 to \$ 35 region has affected various member countries differently, depending on movements in their rates of exchange in relation to the dollar.

Intra-Community exchanges rose by some 6 % in 1977 and imports from third countries by about 2 %. As third country suppliers, Poland and the US retained respectively first and second places but their predominance is being eroded by growing deliveries from Australia and South Africa. The positions of France followed by Italy as the largest importers have remained unchanged, as has the proportion of about 50 % of third country imports destined for power stations and the rest for the steel industry and other markets.

As the situation in the steel industry has been changing little over the past three years, the cumulative reduction in coal consumption by that industry over the period has amounted to some 60 mtce. Although during the same period, additional coal consumption by the electricity generating industry has totalled about 31 mtce, cheaper supplies of steam coal available from third countries have made it extremely difficult for the Community's coal industry to sell its surplus on this enlarged market except within the framework of national support systems.

The Community's coal industry is thus faced with growing disposal and stocking problems as a result of the contraction of the coking coal market, matched by no more than a marginal drop in coking coal imports from third countries, and little progress in the field of electricity generation.

Lower British production costs have enabled the UK coal industry to dispose of its output on the home market without undue problems but the coal industries in the other Member States are facing mounting difficulties. As by far the largest producer of coking coal and traditional supplier to other Member States, the German coal industry is particularly severely affected by disposal problems which are reflected in very large stocks of coal and coke.

## 2. The coal market outlook for 1978

The modest increase in economic activity expected in the Community for 1978 appears unlikely to raise plant utilization sufficiently to provide adequate incentives for a rising level of capital investment.

As a result, no substantial growth in demand for coal and coke by the steel industry can be expected. In fact, unless the investment climate improves during the second half of the year, this market is likely to be stagnant in 1978.

On the other hand, coal consumption for electricity generation is forecast to grow further, probably at a slightly faster rate than in 1977, to reach about 127 mtce for the Community. This growth is expected to be accompanied by two highly desirable trends: a slight increase in the proportion of coal burned elsewhere than in the major coal producing member countries and a rise in intra-Community power station coal sales. The extent of the first will be governed mainly by technical factors, whereas questions of price will tend to exercise a decisive influence on the second.

No appreciable changes can be foreseen in the general industrial market except in the event of some additional conversions to coal-firing in the cement industry. The domestic sector must be expected to continue its contraction.

Community coal production in 1978 has provisionally been estimated at about the same level as in 1977, subject to two major provisos. These are that output in the Ruhr will be deliberately limited at its 1977 level and that the introduction of productivity incentives in the British coal industry will do no more than halt the downward drift in production of recent years.

Large stocks and the depressed state of the coking coal and coke market make it improbable that the assumption concerning the 1978 level of production in

the Ruhr will prove mistaken. On the other hand, no valid predictions can be made at this stage in regard to the effects of the introduction of productivity incentives in the UK.

A parallel dichotomy applies to the probable developments of intra-Community exchanges and of imports from third countries in 1978: those of coking coal and coke are unlikely to register any appreciable variations compared to 1977, whereas those of power station coal leave considerable margins of uncertainty. Current estimates are that power station coal imports from third countries will remain at their 1977 level and that intra-Community deliveries will rise by around 1 to 1.5 million tonnes but the possibility of further agreements between coal producers and the electricity industry in other member countries leading to an increased share of this market for Community coal should not be discounted.

However, neither rising coal-burn for electricity generation during the past three years nor the slight reversal in the trend of intra-Community exchanges and third country imports expected for 1978 are making a serious impact on the following fundamental problems:

- continuing heavy dependence of some Member States on oil and gas for electricity generation;
- inadequate investment in coal-fired power stations to avoid a steep rise in oil and gas requirements for electricity generation in the 1980s;
- great reluctance by the Community's electricity producers, consumers and governments, except in the coal-producing Member States, to share with the coal producers the financial burdens currently arising from the use of Community coal in power stations in competition with third country coal;
- mounting difficulties in maintaining and developing the Community's coal-production capacity in the absence of a larger effective intra-Community power station coal market.

The Commission is continuing its efforts in seeking solutions to these problems.

## II. GENERAL ECONOMIC SITUATION AND OUTLOOK

(Table 2)

After a downward trend in the economy earlier in 1977, industrial output and private consumption started to rise in several Member States in the autumn. On the other hand, low plant utilization has continued to inhibit investment. As the growth in activity in the agricultural and service sectors was also weak, the Community's gross domestic product, for the year as a whole, increased only by 1.9 % in real terms, compared to 4.8 % in 1976.

Unemployment rose until the autumn as increasing numbers of young people came onto the labour market. However, this has since stabilized at 5.7 % of the civilian working population.

In spite of sluggish exports since the summer, the balance of payments of the Community has continued to improve as a result of lower imports from third countries. The rate of inflation in the Community abated during the second half of the year, and differences in this respect between Member States have become less marked.

The outlook, at least for the first half of 1978, gives cause for modest optimism. Exports from the Community to non-member countries are expected to rise and the growth in home demand is likely to accelerate. However, high stocks of some products may have a dampening effect.

Although industrial production is expected to show moderate expansion during the first half of 1978, this is unlikely to improve appreciably plant utilization. Unless this can be achieved later in the year, the increase in the Community's gross domestic product will reach about 3 % for the year as a whole.

Upward movements in prices are likely to abate further and the balance of payments should continue to improve. On the other hand, unemployment might rise again slightly as the population of working age continues to grow.

### III. COAL DEMAND BY SECTORS

#### 1. Steel industry and other coke users

(Tables 4 to 7)

The most severe world-wide steel industry recession in 30 years started in 1975 and has continued since then with little change.

Repeated expectations of sustained recovery have been disappointed, and total steel production in the Community in 1977 of 126 million tonnes was nearly 30 million tonnes below its peak of 1974 and only marginally above its lowest point during the current recession. Still worse from the coal industry's point of view, the drop of close on 24 million tonnes in pig-iron production from its 1974 peak has, in percentage terms, been even slightly more severe.

Developments have differed between Member States in that the recession has been particularly grave in the steel industries of Belgium and Luxembourg, followed by that of Germany, all large consumers of coke traditionally produced from Community coal, particularly German coal. Whereas the drop in steel production from its peak in 1974 to 1977 was 32 % in Belgium and Luxembourg and over 26 % in Germany, it was 17 % in France while, for different reasons, that of Italy and the United Kingdom fell only slightly from its 1974 level. However, allowing for the fact that labour relations problems in the British coal and steel industries depressed output in 1974 and therefore taking the previous year as a reference, steel output in the United Kingdom dropped by 22 % from its peak earlier in the decade.

Of the latter three countries, France has large steel works on the coast, better sited to receive their coal and iron ore supplies from overseas than from Community sources. The same applies to Italy, where, furthermore, only about 50 % of steel is produced from pig iron.

As regards the United Kingdom, the steel industry relies largely on indigenous coking coal, supplemented by imports of special qualities from third countries, and is thus not a substantial traditional market for coking coal or coke produced in other Member States.

As the recession in steel production has been particularly severe in the German coal industry's most important markets for coal and coke, its disposal problems have been correspondingly grave and are reflected in steep rises in stocks in spite of deliberate cut-backs in

output. Whereas German coal production in 1977 was some 10 million tonnes below that in 1974, the industry's stocks of coal and coke, the latter converted into their equivalent in coal, were some 30 million tonnes higher.

At the time of the compilation of this document, there is nothing to foreshadow a substantial revival in demand for steel in 1978. Accordingly, steel production has been forecast at 129 million tonnes and pig iron production at slightly below 91 million tonnes, the former an increase of just over 2 % and the latter of around 3 % over 1977.

The relatively better utilization of certain modern installations on coastal sites compared to some older plant in traditional inland production areas is the principal explanation of the big drop in specific coke input between 1976 and 1977, particularly in France. With little change expected in 1978, coke requirements by the steel industry are thus unlikely to differ greatly from those in 1977.

Consumption of coke-oven coke by other industries at about 4.8 million tonnes in 1977 showed a slight rise over 1976 and is expected to remain at about this level in 1978. However, in common with all solid fuels, its use for domestic heating continues to decrease.

Taking all markets into account, about 63 million tonnes of coke-oven coke were consumed in 1977. This represents a drop of over 6 % from the previous year, but maintenance of this level of demand, or possibly a slight increase, is expected for 1978.

#### 2. Power stations

(Tables 8 A, B and C)

Electricity consumption in the Community in 1977 was about 4.5 % above that of the previous year. However, electricity production in the Community was only 3.3 % higher, the explanation for the difference lying in greatly increased net imports of hydraulically generated electricity from Austria, Switzerland and the Scandinavian peninsula due to plentiful supplies of water after the previous year's drought.

Apart from much greater availability of hydro-electricity, both imported from outside and produced in the Community, the only other important change in the pattern of electricity production in 1977 compared to

1976 has been a considerable rise in nuclear generation. On the other hand, electricity production from gas, both natural and by-product, and from lignite, peat and oil all fell, the last-mentioned by 8.7 %. By contrast, coal registered a marginal increase.

Due to attractive prices of indigenous coal in the UK in relation to the price of oil, power station coal-burn in that country rose by about 2 mtce and continued to represent more than half the total for the Community. On the other hand, coal consumption for electricity generation showed no significant changes in France and Italy, but percentage-wise important increases were registered in Belgium, Denmark and the Netherlands, while in Germany it dropped by over 4 %.

Total consumption of coal for electricity generation in the Community in 1977 was in the region of 121 mtce, an increase of about 2 % over that in 1976. Although this is small compared to the previous year's rise of close on 18 %, it must be remembered that this tremendous growth was due in part to a severe shortage of water for hydro-electric generation. Judged over the two-year period since 1975, coal-fired electricity generation has risen about twice as fast as total electricity production in the Community.

The consumption of lignite for electricity generation in Germany has been reduced by 8.8 % in 1977 in order to promote the coal-burn in this sector.

However, there remains a gross imbalance between the different member countries, in that less than 10 % of total coal used for electricity generation was burned outside the UK, Germany and France. Furthermore, deliveries of coal to power stations show a much steeper rise for imports from third countries than from other members of the Community (Table 8 C).

Last year's trend of a moderate increase in coal consumption for electricity generation in the Community is likely to continue in 1978. However, various special factors are expected to influence the situation in the Member States.

Electricity producers in Belgium entered the winter of 1977/78 with coal stocks above their usual level. These are expected to be reduced in the course of 1978 with the result that deliveries to power stations may be slightly below coal-burn.

Important increases in power station coal consumption in Denmark and Italy can be foreseen for 1978. The likely total of about 4.4 mtce in Denmark brings coal to nearly 55 % of all fuels used for electricity generation, by far the highest percentage in the Community after the UK. Around 1.4 mtce of this may be Community coal. By contrast, projected coal-burn of 2.3 mtce in Italy in 1978 is still less than half the target of 5 mtce to be burned for electricity generation by 1980 and will represent barely 6 % of total fossil fuel, against 76 % represented by oil.

In other Community countries varying moderate increases in coal consumption for electricity generation are expected in 1978. Furthermore, the proportion of coal obtained from Community sources instead of from third countries will rise in France and, possibly, elsewhere.

Lignite and peat consumption by power station was about 34 mtce in 1977 compared to 37 mtce the previous year. An overwhelming proportion of this was used in the approximately 14 000 MW of lignite-fired plant in the Cologne-Aachen area in Germany. The only other Member States where low calorie fuels have a certain national importance are France and Ireland, peat consumption in the latter of 1 mtce representing about 34 % of fuel used for electricity generation.

The position of both lignite and peat is likely to remain about the same in 1978.

### 3. Various industries

(Table 9)

Unlike demand for coal and coke by the steel industry, sales to the general industrial market, particularly of coal, show an upturn in 1977 compared to the previous year. This is particularly notable in the UK, but the same trend is discernible elsewhere.

Indications suggest that this rise in coal and coke consumption is due to increased economic activity rather than to any substantial conversions to coal-firing from other fuels. These are likely to have to await the industrial availability of fluidized-bed boilers able to provide



the same calorific output from more compact installations than conventional coal-fired boilers, combined with greatly reduced noxious flue-gas emission.

Currently, there are no firm indications of a further rise in coal and coke consumption by general industry in 1978 but some possible additional conversions to coal-firing in the cement industry might bring this about. However, the diversity of the general industrial market makes predictions for this particularly difficult.

#### 4. Domestic

(Table 10)

The inexorable decline in the market for domestic solid fuel has continued everywhere in the Community except

in the UK and Ireland. Unlike in the recent past, consumption of patent fuels no longer shows a substantially slower rate of decline than that of coal.

Furthermore, in the coal producing Member States, a significant proportion of solid fuels used for domestic purposes consists of concessionary supplies to persons active in or retired from the solid fuel industries. As a Community average, these tonnages amount to 13 % of the total, while in Germany they represent about a quarter. Accordingly, the genuine market for solid fuels is, in effect, smaller than suggested by the figures in Table 10.

There is nothing to indicate a change of trend. Accordingly, for the first time, solid fuel consumption in the Community is expected to be below 30 mtce in 1978.

### IV. COMMUNITY COAL PRODUCTION

#### 1. Production statistics

Except for most German production, the producer countries' statistics generally show coal output on a tonne by weight basis ( $t = t$ ). To allow comparisons with national statistics, the figures showing output by areas in Table 11 are given in  $t = t$ . In addition, the figures for total German 'usable production' as defined for that country's statistics are shown in brackets.

##### (a) *Quantitative analysis of output* (Tables 11 and 12)

Community coal production in 1977 was about 238 million tonnes (218 mtce), a drop of 10 million tonnes (9 mtce) or 3.8 % below 1976.

Production forecasts made at the beginning of the year proved to be 9 to 10 million tonnes too high both in 1976 and 1977. The principal reasons were the same: adjustment to market conditions through short-time working and preparatory work in place of output in Germany and, in the UK, lower productivity than forecast.

The deliberate cutback in production in Germany of some 4.9 million tonnes in 1977 compared to the previous year represents by far the largest element in the drop in total Community production, followed by a reduction in UK output of some 2.8 million tonnes due

to unsatisfactory productivity. In the other areas of the Community output remained stable, except in the coalfield extending from southern Belgium into northern France where production is being gradually reduced with a view to ceasing altogether in Belgium in 1982 and in France in 1985.

Two factors make the outlook for 1978 uncertain. The first of these is the reluctance of the German coal industry to continue short-time working combined with costly, non-revenue producing preparatory work, instead of employing resources of equipment and manpower to potentially greater economic advantage by producing coal. However, in the absence of massive intervention by the German Government or the Community, it is difficult to see a market for the resultant additional output, and forecasts of German production in 1978 have, therefore, been pitched at about the same level as that reached in 1977.

The outlook for the UK coal industry is unclear at the time of the compilation of this document as the effects of the introduction of productivity incentives cannot be foreseen at this point. Output for 1978 has therefore been provisionally forecast at the same figures as in 1977.

On the above assumptions relating to the German and UK coal industries, Community production in 1978 would be of the order of 238 million tonnes (218 mtce), the same as in 1977.

(b) *Manpower and productivity*  
(Tables 13 and 14)

The figure showing a reduction of 7 200 men or 2.2 % in underground manpower in the Community's coal industry represents a trend present in all coal-producing Member States. However, it should be noted that in spite of 6 500 underground workers aged 62 and over having left the British coal industry in the summer as a result of new pension rules, the net drop in underground manpower in the UK by the end of 1977 was only about 2 000 men (reflected in a drop in average manpower throughout the year of 1 000 men in Table 13).

As in the case of manpower, the development of productivity shows different trends as between the UK and the other coal-producing member countries. Furthermore, certain special factors have distorted productivity developments.

Underground productivity everywhere except in Belgium has proved disappointing in 1977 compared to forecasts made at the start of the year. In the case of Germany, the very low increase is primarily a reflection of above normal employment of men in preparatory work instead of coal production in view of the depressed market for German coal. On the other hand, the drop in productivity in the UK is widely reckoned to have been due to the absence of effective productivity incentives, and it was only towards the end of 1977 that preliminary arrangements for introducing such incentives the following year could be made.

In 1978, developments regarding underground manpower are expected to follow the same lines as in the previous year. However, productivity can be affected by so many unpredictable factors in the fields of production policy and labour relations that forecasts can never be more than tentative. This is particularly so as regards the UK where the year 1978 might witness a complete turnaround in the trend of recent years and a 10 % rise in underground coal production compared to 1977 is not beyond the bounds of possibility.

By the time the revision of the Community coal market forecasts for the current year is prepared by the Commission in the course of the summer, it should be possible to make a realistic assessment of the effects of the introduction of new productivity incentives in the UK and of their likely impact on total output in 1978.

## 2. Financial developments

(a) *Production costs and proceeds*  
(Table 15)

In all coal-producing countries of the Community, costs have risen more slowly in 1977 than in 1976. This

development was partly due to lower wage rises in 1977 and partly to material costs increasing relatively slightly in line with the general decrease in inflationary pressures.

The most important factor in developments in production costs is the relationship between wages and productivity. In 1977, wages rose more than output per underground manshift, this discrepancy was especially marked in the British coal mining industry on account of an actual drop in productivity in 1977 compared to 1976. However, a comparison between the increase in costs in the UK and in the other coal-producing Member States must take account of fluctuations of the pound against the currencies of these countries.

The development in the proceeds of the coal industry from 1976 to 1977 differed as between the coal-producing member countries.

In Belgium, there has been a fairly sharp drop in proceeds because prices for coking coal were slightly lowered and certain quantities of coking coal were sold to power stations at steam coal prices to avoid rising stocks. In Germany, the decrease in proceeds was due to a change in markets: while sales of coking coal — at relatively high prices — have diminished, those of steam coal have stagnated. Higher proceeds in France and the UK were due to price rises.

The diverging development of costs and proceeds has resulted in a deterioration of the profitability of undertakings. The gulf between costs and receipts was widest in Belgium, while the British coal industry operated near the break-even point.

(b) *Financial intervention by Member States*  
(Table 16)

All coal producers in the Community received government subsidies to cover certain special outgoings, costs or losses in 1977. Due to deteriorating profitability, the subsidies have everywhere been higher than in 1976. The figures in Table 16 are a reflection of the different financial results in the coal mining industry: the situation was worst in Belgium, where the highest subsidies had to be paid, and most favourable in the UK, where only a relatively modest payment was required.

In comparing coal industry subsidies in the coal-producing member countries of the Community, account must be taken of the fact that financial aid by the State is not the only instrument of support. In some cases, financial

measures bear on production costs, in other cases, special measures guarantee the coal industry prices covering costs of production, thereby allowing subsidies from public funds to be reduced.

A new financial relationship between the French Government and the coal industry was agreed at the start of 1978. Under this, the Government has taken over the industry's liabilities resulting from past but now terminated activities and will pay a flat-rate subsidy on coal production of FF 14 per thermie, subject to adjustments in inverse ratio to fluctuations in the price of heavy fuel oil.

### 3. Developments in productive capacity

#### (a) *Investments in coal production and preparation* (Table 17)

The investment boom which started in 1974 continued in 1975 and 1976 in spite of falling coal production. In this period, capital expenditure in coal mines more than doubled. Although annual growth rates in capital expenditure are slackening as a Community average, they are still high:

1974/73	+ 22 %,
1975/74	+ 58 %,
1976/75	+ 40 %.

Investments commenced or committed for 1977 and 1978 are slightly below the 1976 level, but adding further likely investment, stabilization at a high level is to be expected.

Capital expenditure in the UK and in Germany per tonne of coal produced continues to be the highest, while that in Lorraine is also above the Community average of 3.20 EUA/tonne (1976).

#### (b) *Pit closures* (Table 18)

Closures in 1977 were on a insignificant scale, affecting a total of seven small pits with a combined output of 0.8 million tonnes the previous year.

However, more substantial closures are planned for 1978. These include one pit in the Ruhr producing over two million tonnes and one in the Nord/Pas-de-Calais area with an output exceeding one million tonnes.

## V. COAL PRICES

### 1. Coal price developments

(Tables 19 and 20)

In periods of monetary instability, meaningful comments on energy price developments must take account both of purely internal price movements and of altered price relationships resulting from exchange fluctuations.

The first of these are shown in Table 19 and an attempt is made to represent the latter in Table 20. However, while Table 20 does give a picture of relative price developments of various coals in the Community, it cannot presently indicate movements in the prices of these coals in relation to third country coal quoted in dollars. The Commission hopes, however, to be able to provide such a fuller comparison in clearly tabulated form in its next annual report on the basis of a Regulation agreed by the Governments of the Member States meeting within the Council on 7 November 1977 concerning the provision of improved information to be supplied to the Commission on coal imports from third countries.

Purely internally, developments in 1977 have followed the previous year's pattern of generally moderate increases in the list prices of Community coals (Table 19).

However, such changes in terms of national currencies are only one aspect affecting the competitiveness of different coals produced in the Community, another having been moves in rates of exchange. Thus, although German coal prices remained unaltered throughout 1976 and 1977, the exchange appreciation of the DM caused them to rise substantially in terms of the currencies of most other Member States and of imported energy priced in US dollars. On the other hand, in spite of an average price increase of 15 % for British coal, this maintained its competitive lead over other fuels in the UK.

### 2. Coking coal

The average price cif ARA for third country coking coal, the so-called indicative price calculated by the Commission, settled at around \$ 62.10 per tonne throughout most of 1977, i. e. about \$ 1 lower than the

year before. However, this drop of around 3 % in dollar terms was substantially greater in terms of the currencies of those Community countries which have been appreciating against the dollar.

Prices of coking coals produced in the Community were generally no more than some 10 to 15 % above the Commission's indicative price for import contracts from third countries. However, the worldwide recession in the steel industry has continued to exert downward pressures on the spot market, resulting in quantities of third-country coking coal an offer at much lower prices with disturbing effects on the Community industry's disposals.

### 3. Steam coal

The tendency of a rise in steam coal prices of up to \$ 5 per tce above the level of 30 to \$ 33 cif ARA ruling through most of 1976, apparent at the end of that year, did not establish itself. Accordingly, in terms of the Community's currencies, world market prices of coal for electricity generation remained unchanged or fell in 1977, depending on relative movements in rates of exchange. They thus maintained their position well below the prices of oil or gas competing in the power-station market.

In contrast to the relatively small gap between Community coking coal prices and the Commission's indicative price for third-country imports, the price differential between Community and third-country steam coal

for the power-station market ranged from about 20 % for some British coals to over 100 % for German and Belgian coal.

Short distances between coal mines and power stations in the United Kingdom have generally enabled the British coal industry to compete successfully with imports from third countries and to dispose of its output to the electricity generating industry without government subsidies. However, the other Community coal producers' prices have been so much above those of imports from third countries that most of their sales required the framework of one or another kind of government intervention. As such intervention was operated only in the coal-producing Member States and, in practice, affected only each country's own coal industry, it did little to develop a genuine Community market in power station coal.

### 4. Outlook for 1978

On 1 January 1978, the German coal industry raised its list prices by up to 10 % in spite of adverse market conditions. This rise, like those of a similar order of magnitude likely later in the year in the other coal-producing Member States, has been forced on the industry by rising costs.

The problem of rising costs forcing the Community coal industry to raise prices, while market conditions dictate price stability or reductions, will probably be the most intractable problem in the field of pricing policy in 1978.

## VI. COKE

### 1. Development of coking capacity

(Table 21)

In the course of 1977, the Community's coking capacity was reduced from 92 to 89.2 million tonnes per annum primarily through closures in Germany.

In the Ruhr, cokeries Radbod and Hugo with a total capacity of 1.1 million tonnes per annum were shut down at the start of the year, and a further two cokeries — Friedrich Thyssen and Königsborn — were closed at its end. The reasons were the current depressed state of the steel industry, combined with the long-term trend towards integrated steel-works with their own coke-ovens; no replacement of the closed-down facilities is, therefore, currently envisaged.

In 1978, the closure of coke ovens at Vendin in the north of France will reduce French capacity by 0.8 million tonnes and further closures in the Ruhr will

diminish German coking capacity by another 2.2 million tonnes. By contrast, new coke ovens with a capacity of nearly two million tonnes are planned to be put into service by the British Steel Corporation.

### 2. Coke production and coal supplies to cokeries

(Tables 22 and 23)

Although coke-oven coke consumption in the Community in 1977 was some 20 million tonnes lower than in 1974, production has been reduced by only 6.5 million tonnes in 1976 and by about 14 million tonnes in 1977, compared to its 1974 level.

Traditionally, the German coal industry lays down substantial stocks of coke during periods of slack demand, but excessive stocks building up over the past

three years have increasingly forced the Community's coke production level more into line with consumption. About half the contraction in coke production has taken

place in Germany, the remainder being spread fairly evenly over Belgium, France, Italy, the Netherlands and the United Kingdom.

## VII. TRADE IN COAL AND COKE

### 1. Intra-Community trade

(Tables 24 and 25)

Traditionally, Germany has occupied a position of overwhelming importance as a supplier of coal and coke to other Member States, but this position has been progressively eroded primarily for the reasons mentioned in the previous chapter. During the period of peak activity in the steel industry in 1974, coal deliveries from Germany to other Community countries amounted to 16.5 million tonnes, plus eight million tonnes of coke, making a total of 26.8 million tonnes with coke reckoned at its coal equivalent. As shown in Table 24, German intra-Community coal deliveries in 1978 are presently expected to be 13.5 million tonnes and those of coke to be 4.4 million tonnes, making a total of 19.2 million tonnes with coke reckoned as coal. However, as explained below, this figure may turn out to be higher as a result of additional sales to the electricity generating industry.

Intra-Community deliveries by the United Kingdom, the second largest source for this trade, have been following a different course. Due to a strike in 1974, the UK coal industry was unable to benefit from the seller's market for both coking coal and power station coal that year, while poor productivity combined with strong demand from the British electricity generating industry have left little exportable surplus in subsequent years.

As a result, UK deliveries in the intra-Community market have been fluctuating between 1.3 and two million tonnes between 1974 and 1977, while those of coke have remained insignificant. However, forecasts of coal deliveries to other Community countries for 1978 at 2.3 million tonnes suggest the possibility of the development of an upward trend, which might become stronger towards the later part of the year as a result of a hoped for rise in productivity in the British coal industry.

The basic difference between developments in German and British intra-Community coal deliveries during the past years lies in the fact that whereas the former have been primarily to the steel industry, currently experiencing a prolonged period of depression, the British coal industry produces mainly coal suitable for the expand-

ing market of electricity generation. However, German coal producers are increasingly active in attempting to secure coal supply contracts to the Community's electricity industry, and further success in this direction might result in the estimate of intra-Community deliveries in 1978 given in Table 24 being exceeded.

Among recipients in intra-Community coal exchanges, Denmark and France have shown the most promising developments in 1977, which are expected to continue in 1978. In both these countries, coal consumption for electricity generation has risen steeply since 1973. After a period of practically the whole of this increase being met through expanded third country imports, the German coal industry is beginning to secure a growing share of these markets.

Nevertheless, neither these improvements in German sales to power stations in other Member States nor the modest rise forecast for UK deliveries are doing more than very partially reversing the trend of the past few years of shrinking intra-Community trade in coal and coke while imports from third countries have risen steeply. The basic reason for the difficulties of the Community's own coal industry in finding new outlets in the expanding market for power station coal as a substitute for the contracting opportunities in the steel industry lies in the high cost of much Community coal production, compounded, in some instances, by geographical factors giving rise to heavy transportation charges.

### 2. Imports from third countries

(Tables 26 and 27)

After a rise in coal imports from outside the Community of some 50 % in the years following 1973, these appear now to be reaching stability at between 43 and 45 million tonnes per annum.

The motor behind this expansion has been a near tripling of steam coal imports, practically all for electricity generation, from eight million tonnes in 1973 to about 23 million tonnes in 1977. By contrast, imports of coking coal have generally not moved far from 17 to 18

million tonnes, while those for the miscellaneous industrial and domestic markets have shown a downward trend. However, during the same period, intra-Community deliveries of coal and coke, mainly for the steel industry, have dropped by 25 %.

Among Member States, France has registered by far the largest rise in coal imports from third countries. Whereas these stood at only slightly above five million tonnes in 1973, the figure for 1977 is over 15 million tonnes. Elsewhere, rises have been much more modest, generally not greatly exceeding one million tonnes, while imports into some Member States have hardly risen at all.

During the same period, there has been a movement towards diversification in regard to countries of origin. While in 1973, 75 % of coal from outside the Community came from either the USA or Poland, the percen-

tage of deliveries from these two countries had dropped to under 58 % by 1977. Imports from the USSR, mainly for the general industrial domestic markets, have shown little change, but those from Australia and South Africa have risen steeply. Furthermore, various other coal-producing countries, notably India, have shown keen interest in following up trial sales to the Community's electricity producers with larger deliveries.

Forecasts for 1978 show a slightly falling trend for imports of coking coal and no change for those destined primarily for power stations. However, there is a possibility of further substitution of the latter through increased intra-Community exchanges, provided the parties can find ways of resolving the difficulties arising from price differences between Community and third-country coal.

## VIII. COAL AND COKE STOCKS

(Tables 28, 29 and 30)

In view of the growing importance of the coal supply position for the Community's electricity generating industry and, conversely, of the financial burdens on the coal industry arising from excessive pithead stocks, the Commission's annual reports on the Community coal market have been providing increasingly detailed tables on coal and coke stocks.

Accordingly, last year's report introduced separate tables for end of year producers' coal and coke stocks (Table 28) and for coal stocks at power stations (Table 29). A further pair of tables has now been added, showing producers' stocks of coal by country, type and degree of preparation (Table 30 A) and by country, coal-field and type (Table 30 B). However, as at the time of writing this report, this detailed information was available only for the end of September 1977, the position at that date is given in Tables 30 A and B, whereas the totals on Table 28 A are end of year figures.

### 1. Producers' coal and coke stocks

(Tables 28 and 29)

Table 28 clearly show the very special problems currently affecting the German coal industry in carrying combined coal and coke stocks of over 36 million tonnes, about 10 million tonnes of these for the Gov-

ernment's account in the so-called 'Notgemeinschaft'. 36 million tonnes are close on 40 % of German production in 1977, compared to end of year producers' stocks representing 32 % of production in France, 13 % in Belgium and 12 % in the UK.

Tables 28 B, showing stocks of coke, and 30 A, giving a breakdown of producers' stocks by types of coal, demonstrate the connection between high stocks and the depressed state of the steel industry. Thus in Germany, out of total stocks of some 36 million tonnes, at least 30 million tonnes consist either of coke or of coals of types V and VI, generally considered as coking coal, and the same applies in France with regard to five million tonnes out of total stocks of 6.8 million tonnes.

The fundamental reasons for current excessive producers' stocks of coal and coke lie in the fact that while production costs permit a high proportion of Community coal to be offered at prices which are not unbridgeably out of line with those ruling on the world coking coal market, they are far too high to be acceptable to electricity producers able to purchase third-country steam coal. The sole exception to this is the situation in the UK.

Accordingly, coking coal production not currently required by the steel industry cannot be disposed of for electricity generation without very large subsidies or government intervention, either of which currently apply only to the promotion of coal-burn within the coal-producing Member States.

## 2. Coal stocks at power stations

(Table 30)

Stocks carried by the electricity industry at the end of 1977 ranged from 79 days' supplies in the UK to 230 days' in Denmark.

Security of supplies considerations lead electricity generating concerns relying on imported coal to carry larger stocks than those close to their own sources of

supplies. This tendency is reflected in Table 30, except for unusually large stocks at Belgian power stations; these are due to a shift of pithead stocks as can be seen from Tables 28 and 29.

In the absence of any indications of likely industrial unrest in the Community's coal industry during the early part of 1978 or of disturbances in the world energy market, the coal stocks carried by the Community's electricity generating industry at the end of 1977 appear generally satisfactory.

TABLE 1

## Shares of the various forms of primary energy in gross internal energy consumption

(%)

	Coal and equivalent	Brown coal and equivalent	Oil and equivalent	Natural gas	Nuclear	Electricity and others <sup>(2)</sup>
<i>1976</i>						
Belgium	22.2	—	54.3	20.1	5.0	— 1.6
Denmark	14.5	—	84.6	—	—	0.9
Germany (FR)	19.8	10.1	52.4	14.0	2.1	1.6
France	16.1	0.6	64.9	9.9	2.0	6.5
Ireland	7.3	13.7	76.7	—	—	2.3
Italy	6.3	0.2	69.2	16.6	0.6	7.1
Luxembourg	41.0	0.4	31.0	8.8	—	18.8
Netherlands	4.8	—	42.5	51.0	1.3	0.4
United Kingdom	35.4	—	43.2	16.6	4.0	0.8
Community	19.5	3.2	55.3	16.7	2.3	3.0
<i>1977 <sup>(1)</sup></i>						
Belgium	21.1	—	56.4	20.3	4.8	— 2.6
Denmark	15.4	—	85.5	—	—	— 0.9
Germany (FR)	18.6	9.2	51.6	15.0	3.5	2.1
France	16.6	0.5	60.4	10.8	2.5	9.2
Ireland	7.8	12.9	78.4	—	—	0.9
Italy	5.8	0.2	68.3	15.9	0.6	9.2
Luxembourg	37.8	0.3	32.0	8.3	—	21.6
Netherlands	4.9	—	38.5	55.6	1.3	— 0.1
United Kingdom	34.4	—	43.0	17.1	5.0	0.5
Community	19.0	2.8	53.9	17.5	3.0	3.8

<sup>(1)</sup> Estimates made on 14 December 1977.<sup>(2)</sup> Electricity production plus imports minus exports.



TABLE 2  
Gross domestic product in terms of volume

*(% variation compared with previous year)*

	1976	1977	1978
Belgium	3.0	2.4	2.3
Denmark	4.8	0.9	1.5
Germany (FR)	5.6	2.6	3.1
France	5.2	2.3	2.7
Ireland	3.2	5.6	6.0
Italy	5.6	1.8	1.7
Luxembourg	2.8	1.1	1.4
Netherlands	4.6	2.4	2.1
United Kingdom	2.8	0.1	3.5
Community	4.8	1.9	2.8

TABLE 3 A  
Community coal consumption by sector

*(1 000 tonnes of coal equivalent)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)	1977/76 (%)	1978/77 (%)
Power stations	118 361	120 839	126 836	+ 2.1	+ 5.0
Coke ovens	99 400	89 710	88 410	- 9.7	- 1.4
Iron and steel industry	3 296	2 645	2 700	- 19.7	+ 2.1
Other industries	10 375	12 965	13 070	+ 25.0	+ 0.8
Domestic heating	20 266	19 933	18 415	- 3.5	- 8.2
Patent fuel plants	5 296	4 915	4 305	- 7.2	- 12.4
Own consumption at mines	2 206	2 162	2 320	- 2.0	+ 7.3
Gasworks	1 396	1 265	1 155	- 9.4	- 8.7
Others	2 043 <sup>(1)</sup>	1 288	1 145	- 37.0	- 11.1
Total <sup>(2)</sup>	262 639	255 722	258 356	- 2.7	+ 1.0

<sup>(1)</sup> Including statistical adjustments.

<sup>(2)</sup> There is a slight inconsistency between these figures and the percentages for coal consumption in Table 1 as the latter takes account of coke put to stock whereas all coal converted into coke is here treated as coal consumed. This different treatment also explains why coal consumption figures in this report are slightly higher than those shown in the Commission's report on the energy situation in the Community.

TABLE 3 B  
Community coal consumption by country

*(1 000 tonnes of coal equivalent)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)	1977/76 (%)	1978/77 (%)
Belgium	13 699	13 111	13 145	— 4.3	+ 0.2
Denmark	3 904	4 525	5 043	+ 15.9	+ 11.4
Germany (FR)	82 900	75 373	75 529	— 9.1	+ 0.2
France	38 540	37 887	38 744	— 1.7	+ 2.3
Ireland	705	752	763	+ 6.7	+ 1.5
Italy	12 536	11 171	11 846	— 10.9	+ 6.4
Luxembourg	618	608	606	— 1.6	— 0.3
Netherlands	4 794	5 263	5 640	+ 9.8	+ 7.2
United Kingdom	104 943	107 032	107 040	+ 2.0	—
Community	262 639	255 722	258 356	— 2.7	+ 1.0

TABLE 4  
Pig iron production

*(1 000 tonnes)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)	1977/76 (%)	1978/77 (%)
Belgium	9 961	8 725	9 200	— 12.4	+ 5.4
Germany (FR)	31 849	29 000	30 000	— 9.0	+ 3.4
France	19 024	18 350	18 800	— 3.5	+ 2.5
Italy	11 696	11 600	11 225	— 0.8	— 3.2
Luxembourg	3 756	3 700	3 925	— 1.5	+ 6.1
Netherlands	4 265	4 125	4 175	— 3.3	+ 1.2
United Kingdom	14 099	12 875	13 550	— 8.7	+ 5.2
Community	94 650	88 375	90 875	— 6.6	+ 2.8

TABLE 5  
Specific coke input in blast furnaces

*(kilograms per tonne)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)
Belgium	539	540	540
Germany (FR)	482	490	490
France	520	502	500
Italy	470	460	450
Luxembourg	493	485	475
Netherlands	441	450	450
United Kingdom	601	590	590
Community	520	506	505

TABLE 6  
Consumption of coke-oven coke in the iron and steel industry

*(1 000 tonnes)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)	1977/76 (%)	1978/77 (%)
Belgium	6 134	5 310	5 570	- 13.4	+ 4.9
Denmark	29	40	40	-	-
Germany (FR)	18 099	16 790	17 400	- 7.2	+ 3.6
France	11 010	10 340	10 525	- 6.1	+ 1.8
Ireland	-	10	10	-	-
Italy	6 399	6 200	5 900	- 3.1	- 4.8
Luxembourg	2 114	2 055	2 125	- 2.8	+ 3.4
Netherlands	2 071	2 055	2 080	- 0.8	+ 1.2
United Kingdom	9 832	9 100	9 500	- 7.5	+ 4.4
Community	55 688	51 900	53 150	- 6.8	+ 2.4
<i>Details:</i>					
Input in blast furnaces	48 233	44 720	45 860	- 7.3	+ 2.5
Sintering	6 966	6 675	6 755	- 4.2	+ 1.2
Others	490	505	535	+ 3.1	+ 5.9

TABLE 7  
Community coke-oven coke consumption by sector

*(1 000 tonnes)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)	1977/76 (%)	1978/77 (%)
Iron and steel industry	55 688	51 900	53 150	- 6.8	+ 2.4
Other industries	4 578	4 762	4 738	+ 4.0	- 0.5
Domestic heating	5 132	4 950	4 634	- 3.4	- 6.4
Others	1 657 <sup>(1)</sup>	1 160	1 140	-	- 1.7
Total	67 055	62 772	63 662	- 6.4	+ 1.4

<sup>(1)</sup> The figures in this line include statistical adjustments and therefore have only limited significance as regards developments from one year to another.

TABLE 8 A

Gross electricity generated in the Community  
Breakdown by energy sources

	Production generated TWh			Breakdown in %			% change	
	(actual)	(estimates)	(forecasts)	(actual)	(estimates)	(forecasts)		
	1976	1977	1978	1976	1977	1978	1977/76	1978/77
<i>Gross production in:</i>								
Belgium	47.3	47.6	51.2				+ 0.6	+ 7.6
Denmark	20.9	22.6	24.2				+ 8.5	+ 6.8
Germany (FR)	333.7	338.8	350.9				+ 1.5	+ 3.6
France	203.4	216.3	233.6				+ 6.3	+ 8.0
Ireland	8.6	9.3	9.9				+ 8.0	+ 6.8
Italy	163.6	168.0	182.3				+ 2.7	+ 8.5
Luxembourg	1.5	1.4	1.6				- 9.9	+ 16.9
Netherlands	58.1	58.9	63.3				+ 1.3	+ 7.5
United Kingdom	277.0	288.4	294.7				+ 4.1	+ 2.2
Total	1 114.1	1 151.3	1 211.7	100	100	100	+ 3.3	+ 5.3
Hydroelectric total	111.3	150.6	132.3	10.5	13.1	10.9	+ 35.3	- 12.1
From:								
— natural flow	105.3	144.8	124.6	9.9	12.6	10.3	+ 37.6	- 14.0
— pumped storage	6.0	5.8	7.7	0.6	0.5	0.6	- 3.4	+ 32.9
Geothermal	2.5	2.5	2.7	0.2	0.2	0.2	- 0.9	+ 8.0
Nuclear	93.9	121.9	154.7	3.1	10.6	12.8	+ 29.9	+ 26.9
Conventional thermal total	906.4	876.3	922.0	81.2	76.1	76.1	- 3.3	+ 5.2
From								
— hard coal and coke	343.7	353.0	371.4	30.6	30.7	30.7	+ 2.7	+ 5.2
— lignite and peat	104.3	96.6	92.1	9.2	8.4	7.6	- 7.4	- 4.6
— oil	283.8	259.0	282.5	25.6	22.5	23.3	- 8.7	+ 9.1
— natural gas	141.8	136.0	143.4	12.9	11.8	11.8	- 4.1	+ 5.5
— derived gases	25.6	25.5	26.1	2.3	2.2	2.2	- 0.4	+ 2.4
— other fuels	7.1	6.2	6.5	0.6	0.5	0.5	- 12.6	+ 4.5

TABLE 8 B

Fuel consumption by conventional power plants and coverage of requirements in %

	1976 (actual)		1977 (estimates)		1978 (forecasts)		% change	
	1 000 tce	%	1 000 tce	%	1 000 tce	%	1977/76	1978/77
<i>Belgium</i>								
Coal	2 706	21.9	3 096	26.0	3 235	25.0	+ 14.4	+ 4.5
Lignite	—	—	—	—	—	—	—	—
Oil products	5 382	43.5	4 460	37.5	5 110	39.4	— 17.1	+ 14.6
Natural gas	3 268	26.4	3 351	28.2	3 566	27.5	+ 2.5	+ 6.4
Other fuels	1 017	8.2	992	8.3	1 045	8.1	— 2.5	+ 5.3
Total	12 373	100.0	11 899	100.0	12 956	100.0	— 3.8	+ 8.9
<i>Denmark</i>								
Coal	3 356	47.3	3 914	51.5	4 443	54.6	+ 16.6	+ 13.5
Lignite	—	—	—	—	—	—	—	—
Oil products	3 745	52.7	3 691	48.5	3 691	45.4	— 1.4	—
Natural gas	—	—	—	—	—	—	—	—
Other fuels	—	—	—	—	—	—	—	—
Total	7 101	100.0	7 605	100.0	8 134	100.0	+ 7.1	+ 7.0
<i>Germany (FR)</i>								
Coal	32 591	32.4	31 143	32.5	32 629	34.4	— 4.4	+ 4.8
Lignite	34 600	34.4	31 571	33.0	29 714	31.3	— 8.8	— 5.9
Oil products	10 693	10.6	10 857	11.3	10 586	11.1	+ 1.5	— 2.5
Natural gas	17 451	17.3	17 129	17.9	16 857	17.7	— 1.8	— 1.6
Other fuels	5 279	5.3	5 059	5.3	5 204	5.5	— 4.2	+ 2.9
Total	100 614	100.0	95 759	100.0	94 990	100.0	— 4.8	— 0.8
<i>France</i>								
Coal	14 953	34.5	15 457	40.2	16 814	38.7	+ 3.4	+ 8.8
Lignite	1 259	2.9	997	2.6	1 164	2.7	— 20.8	+ 16.8
Oil products	21 438	49.5	16 389	42.6	19 881	45.7	— 23.6	+ 21.3
Natural gas	3 105	7.2	3 076	8.0	3 076	7.1	— 0.9	—
Other fuels	2 544	5.9	2 539	6.6	2 524	5.8	— 0.2	— 0.6
Total	43 299	100.0	38 458	100.0	43 459	100.0	— 11.2	+ 13.0
<i>Ireland</i>								
Coal	37	1.3	27	0.9	38	1.2	— 27.0	+ 40.7
Peat	985	34.2	1 041	33.6	1 041	31.7	+ 5.7	—
Oil products	1 857	64.5	2 031	65.5	2 206	67.1	+ 9.4	+ 8.6
Natural gas	—	—	—	—	—	—	—	—
Other fuels	—	—	—	—	—	—	—	—
Total	2 879	100.0	3 099	100.0	3 285	100.0	+ 7.6	+ 6.0

TABLE 8 B (cont'd)

Fuel consumption by conventional power plants and coverage of requirements in %

	1976 (actual)		1977 (estimates)		1978 (forecasts)		% change	
	1 000 tce	%	1 000 tce	%	1 000 tce	%	1977/76	1978/77
<i>Italy</i>								
Coal	1 195	3.3	1 171	3.5	2 286	5.8	— 2.0	+ 95.2
Lignite	463	1.3	343	1.0	457	1.2	— 25.9	+ 33.2
Oil products	28 676	78.9	27 000	80.4	30 129	76.4	— 5.8	+ 11.6
Natural gas	4 457	12.2	3 514	10.5	5 000	12.7	— 21.2	+ 42.3
Other fuels	1 566	4.3	1 543	4.6	1 557	3.9	— 1.5	+ 0.9
Total	36 357	100.0	33 571	100.0	39 429	100.0	— 7.7	+ 17.4
<i>Luxembourg</i>								
Coal	1	0.2	1	0.2	1	0.2	—	—
Lignite	—	—	—	—	—	—	—	—
Oil products	98	21.1	96	20.6	97	20.9	— 2.0	+ 1.0
Natural gas	190	40.9	195	41.8	197	42.4	+ 2.6	+ 1.0
Other fuels	176	37.8	175	37.4	170	36.5	+ 0.6	— 2.9
Total	465	100.0	467	100.0	465	100.0	+ 0.4	— 0.4
<i>Netherlands</i>								
Coal	999	5.7	1 643	9.2	2 000	10.4	+ 64.5	+ 21.7
Lignite	—	—	—	—	—	—	—	—
Oil products	1 589	9.0	1 700	9.6	1 907	9.9	+ 7.0	+ 12.2
Natural gas	13 944	79.3	13 453	75.8	14 224	74.1	— 3.5	+ 5.7
Other fuels	1 044	6.0	950	5.4	1 064	5.6	— 9.0	+ 12.0
Total	17 576	100.0	17 746	100.0	19 195	100.0	+ 1.0	+ 8.2
<i>United Kingdom</i>								
Coal	62 523	75.4	64 387	77.9	65 390	78.0	+ 3.0	+ 1.6
Lignite	—	—	—	—	—	—	—	—
Oil products	16 986	20.5	15 230	18.4	15 337	18.3	— 10.3	+ 0.7
Natural gas	2 519	3.1	2 179	2.6	2 200	2.6	— 13.5	+ 1.0
Other fuels	844	1.0	871	1.1	879	1.1	+ 3.2	+ 0.9
Total	82 872	100.0	82 667	100.0	83 806	100.0	— 0.3	+ 1.4
<i>Community</i>								
Coal	118 361	39.0	120 839	41.5	126 836	41.5	+ 2.1	+ 5.0
Lignite	37 307	12.3	33 952	11.7	32 376	10.6	— 9.0	— 4.6
Oil products	90 464	29.8	81 454	28.0	88 944	29.1	— 10.0	+ 9.2
Natural gas	44 934	14.8	42 897	14.7	45 120	14.7	— 4.5	+ 3.2
Other fuels	12 470	4.1	12 129	4.2	12 443	4.1	— 2.7	+ 2.6
Total	303 536	100.0	291 271	100.0	305 719	100.0	— 5.0	+ 5.0

TABLE 8 C

## Coal supplies to public power plants

(This table does not include supplies to power stations owned by the coal industry nor auto-producers)

(1 000 tonnes)

		National coal	Coal from other ECSC countries	Total ECSC coal	Coal from third countries	Total supplies
<i>Belgium</i> <sup>(1)</sup>	1975	1 374	349	1 723	465	2 188
	1976	1 934	175	2 109	497	2 606
	1977	2 720	335	3 055	600	3 655
<i>Denmark</i>	1975	—	—	—	3 454	3 454
	1976	—	5	5	3 366	3 371
	1977	—	800	800	3 590	4 390
<i>Germany (FR)</i>	1975	18 847	725	19 572	3 774	23 346
	1976	25 050	753	25 803	3 617	29 420
	1977	24 250	750	25 000	4 000	29 000
<i>France</i>	1975	2 549	894	3 443	4 521	7 964
	1976	3 316	562	3 878	6 918	10 796
	1977	3 500	1 500	5 000	10 000	15 000
<i>Italy</i>	1975	—	—	—	1 007	1 007
	1976	—	—	—	1 179	1 179
	1977	—	—	—	1 800	1 800
<i>Netherlands</i>	1975	—	8	8	22	30
	1976	10	49	59	937	996
	1977	—	100	100	1 150	1 125
<i>United Kingdom</i>	1975	74 755	2	74 757	4 130	78 887
	1976	78 139	67	78 206	1 254	79 460
	1977	78 850	100	78 950	1 300	80 250
<i>Community</i>	1975	97 525	1 978	99 503	17 373	116 876
	1976	108 449	1 611	110 060	17 768	127 828
	1977	109 320	3 585	112 905	22 440	135 345

<sup>(1)</sup> Not including shale recuperation.



TABLE 9  
Coal and coke-oven coke consumption in various industries <sup>(1)</sup>  
(not including power stations)

*(1 000 tonnes)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)	1977/76 (%)	1978/77 (%)
Belgium	1 227	1 165	990	— 5.1	— 15.0
Denmark	477	460	455	— 3.6	— 1.1
Germany (FR)	3 187	3 360	3 350	+ 5.4	— 0.3
France	2 527	2 700	2 900	+ 6.8	+ 7.4
Ireland	30	30	30	—	—
Italy	572	640	640	+ 11.9	—
Luxembourg	1	3	3	—	—
Netherlands	422	295	295	— 30.1	—
United Kingdom	7 040 <sup>(2)</sup>	9 020	9 145	+ 28.1 <sup>(2)</sup>	+ 1.4
Community	15 483	17 673	17 808	—	+ 0.8

<sup>(1)</sup> Coke-oven coke assigned a value of unity.

<sup>(2)</sup> Provisional figures.

TABLE 10  
Deliveries of solid fuels for domestic heating  
(including issues to mineworkers)

(million tonnes of coal equivalent)

	1976 (actual)	1977 (estimates)	1978 (forecasts)	1977/76 %	1978/77 %
<i>Belgium</i>	2.0	1.9	1.7	— 3.5	— 11.9
of which: coal	1.7	1.6	1.4	— 3.9	— 13.2
patent fuel	0.2	0.2	0.2	— 2.1	— 4.3
coke	0.1	0.1	0.1	+ 11.1	—
<i>Denmark</i>	0.1	0.1	0.1	— 4.2	— 0.9
<i>Germany (FR)</i>	7.8	7.2	6.6	— 8.0	— 7.5
of which: coal	1.6	1.4	1.3	— 14.3	— 7.1
patent fuel	1.1	1.1	1.0	— 6.9	— 4.8
coke	2.4	2.3	2.2	— 3.1	— 6.0
lignite and briquettes	2.6	2.4	2.1	— 8.9	— 10.4
<i>France</i>	6.3	5.8	5.2	— 8.7	— 10.2
of which: coal	3.3	3.0	2.7	— 10.6	— 8.5
patent fuel	2.6	2.4	2.1	— 6.1	— 12.5
coke	0.3	0.3	0.3	— 8.5	— 7.5
lignite and briquettes	0.1	0.1	0.1	— 13.2	— 12.0
<i>Ireland</i>	0.9	0.9	0.9	+ 5.8	— 0.5
of which: coal and coke	0.6	0.7	0.7	+ 9.2	—
peat and briquettes	0.3	0.2	0.2	— 1.8	— 1.8
<i>Italy</i>	0.5	0.4	0.4	— 8.6	— 10.1
of which: coal and patent fuel	0.3	0.2	0.2	— 19.2	— 24.3
coke	0.2	0.2	0.2	—	—
<i>Netherlands</i>	0.1	0.1	0.1	— 7.6	— 12.8
<i>United Kingdom</i>	16.7	16.7	15.4	—	— 7.7
of which: coal	12.7	13.0	12.1	+ 2.3	— 7.0
patent fuel	1.1	1.0	0.8	— 13.9	— 18.0
coke	2.9	2.7	2.5	— 6.3	— 8.1
<i>Community</i>	34.4	33.2	30.5	— 3.5	— 8.2
of which: coal	20.3	19.9	18.4	— 2.0	— 7.5
patent fuel	5.1	4.7	4.2	— 7.8	— 11.6
coke	5.9	5.6	5.3	— 4.8	— 6.7
lignite and peat	3.1	3.0	2.6	— 6.6	— 8.5

NB: Difference due to rounding off.

TABLE 11  
Hard coal production by areas

(1 000 tonnes, t = t)

	1976 (actual)	1977 (provisional)	1978 (forecasts)
Campine	6 112	6 225	6 700
Sud	1 126	815	715
<i>Belgium</i>	7 238	7 040	7 415
Ruhr	79 021	73 600	73 200
Aachen	5 674	5 700	5 700
Niedersachsen	2 007	2 000	2 000
Saar	9 295	9 400	9 400
Klienzechen	329	300	300
<i>Germany (FR)</i> <i>(National series)</i>	96 325 (89 269)	91 000 (84 400)	90 600 (84 000)
Nord/Pas-de-Calais	7 318	6 600	5 700
Lorraine	9 970	10 000	10 000
Centre-Midi	4 591	4 600	4 200
<i>France</i>	21 879	21 200	19 900
<i>Ireland</i>	48	50	50
Scotland	9 370	8 500	..
North East	13 418	12 700	..
Yorkshire	31 096	31 100	..
North West	11 594	10 800	..
Midlands	36 320	35 800	..
South Wales	7 866	7 400	..
Licensed mines and opencast	12 538	13 100	..
<i>United Kingdom</i>	122 202	119 400	119 900
<i>Community</i> <i>(National series)</i>	247 693 (240 637)	238 400 (232 090)	237 800 (231 265)

TABLE 12  
Hard coal production

*(1 000 tonnes of coal equivalent)*

	1976 (actual)	1977 (provisional)	1978 (forecasts)	% changes	
				1977/76	1978/77
				Belgium	6 491
Germany (FR)	90 158	85 170	84 800	— 5·5	— 0·3
France	19 870	19 250	18 075	— 3·1	— 6·1
Ireland	49	50	50	—	—
United Kingdom	110 127	107 250	108 000	— 2·6	+ 0·7
Community	226 695	218 030	217 575	— 3·8	— 0·2

TABLE 13  
Average number of miners working below ground

*(1 000s)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)	Changes 1977/76		Changes 1978/77	
				1 000 men	%	1 000 men	%
				Belgium	17·7	16·5	15·6
Germany (FR)	105·8	103·0	101·5	— 2·8	— 2·7	— 1·5	— 1·5
France	38·0	35·8	32·0	— 2·2	— 5·8	— 3·8	— 10·6
United Kingdom	169·8	168·8	170·0	— 1·0	— 0·6	+ 1·2	+ 0·7
Community	331·3	324·1	319·1	— 7·2	— 2·2	— 5·0	— 1·5

TABLE 14  
Output per underground manshift

	Kilograms per manshift			% change	
	1976 (actual)	1977 (estimates)	1978 (forecasts)	1977/76	1978/77
Belgium	2 524	2 655	2 930	+ 5.2	+10.4
Germany (FR)	4 153	4 170	4 300	+ 0.4	+ 3.1
France	2 781	3 057	3 241	+ 9.9	+ 6.0
United Kingdom	3 406	3 340	3 400	- 2.0	+ 1.8

TABLE 15  
Production costs and revenue per tonne  
(% variations according to data supplied in national currencies)

	Production costs		Revenue	
	1976/75	1977/76 (provisional)	1976/75	1977/76 (provisional)
Belgium	+ 6.2	+ 3.6	- 1.9	- 4.2
Germany (FR)	+ 7.0	+ 6.0	+ 9.2	- 1.2
France	+12.4	+ 7.7	+ 3.2	+ 2.3
United Kingdom	+24.6	+17.3	+22.4	+17.1

TABLE 16  
State aids to the coal industry  
(Direct and indirect aids)

	<i>(EUA per tonne)</i>					
	Direct aids <sup>(1)</sup>		Indirect aids		Total	
	1976	1977	1976	1977	1976	1977
Belgium	22.88	28.51	1.79	2.24	24.67	30.45
Germany (FR)	2.16	3.56	0.20	0.39	2.36	3.95
France	13.27	19.51	0.23	0.26	13.50	19.77
United Kingdom	0.22	0.48	—	—	0.22	0.48
Community	2.80	4.11	0.15	0.24	2.95	4.35

<sup>(1)</sup> Including aids in respect of coking coal.

TABLE 17  
Investments in coal production and preparation

*(million EUA)*

	1976 (actual)	1977 (estimates)	1978 <sup>(1)</sup> (forecasts)
Belgium	9.4	16.5	0.2
Germany (FR)	251.9	273.2	172.5
France	45.4	52.5	46.8
United Kingdom	481.0	424.5	392.1
Community	787.7	766.7	611.6

<sup>(1)</sup> Excluding investments not formally decided or engaged.

TABLE 18  
Pit closures

	1977		1978	
	Number	1976 output (1 000 tonnes)	Number	1976 output (1 000 tonnes)
Belgium				
— Sud	2	228	1	115
Germany (FR)				
— Ruhr	—	—	1	2 110
France				
— NPC	—	—	3	1 303
— Centre-Midi	—	—	2	98
United Kingdom				
— Scotland	1	44	1	174
— North East	1	111		
— Western	1	223		
— South Wales	2	144		
— Barnsley	—	—	1	200
— South Yorkshire	—	—	1	309
Community	7	800	10	4 309

NB: 1978 figures given for the UK only cover the period January to 30 March (end of the 1977/78 fiscal year).

TABLE 19  
Listed pithead prices for Community coal at 15 January and 1 April 1977 and 1 January 1978

Category	Type	Date	(national currency per tonne)								
			Ruhr DM	Aachen DM	Saar DM	Belgium Bfrs	Nord FF	Lothringen FF	South Wales £	Scotland £	North Yorkshire £
Anthracite	Nuts 3 20/30 mm 3/4—1 1/4	15. 1. 1977	219-00	—	—	3 450	381-00	—	34-20	—	—
		1. 4. 1977	219-00	—	—	3 450	420-00	—	39-37	—	—
		1. 1. 1978	236-00	—	—	3 550	420-00	—	39-37	—	—
Lean coal	Nuts 3 20/30 mm 3/4—1 1/4	15. 1. 1977	211-00	205-00	—	3 350	—	—	29-13	—	—
		1. 4. 1977	211-00	205-00	—	3 350	—	—	33-66	—	—
		1. 1. 1978	226-00	225-25	—	3 450	—	—	33-66	—	—
Semi-bituminous	Nuts 4 10/20 mm 0—3/4	15. 1. 1977	167-00	181-00	—	—	—	—	—	—	—
		1. 4. 1977	167-00	181-00	—	—	—	—	—	—	—
		1. 1. 1978	182-00	198-75	—	—	—	—	—	—	—
Long flame	Nuts 2 30/50 mm 1—2"	15. 1. 1977	155-50	—	176-00	2 450	—	—	—	—	22-05
		1. 4. 1977	155-50	—	176-00	2 450	—	—	—	—	25-20
		1. 1. 1978	170-50	—	192-00	2 450	—	—	—	—	25-20
Long flame	Nuts 5 6/10 mm 1/4—1/2	15. 1. 1977	157-50	—	173-00	2 450	—	—	—	—	19-98
		1. 4. 1977	157-50	—	173-00	2 450	—	—	—	—	23-03
		1. 1. 1978	172-50	—	189-00	2 450	—	—	—	—	23-03
Coking coal	Medium or high volatile	15. 1. 1977	165-50	167-50	180-00 <sup>(4)</sup>	2 050	320-00	338-00 <sup>(4)</sup>	33-27 <sup>(4)</sup>	27-07 <sup>(4)</sup>	25-10 <sup>(4)</sup>
		1. 4. 1977	165-50	167-50	180-00	2 050	340-00	360-00	38-29	31-30	29-04
		1. 1. 1978	175-50	184-00	190-00	2 105	340-00	360-00	38-29	31-30	29-04
Coke	Blast furnace 40 mm 1 1/2	15. 1. 1977	258-00	257-00	286-00	3 850 <sup>(1)</sup>	480-00	502-00	57-23	56-25	55-76
		1. 4. 1977	258-00	257-00	286-00	3 850	510-00	535-00	66-09	65-11	64-62
		1. 1. 1978	274-00	272-00	299-00	3 650	510-00	535-00	66-09	65-11	64-62

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

<sup>(2)</sup> Power stations: 254-00 to 264-00 FF/tonne.

<sup>(3)</sup> Power stations: 271-00 to 281-00 FF/tonne.

<sup>(4)</sup> High volatile.

TABLE 20  
Listed pithead prices for Community coal at 15 January and 1 April 1977 and 1 January 1978

Category	Type	Date	Ruhr	Aachen	Saar	Belgium	Nord	Lothringen	South Wales	Scotland	North Yorkshire	(\$ per tonne) (1) (£)			
												Lowest price	Highest price	Difference %	
Anthracite	Nuts 3 20/30 mm 3/4—1 1/4"	15. 1. 1977	93.58	—	—	96.55	77.36	—	58.36	—	—	—	58.36	96.55	65
		1. 4. 1977	91.64	—	—	94.24	84.51	—	67.70	—	—	—	67.70	94.24	39
		1. 1. 1978	112.25	—	—	108.40	90.27	—	76.48	—	—	—	76.48	112.25	47
Lean coal	Nuts 3 20/30 mm 3/4—1 1/4"	15. 1. 1977	90.16	87.60	—	93.75	—	—	49.71	—	—	—	49.71	93.75	89
		1. 4. 1977	88.30	85.79	—	91.51	—	—	57.88	—	—	—	57.88	91.51	58
		1. 1. 1978	107.49	107.13	—	105.34	—	—	65.39	—	—	—	65.39	105.49	64
Semi-bituminous	Nuts 3 10/20 mm 0—3/4"	15. 1. 1977	71.36	77.34	—	—	—	—	—	—	—	—	71.36	77.34	8
		1. 4. 1977	69.88	75.74	—	—	—	—	—	—	—	—	69.88	75.74	8
		1. 1. 1978	86.56	94.53	—	—	—	—	—	—	—	—	86.56	94.53	9
Long flame	Nuts 2 30/50 mm 1—2"	15. 1. 1977	66.44	—	75.20	68.57	—	47.72	—	44.50	37.62	—	37.62	75.20	100
		1. 4. 1977	65.07	—	73.65	66.92	50.30	—	50.30	—	51.28	43.33	43.33	73.65	70
		1. 1. 1978	81.09	—	91.32	74.81	53.74	—	53.74	—	57.93	48.95	48.95	91.32	87
Long flame	Nuts 5 6/10 mm 1/4—1/2"	15. 1. 1977	67.30	—	73.92	68.57	—	42.44 (4)	—	42.83	34.09	—	34.09	73.92	117
		1. 4. 1977	65.91	—	72.39	66.92	44.87 (5)	—	44.87 (5)	—	49.42	39.60	39.60	72.39	83
		1. 1. 1978	82.05	—	89.89	74.81	47.93 (6)	—	47.93 (6)	—	55.83	44.74	44.74	89.89	101
Coking coal	Medium or high volatile	15. 1. 1977	70.72	71.57	76.91 (3)	57.37	64.98	68.63 (3)	56.77 (3)	46.19 (3)	42.83 (3)	—	42.83	76.91	80
		1. 4. 1977	69.26	70.09	75.32	56.00	68.41	72.44	72.44	65.84	53.82	49.93	49.93	75.32	51
		1. 1. 1978	83.47	87.52	90.37	64.27	73.08	77.38	77.38	74.38	60.80	56.41	56.41	90.37	60
Coke	Blast furnace 40 mm 1 1/2"	15. 1. 1977	110.24	109.82	122.21	107.75	97.46	101.93	97.65	95.98	95.14	—	95.14	122.21	28
		1. 4. 1977	107.96	107.55	119.68	105.16	102.62	107.65	107.65	113.64	111.96	111.11	102.62	119.68	17
		1. 1. 1978	130.32	129.37	142.21	111.45	109.62	114.99	114.99	128.38	126.48	125.52	109.62	142.21	30

(1) Dollar exchange rate

DM

Index

4. 1. 1977

2.34

100

1. 4. 1977

2.39

102

2. 1. 1978

2.10

92

FF

Index

4.92

4.97

4.65

£

Index

0.58

0.58

0.51

Index

100

100

88

(2) Prices are not adjusted for quality differences.

(3) High volatile.

(4) Power stations: 51.58 to 53.61 \$/tonne.

(5) Power stations: 54.53 to 56.54 \$/tonne.

(6) Power stations: 58.25 to 60.40 \$/tonne.



TABLE 21  
Coke-oven coke production capacity

*(million tonnes)*

	Belgium	Germany (FR)	France	Italy	Nether- lands	United Kingdom	Community
<i>1976</i>							
Colliery coke ovens	—	27.1	7.6	—	—	4.7	39.4
Iron and steel industry	7.7	9.6	6.7	9.0	2.5	10.0	45.5
Independent	—	—	—	2.6	0.6	3.3 <sup>(1)</sup>	6.5
Total	7.7	36.7	14.3	11.6	3.1	18.0	91.4
(of which coastal coking plants)	(1.5)	(0.5)	(4.0)	(11.6)	(3.1)	(..)	(..)
<i>1977</i>							
Colliery coke ovens	—	24.2	7.4	—	—	4.7	36.3
Iron and steel industry	7.8	9.6	6.0	9.0	2.5	10.1	45.4
Independent	—	—	—	2.6	0.6	3.0 <sup>(1)</sup>	6.2
Total	7.8	33.8	13.8	11.6	3.1	17.8	87.9
(of which coastal coking plants)	(1.6)	(0.5)	(4.0)	(11.6)	(3.1)	(..)	(..)
<i>1978</i>							
Colliery coke ovens	—	21.8	6.5	—	—	4.4	32.7
Iron and steel industry	8.1	9.6	6.7	9.0	2.5	12.0	47.9
Independent	—	—	—	2.6	0.6	3.0 <sup>(1)</sup>	6.2
Total	8.1	31.4	13.2	11.6	3.1	19.4	86.8
(of which coastal coking plants)	(1.6)	(0.5)	(4.0)	(11.6)	(3.1)	(..)	(..)

<sup>(1)</sup> Including LTC.

TABLE 22  
Coke-oven coke

(1 000 tonnes)

	Coal deliveries to coking plants	Consumption of coal in coking plants	Production of coke-oven coke	
			1 000 tonnes	Variation in % versus the previous year
<i>1976 (actual)</i>				
Belgium	8 464	8 226	6 216	+ 8.5
Germany (FR)	40 947	40 967	31 951	- 8.2
France	14 765	14 765	11 313	- 1.2
Italy	10 703	10 824	7 970	- 1.2
Netherlands	3 546	3 565	2 813	+ 4.9
United Kingdom	21 278	21 053	15 753	- 0.7
Community	99 703	99 400	76 016	- 3.3
<i>1977 (estimates)</i>				
Belgium	7 050	7 150	5 500	-11.5
Germany (FR)	36 100	36 050	27 700	-13.3
France	13 900	13 900	10 700	- 5.4
Italy	9 580	9 560	7 350	- 7.8
Netherlands	3 450	3 450	2 650	- 5.8
United Kingdom	19 600	19 600	14 500	- 7.8
Community	89 680	89 710	68 400	-10.0
<i>1978 (forecasts)</i>				
Belgium	7 400	7 400	5 700	+ 3.6
Germany (FR)	35 100	35 100	27 000	- 2.5
France	13 800	13 800	10 600	- 0.9
Italy	9 180	9 180	7 000	- 4.8
Netherlands	3 480	3 480	2 675	+ 0.9
United Kingdom	19 450	19 450	14 400	- 0.7
Community	88 410	88 410	67 375	- 1.5

TABLE 23  
Coal supplies to coke ovens

(1 000 tonnes)

	National coal	Coal from other ECSC countries	Total ECSC coal	Coal from third countries	Total supplies
<i>Belgium</i>					
1975	4 052	1 837	5 889	1 704	7 593
1976	3 818	1 978	5 796	2 611	8 407
1977	3 520	1 400	4 920	2 130	7 050
<i>Germany (FR)</i>					
1975	44 327	229	44 556	33	44 589
1976	40 651	209	40 860	87	40 947
1977	35 800	200	36 000	100	36 100
<i>France</i>					
1975	6 823	3 419	10 242	4 138	14 381
1976	6 793	3 422	10 215	4 588	14 804
1977	6 700	3 300	10 000	3 900	13 900
<i>Italy</i>					
1975	—	2 800	2 800	8 333	11 133
1976	—	2 321	2 321	8 523	10 845
1977	—	2 150	2 150	7 430	9 580
<i>Netherlands</i>					
1975	—	893	893	2 777	3 670
1976	—	700	700	2 882	3 582
1977	—	600	600	2 850	3 450
<i>United Kingdom</i>					
1975	21 302	—	21 302	690	21 992
1976	20 229	124	20 353	1 250	21 603
1977	18 455	100	18 555	1 045	19 600
<i>Community</i>					
1975	76 504	9 178	85 682	17 675	103 358
1976	71 491	8 754	80 245	19 941	100 188
1977	64 475	7 750	72 225	17 455	89 680

NB: 1977 — estimates.

TABLE 24  
Trend of intra-Community trade in coal

(1 000 tonnes)

To \ From										
	Belgium	Denmark	Germany (FR)	France	Ireland	Italy	Luxembourg	Netherlands	United Kingdom	Total
<i>Belgium</i>										
1976	—	—	3 425	79	—	—	—	—	224	3 728
1977	—	—	3 070	70	—	—	—	—	85	3 225
1978	—	—	2 745	75	—	—	—	—	170	2 990
<i>Denmark</i>										
1976	—	—	1	—	—	—	—	—	29	30
1977	—	—	700	—	—	—	—	—	100	800
1978	—	—	1 280	—	—	—	—	—	120	1 400
<i>Germany (FR)</i>										
1976	267	—	—	335	3	—	—	306	343	1 254
1977	215	—	—	250	—	—	—	150	635	1 250
1978	150	—	—	245	—	—	—	—	705	1 100
<i>France</i>										
1976	45	—	4 554	—	—	—	—	14	457	5 070
1977	40	—	5 060	—	—	—	—	—	800	5 900
1978	40	—	5 560	—	—	—	—	—	1 000	6 600
<i>Ireland</i>										
1976	—	—	27	—	—	—	—	—	105	132
1977	—	—	5	—	—	—	—	—	215	220
1978	—	—	—	—	—	—	—	—	150	150
<i>Italy</i>										
1976	—	—	2 350	28	—	—	—	—	14	2 392
1977	—	—	2 200	20	—	—	—	—	—	2 220
1978	—	—	2 360	20	—	—	—	—	20	2 400
<i>Luxembourg</i>										
1976	28	—	394	42	—	—	—	10	47	521
1977	—	—	445	5	—	—	—	—	—	450
1978	—	—	445	5	—	—	—	—	—	450
<i>Netherlands</i>										
1976	12	—	827	3	—	—	—	—	48	890
1977	5	—	800	5	—	—	—	—	165	975
1978	5	—	840	5	—	—	—	—	150	1 000
<i>United Kingdom</i>										
1976	82	—	169	8	14	—	—	131	—	404
1977	—	—	300	—	—	—	—	—	—	300
1978	—	—	300	—	50	—	—	—	—	350
<i>Total deliveries</i>										
1976	434	—	11 747	495	17	—	—	461	1 267	14 421
1977	260	—	12 580	350	—	—	—	150	2 000	15 340
1978	195	—	13 530	350	50	—	—	—	2 315	16 440

NB: 1976 — actual; 1977 — estimates; 1978 — forecasts.

TABLE 25  
Trend of intra-Community trade in coke

(1 000 tonnes)

To \ From										
	Belgium	Denmark	Germany (FR)	France	Ireland	Italy	Luxembourg	Netherlands	United Kingdom	Total
<i>Belgium</i>										
1976	—	—	120	112	—	—	—	114	35	381
1977	—	—	60	100	—	—	—	200	20	380
1978	—	—	60	100	—	—	—	200	20	380
<i>Denmark</i>										
1976	—	—	22	57	—	—	—	10	36	125
1977	—	—	45	30	—	—	—	—	10	88
1978	—	—	35	30	—	—	—	—	10	75
<i>Germany (FR)</i>										
1976	44	—	—	272	—	—	—	67	67	450
1977	10	10	—	250	—	—	—	75	100	445
1978	10	10	—	220	—	—	—	80	30	350
<i>France</i>										
1976	48	—	2 471	—	—	32	—	343	22	2 916
1977	70	—	1 650	—	—	50	—	300	30	2 100
1978	70	—	2 060	—	—	50	—	300	20	2 500
<i>Ireland</i>										
1976	—	—	—	—	—	—	—	—	13	13
1977	—	—	—	—	—	—	—	—	10	10
1978	—	—	—	—	—	—	—	—	—	—
<i>Italy</i>										
1976	16	—	30	87	—	—	—	1	—	134
1977	—	—	130	—	—	—	—	—	—	130
1978	—	—	120	—	—	—	—	—	—	120
<i>Luxembourg</i>										
1976	58	—	1 925	26	—	—	—	—	—	2 009
1977	140	—	1 890	30	—	—	—	—	—	2 060
1978	140	—	1 960	30	—	—	—	—	—	2 130
<i>Netherlands</i>										
1976	9	—	149	15	—	—	—	—	129	302
1977	10	—	165	25	—	—	—	—	50	250
1978	10	—	160	20	—	—	—	—	60	250
<i>United Kingdom</i>										
1976	—	—	—	—	—	—	—	—	—	—
1977	—	—	—	—	—	—	—	—	—	—
1978	—	—	—	—	—	—	—	—	—	—
<i>Total deliveries</i>										
1976	175	—	4 717	569	—	32	—	535	302	6 330
1977	230	10	3 940	435	—	50	—	575	220	5 460
1978	230	10	4 395	400	—	50	—	580	140	5 805

NB: 1976 — actual; 1977 — estimates; 1978 — forecasts.

TABLE 26  
Imports of coal from third countries

## A. By country of destination

*(million tonnes)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)
Belgium	3.5	2.8	2.2
Denmark	4.1	4.2	4.6
Germany (FR)	5.4	5.4	5.1
France	13.8	15.6	15.5
Ireland	0.5	0.5	0.6
Italy	10.0	9.6	9.4
Luxembourg	0.1	0.2	0.2
Netherlands	3.8	4.0	3.9
United Kingdom	2.4	2.3	2.3
Community	43.7	44.7	43.8

## B. By country of origin

*(million tonnes)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)
USA	14.2	11.5	11.1
Poland	16.0	14.3	15.0
USSR	4.1	3.8	3.0
Australia	4.5	6.6	5.6
South Africa	3.5	7.1	7.1
Others	0.8	1.4	2.0
Total	43.7	44.7	43.8

C. By sector of consumption <sup>(1)</sup>

*(million tonnes)*

	1976 (actual)	1977 (estimates)	1978 (forecasts)
Steam coal	19.9	23.3	23.3
Coking coal	17.8	17.8	17.1
Others	6.0	3.6	3.4
Total	43.7	44.7	43.8

<sup>(1)</sup> For 1976, figures are the actual deliveries to public power plants and to coke ovens; for 1977 and 1978, all coal described as steam coal or coking coal.

TABLE 27  
Imports of coal from third countries — 1977  
(Estimates)

(1 000 tonnes)

	USA	Poland	USSR	Australia	South Africa	Others	Total
Belgium	1 220	550	210	250	460	145	2 835
Denmark	100	2 600	600	100	300	500	4 200
Germany (FR)	1 000	2 100	200	800	800	500	5 400
France	1 800	5 075	1 175	2 000	5 400	150	15 600
Ireland	—	505	—	—	—	—	505
Italy	4 750	2 550	1 200	1 100	—	—	9 600
Luxembourg	—	—	100	—	62	—	162
Netherlands	2 220	800	250	600	75	100	4 045
United Kingdom	400	165	75	1 690	3	12	2 345
Community	11 490	14 345	3 810	6 540	7 100	1 407	44 692

TABLE 28  
Community producers' stocks

## A. Stocks of coal

(1 000 tonnes)

	End of 1976 (actual)	End of 1977 (provisional)	End of 1978 (forecasts)	Difference	
				1977/76	1978/77
Belgium	1 120	726	391	- 394	- 335
Germany (FR) <sup>(1)</sup>	11 500	17 070	16 640	+5 570	- 430
France	4 396	5 010	4 680	+ 614	- 330
Ireland	30	30	30	-	-
United Kingdom	11 627	9 950	10 585	-1 677	+ 635
Community <sup>(2)</sup>	28 682	32 795	32 335	+4 113	- 460

## B. Stocks of coke-oven coke

(1 000 tonnes)

	End of 1976 (actual)	End of 1977 (provisional)	End of 1978 (forecasts)	Difference	
				1977/76	1978/77
Belgium	92	96	96	+ 4	-
Germany (FR) <sup>(1)</sup>	12 783	15 230	15 035	+2 447	- 195
France	1 500	1 350	1 325	- 150	- 25
Italy	921	900	900	- 21	-
Netherlands	35	30	25	- 5	- 5
United Kingdom	3 032	3 640	3 670	+ 608	+ 30
Community	18 363	21 246	21 051	+2 883	- 195

## C. Stocks of coal and coke-oven coke, value in terms of coal equivalent for coke

(1 000 tonnes)

	End of 1976 (actual)	End of 1977 (provisional)	End of 1978 (forecasts)	Difference	
				1977/76	1978/77
Belgium	1 240	851	516	- 389	- 335
Germany (FR)	28 117	36 869	36 185	+8 752	- 684
France	6 346	6 765	6 403	+ 419	- 362
Ireland	30	30	30	-	-
Italy	1 206	1 179	1 179	- 27	-
Netherlands	46	39	33	- 7	- 6
United Kingdom	15 569	14 682	15 356	- 887	+ 674
Community	52 554	60 415	59 702	+7 861	- 713

<sup>(1)</sup> Including 'Notgemeinschaft'.<sup>(2)</sup> Including nine in Italy.



TABLE 29  
Stocks of coal at power stations

	End of 1975 (actual)	End of 1976 (actual)	End of 1977 (estimates)		Difference	
			1 000 tonnes	Days	1976/75	1977/76
Belgium	579	545	1 900	185	— 34	+1 355
Denmark	2 711	2 270	2 800	230	— 441	530
Germany (FR)	6 195	5 848	5 800	58	— 347	— 48
France	3 728	2 849	4 450	82	— 879	+1 601
Ireland	—	—	—	—	—	—
Italy	729	588	600	120	— 141	+ 12
Netherlands	215	298	300	90	+ 83	+ 2
United Kingdom	17 951	19 597	17 500	79	+1 646	—2 097
Community	32 108	31 995	33 350	82	— 113	+1 355

TABLE 30

## Breakdown of coal stocks

(Total colliery stocks at the end of September 1977)

## A. By group and by preparation

(1 000 tonnes)

	Large and graded	Smalls washed	Untreated smalls and fines	Part treated smalls	Ran of mine	Slurry	Total
<i>Belgium</i>							
Groups I + II	5	16	4	—	—	42	67
Groups V — VI	50	675	58	—	—	—	783
Groups III — IV — VII	—	—	—	—	—	—	—
Total	55	691	62	—	—	42	850
<i>Germany (FR)</i>							
Groups I + II	63	399	21	113	610	21	1 227
Groups V — VI	156	1 704	5	875	4 775	78	7 593
Groups III — IV — VII	422	694	100	183	100	507	2 006
Total + ('Notgemeinschaft') (Total)	641 ..	2 797 ..	126 ..	1 171 ..	5 485 ..	606 ..	10 826 (6 484) (17 310)
<i>France</i>							
Groups I + II	78	243	167	663	17	207	1 375
Groups V — VI	503	687	524	832	25	694	3 265
Groups III — IV — VII	14	8	404	84	—	117	627
Total	595	938	1 095	1 579	42	1 018	5 267
<i>Ireland III — IV — VII</i>							
					30		30
<i>United Kingdom</i>							
Groups I + II	24	484	921	12	659	—	2 100
Groups V — VI	158	1 196	867	207	223	—	2 651
Groups III — IV — VII	324	757	2 182	591	473	—	4 327
Total	506	2 437	3 970	810	1 355	—	9 078
<i>Community</i>							
Groups I + II	170	1 142	1 901	—	1 286	270	4 769
Groups V — VI	867	4 262	3 368	—	5 023	772	14 292
Groups III — IV — VII	760	1 459	3 544	—	603	624	6 990
Total	1 797	6 863	8 813	—	6 912	1 666	26 051

*B. By group and by area*

	Groups I-II	Groups V-VI	Groups III-IV-VII	Total
<i>Belgium</i>				
Luxembourg	—	783	—	783
Bassin Sud	67	—	—	67
Total	67	783	—	850
<i>Germany (FR)</i>				
Ruhr	523	6 852	105	7 480
Saar	—	687	1 463	2 150
Aachen	373	54	438	865
Nieder Sachsen	331	—	—	331
Total (+ 'Notgemeinschaft') (Total)	1 227	7 593	2 006	10 826 (6 484) (17 310)
<i>France</i>				
Nord-Pas-de-Calais	993	803	1	1 797
Lorraine	—	1 882	—	1 882
Centre Midi	382	580	626	1 588
Total	1 375	3 265	627	5 267
<i>Ireland</i>				
	—	—	30	30
<i>United Kingdom</i>				
Scotland	—	159	296	455
Northern	—	714	48	762
Yorkshire	—	536	512	1 048
North Western	—	610	85	695
Midlands	—	15	1 597	1 612
South Wales	1 738	116	1 040	2 894
Opencast	362	501	749	1 612
Total	2 100	2 651	4 327	9 078
Community	4 769	14 292	6 990	26 051



## Coal — intra-Community exchanges

(1 000 tonnes)

To	From	Belgium	Denmark	Germany (FR)	France	Ireland	Italy	Luxembourg	Netherlands	United Kingdom	Total receipts
Belgium		—	—	2 745	75	—	—	—	—	170	2 990
Denmark		—	—	1 280	—	—	—	—	—	120	1 400
Germany (FR)		150	—	—	245	—	—	—	—	705	1 100
France		40	—	5 560	—	—	—	—	—	1 000	6 600
Ireland		—	—	—	—	—	—	—	—	150	150
Italy		—	—	2 360	20	—	—	—	—	20	2 400
Luxembourg		—	—	445	5	—	—	—	—	—	450
Netherlands		5	—	840	5	—	—	—	—	150	1 000
United Kingdom		—	—	300	—	50	—	—	—	—	350
Total deliveries		195	—	13 530	350	50	—	—	—	2 315	16 440

## Balance of supply and demand: coke-oven coke, 1978

	(1 000 tonnes)									
	Belgium	Denmark	Germany (FR)	France	Ireland	Italy	Luxembourg	Netherlands	United Kingdom	Community
1. Production	5 700	—	27 000	10 600	—	7 000	—	2 675	14 400	67 375
2. Receipts from other ECSC countries	380	75	350	2 500	—	120	2 130	250	—	(5 805)
3. Imports	20	10	500	—	10	—	—	—	—	540
4. Total availabilities	6 100	85	27 850	13 100	10	7 120	2 130	2 925	14 400	67 915
5. Inland demand:										
(a) iron and steel industry	5 570	40	17 400	10 525	10	5 900	2 125	2 080	9 500	53 150
(b) other industries	210	10	1 350	1 200	—	500	3	220	1 245	4 738
(c) domestic users	25	25	900	140	—	215	2	2	2 485	3 794
(d) miscellaneous:	—	—	—	—	—	—	—	—	—	—
— issues to workers	15	—	700	120	—	5	—	—	—	840
— own consumption	—	—	250	330	—	50	—	—	250	880
— others	—	—	250	10	—	—	—	—	—	260
Total	5 820	75	20 850	12 325	10	6 670	2 130	2 302	13 480	63 662
6. Deliveries to other ECSC countries	230	10	4 395	400	—	50	—	580	140	(5 805)
7. Exports to third countries	50	—	2 800	400	—	400	—	48	750	4 448
8. Total requirements	6 100	85	28 045	13 125	10	7 120	2 130	2 930	14 370	68 110
9. Producers' stocks (beginning)										
10. Additions to/withdrawals from producers' stocks										
11. Producers' stocks (end)	—	—	—195	—25	—	—	—	—5	+30	—195

## Coke-oven coke — intra-Community exchanges, 1978

(1 000 tonnes)

To \ From	Belgium	Denmark	Germany (FR)	France	Ireland	Italy	Luxembourg	Netherlands	United Kingdom	Total receipts
Belgium	—	—	60	100	—	—	—	200	20	380
Denmark	—	—	35	30	—	—	—	—	10	75
Germany (FR)	10	10	—	220	—	—	—	80	30	350
France	70	—	2 060	—	—	50	—	300	20	2 500
Ireland	—	—	—	—	—	—	—	—	—	—
Italy	—	—	120	—	—	—	—	—	—	120
Luxembourg	140	—	1 960	30	—	—	—	—	—	2 130
Netherlands	10	—	160	20	—	—	—	—	60	250
United Kingdom	—	—	—	—	—	—	—	—	—	—
Total deliveries	230	10	4 395	400	—	50	—	580	140	5 805

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