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The Economic Life-Blood of Europe

With the integration of the Belgian, Dutch, French, German, Italian and Luxembourg economies to form the European Community, these six countries' whole economic and social development is now closely interwoven.

If the Community is to succeed in increasing its industrial and agricultural productivity, and hence its world competitive capacity, and to achieve its aims of higher living standards and better working conditions, it will need a steady flow of energy supplies, and it will have to ensure their efficient utilization. Energy is the life-blood of today's industrial society.

In terms of cost alone energy is a major factor in the economy: its incidence in production costs is now anything from 2% to 25%.

Consequently, the economic situation of every firm, every economic sector and every region in the Community hinges on the energy-supply position—that is, on the amount of fuels reaching the market and at what price.

It is therefore absolutely fundamental to the future prosperity of the Community economy that there should always be enough energy available to cover the steadily rising demand that accompanies economic growth—and available on terms that will allow the Community to keep its costs genuinely competitive, and also afford the less-developed parts of the six countries a fair chance to catch up.

Another indispensable requirement if the Community and other industrialized societies are to continue to forge ahead is research into energy. This is specially apparent in the case of nuclear power, but it is equally true with respect to research into coal-mining and valorization, petroleum, and energy conversion and valorization generally. For Europe to keep pace with world progress in this field, it is essential that there should be co-ordination of European brains and European resources.

Research not followed up by technological application, however, would be nothing but an academic exercise. Exploitation of research findings is making the energy sector more and more capital-intensive, with steadily-increasing sums being spent on the introduction of more advanced methods in coal-mining, on oil and its chemical ramifications, on electricity generation scaled to a soaring demand, and above all on the key to the future,

nuclear power. Accordingly, Europe needs a co-ordinated basis of sound financing arrangements for this expenditure to keep it technologically competitive in the world of today.

Part of the necessary energy is and will continue to be produced in the Community itself, in the form of coal, lignite, natural gas, petroleum, hydro-power and nuclear power. But the demand is rising so steeply that the Community is having to import more and more of its energy from outside : in 1966 more than half its requirements were met in this way.

The integration of the six Community economies necessitates, as part of the overall common economic policy being evolved to cover a wide range of aspects—agriculture, transport, competition short-term economic movements and so on—a common policy on energy.

The three European Communities have repeatedly urged the member governments to agree such a policy and to institute a common market for energy designed to ensure :

cheapness of supply;

security of supply as regards both price and amount;

freedom of choice for the consumer;

non-disruption of social and regional structures in the course of change from one energy source to another;

fair competition between the different energy sources;

safeguarding the interests of workers employed by energy-producing undertakings.

Energy: a major factor in economic and social development

Energy consumption per head is by now an important yardstick for judging an area's level of development economically, socially and in the matter of communications. The following averages show the increase between 1953 and 1964:

Energy consumption per head of population in kilocalories	
1953	12 million
1964	19 million = + 56%

These are, of course, only rough general averages. As regards the actual development in practice of the different economic regions and centres, it is obvious from history that what largely determined the coming of the Industrial Revolution and the focusing of industry in one place rather than another was cheap and reliable energy and efficient energy utilization. And in our own day too the availability of energy is an essential determinant of the location of industry, and so a major factor in the economic and social development of any given area.

The proportion of the Community economies' total expenditure being devoted to energy averages 5%-7%. The exact figure varies from country to country and from one part of a given country to another, while in addition, naturally, the different sectors and industries show different percentages. Nevertheless, it is possible to work out Community averages, distinguishing in each case between "direct energy procurements" (energy costs directly involved by the production concerned) and "indirect procurements" (energy costs already accounted for by production at earlier stages of the cycle). In agriculture the proportion is 3%-5%, in transport 10%-15% (including taxes on motor spirit); in industry it works out at 15% and upwards in the chemical, cement, ceramics and glass, and non-ferrous metals branches, 20%-25% in iron and steel, and about 10% in other sectors, such as foodstuffs (see Figure 1).

Energy is thus an important element in costs—a circumstance which needs particularly to be borne in mind at the present time, with world competition stiffening and a number of cost factors moving upward.

Energy costs not only directly affect selling prices, and hence the competitive capacity, of the European Community in the world market: owing to their influence on capital investment they also indirectly affect general economic growth, especially in the less-developed regions of the Community.

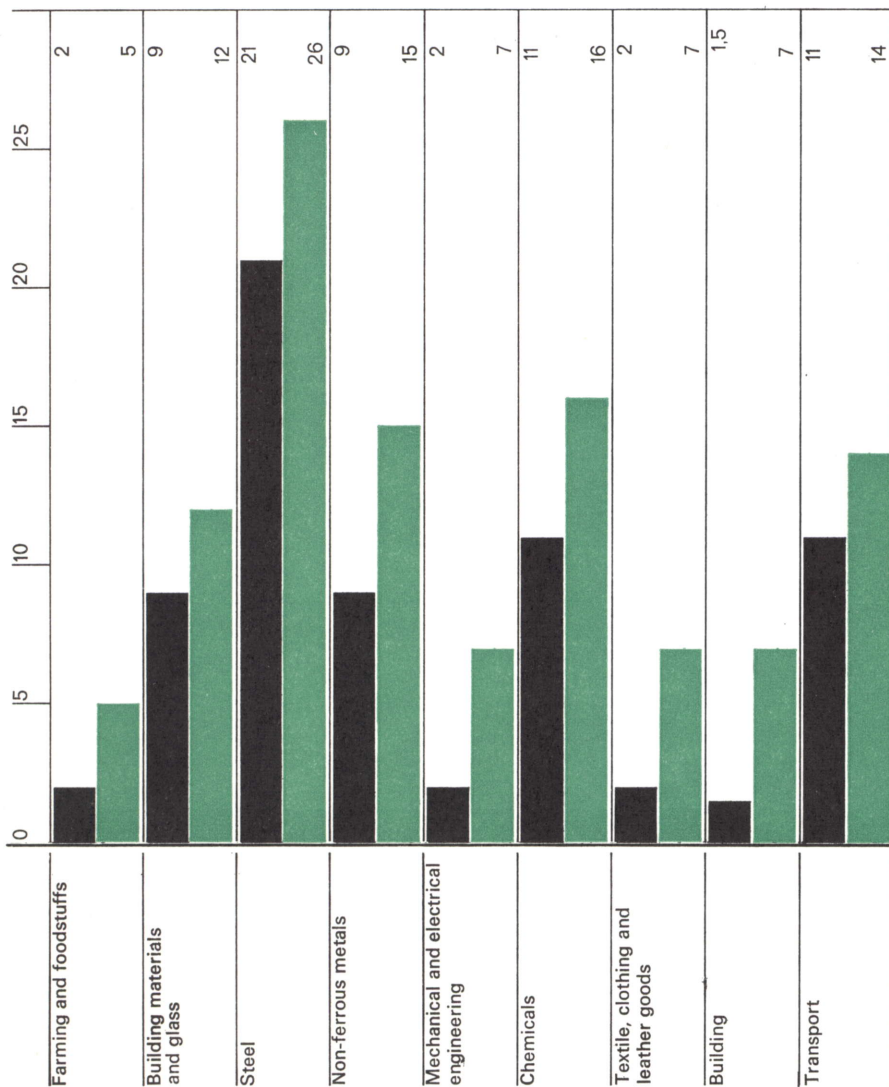
The different energy sources come under a number of separate national authorities and Community institutions, and the individual countries each have their own set of enactments and regulations, in regard more particularly to pricing, commercial policy, taxation and investment.

In the long run it will be necessary to iron out these disparities, since one of the implications of the general Common Market is the establishment of a common market for energy governed by one common set of co-ordinated rules.

By 1970 the Common Market will be a single, unified area with common rules applying to the main fields of economic policy: it is unthinkable that distortions should persist in the energy sector alone, and energy, as M.P.-O Lapie, the Chairman of the Inter-Executive Working Party on the subject, has put it, remain "a pocket of resistance to integration."

Average incidence of energy costs in total costs of selected sectors in the Community

- Direct energy procurements as % of value of product
- Direct and indirect energy procurements as % of value of product



The work of the Communities

The Community institutions have been working since their inception to secure the establishment of the basic principles, objectives and timetable for a common energy policy.

Coal comes under the ECSC Treaty, the other conventional energy sources—oil, natural gas, hydro-power, electric current—under the EEC Treaty, and nuclear energy under the Euratom Treaty. None of the three Treaties contains a word about a common energy policy or a timetable for its introduction, so that any action to remedy this state of affairs requires the unanimous agreement of the six member governments.

The High Authority, which has responsibility for the common market for coal, realized from the outset that, to be effective, a policy for coal would need to be dovetailed into a broader policy for energy in general. As early as 1953, at its suggestion, a joint High Authority-ECSC Council of Ministers Committee was set up, which in 1957 issued the first of its series of energy balance-sheets and long-term energy forecasts.

On October 8, 1957, the Council instructed the High Authority, in co-operation with the EEC and Euratom Commissions, which were to assume their duties on the following January 1, to submit proposals for a co-ordinated energy policy. The coal crisis had, incidentally, just begun, confirming the view of the High Authority, and bringing out the need for a broad energy policy more clearly than ever.

In 1959 an Inter-Executive Working Party on Energy was duly set up under the administrative charge of the High Authority. Since 1960 the High Authority, with the backing of several resolutions from the European Parliament, has submitted a series of studies and proposals to the Council on the Working Party's behalf. These include in particular the Memorandum on Energy Policy (June 25, 1962), the Study on the Long-Term Energy Outlook for the European Communities (December 1962, reissued in a revised and expanded edition in April 1966), and the Draft Agreement Creating, with Respect to the Treaty Establishing the European Coal and Steel Community, the Prerequisite Conditions for the Introduction of a Common Market for Energy (April 3, 1963).

In addition, a Special Committee on Energy Policy, headed by M.P.-O. Lapie, drafted an Energy Protocol: this in its original form was not accepted by the Council, but following a tour of the six capitals by the President of the High Authority, Sig. del Bo, and M. Lapie, a compromise formula was arrived at, and the new draft received the Council's unanimous approval on April 21, 1964. It was on the strength of the Protocol that the High Authority on February 17, 1965, instituted a Community system of state aid to collieries. Two years later, in order to promote sales of coking coal and coke to the Community iron and steel industry, the High Authority further, by a Decision of February 21, 1967—unanimously endorsed by the Council five days before—established a number of special arrangements for this purpose.

For a full list of these documents and of the relevant parliamentary resolutions, see Annex I.

The first part of this booklet describes the radical alteration in the structure of the energy market in recent years, and is followed by a review of the position in 1966. The third part outlines the long-term energy outlook for the Community, and the concluding section sets out the general policy line, the principles underlying the agreement of April 21, 1964, and some details of the emergency programme launched for the coal industry.

The Energy Revolution

For the purposes of this study of the trends and special features of demand and supply in the energy market, all forms of energy available and utilized are treated as primary energy. The primary sources of energy, as found in their natural state before conversion of any kind takes place, are:

- ▶ solid fuels (coal and lignite),
- ▶ liquid fuels (petroleum),
- ▶ natural gas, oil gas,
- ▶ hydro-power, geothermal heat, and nuclear energy (primary electricity).

A common unit of measurement, the ton coal equivalent (t.c.e.) is used for all four groups. This is the amount of energy required to obtain from a given form of energy a calorific value equivalent to that from one metric ton of coal (= seven million kilocalories).

Energy demand

Table 1

Community consumption of primary energy

		1950	1960	1965
Coal	■	213	245	224
	●	74	53	38
Lignite	□	25	34	34
	○	9	7	6
Petroleum	■	30	126	270
	●	10	28	45
Natural gas	■	1	14	23
	●	—	3	4
Primary electricity	■	20	42	45
	●	7	9	7
Total	■	289	461	596
	●	100	100	100

■ million tons c.e.

● %

The first point to be noted, as can be seen from Table 1 and from Figure II following, is the rapid increase in total energy consumption:

- ▶ 289 million tons c.e. in 1950,
- ▶ 461 million tons c.e. in 1960,
- ▶ almost 600 million tons c.e. in 1965.

Within this overall trend, arising from the expansion of the European economy, there have been very substantial changes in the share of total consumption represented by each different energy source (Figure III).

Broadly, the developments between 1950 and 1965 were

- ▶ a huge expansion in the market share of oil, from 10% to 45%,
- ▶ a heavy slump in that of coal, from 74% to 38%,
- ▶ the advance of natural gas from 0% to 4%,
- ▶ the emergence of nuclear energy, which first became statistically observable in 1966 with a share of 0.4%.

A second major feature of the trend recently has been the Community's growing dependence on imports (Table 2 and Figure IV). In 1967 the six member States will be importing more than 50% of their energy, compared with 27% in 1960 and a mere 11% in 1950.

Table 2

Energy requirements covered by indigenous and imported resources

	million tons c.e.		
	1950	1960	1965
Indigenous resources			
■ Coal	219	236	201
■ Other sources	49	100	121
Total	268	336	322
Net imports			
■ Coal	- 6 ⁽¹⁾	10	23
■ Petroleum	27	110	245
■ Other sources	0.5	5	6
Total	21	125	274
Total needs	289	461	596

⁽¹⁾ Net exports.

For some time demand has been veering further and further towards converted or secondary energy, production of which has become increasingly practicable and efficient because of improved technology, while consumption has been stimulated by the increased use of motor vehicles and the introduction of new heating methods. About 80% of the Community's supply of primary energy, both indigenous and imported, is now being turned into secondary energy, in the forms of electric current, coke, coke-oven, refinery and town gas, and fuel oil and motor spirit.

The breakdown by consumer sectors is as follows :

Table 3

Total energy consumption, by sectors

		1950	1960	1965
Iron and steel industry ⁽¹⁾	■	29.5	57.0	61.0
	●	10.2	12.4	10.2
Other industries	■	53.1	91.0	115.0
	●	18.4	19.6	19.3
Transport	■	37.6	54.0	77.0
	●	13.0	11.7	12.9
Private households	■	61.1	100.0	139.0
	●	21.1	21.6	23.3
Hydro, geothermal and nuclear power-stations	■	19.7	42.0	45.0
	●	6.8	9.2	7.6
Thermal power-stations	□	50.0	75.0	107.0
	○	17.3	16.4	18.0
Consumption in production, conversion and distribution losses, etc.	■	38.2	42.0	52.0
	●	13.2	9.2	8.7
Total consumption	■	289	461	596
	●	100	100	100

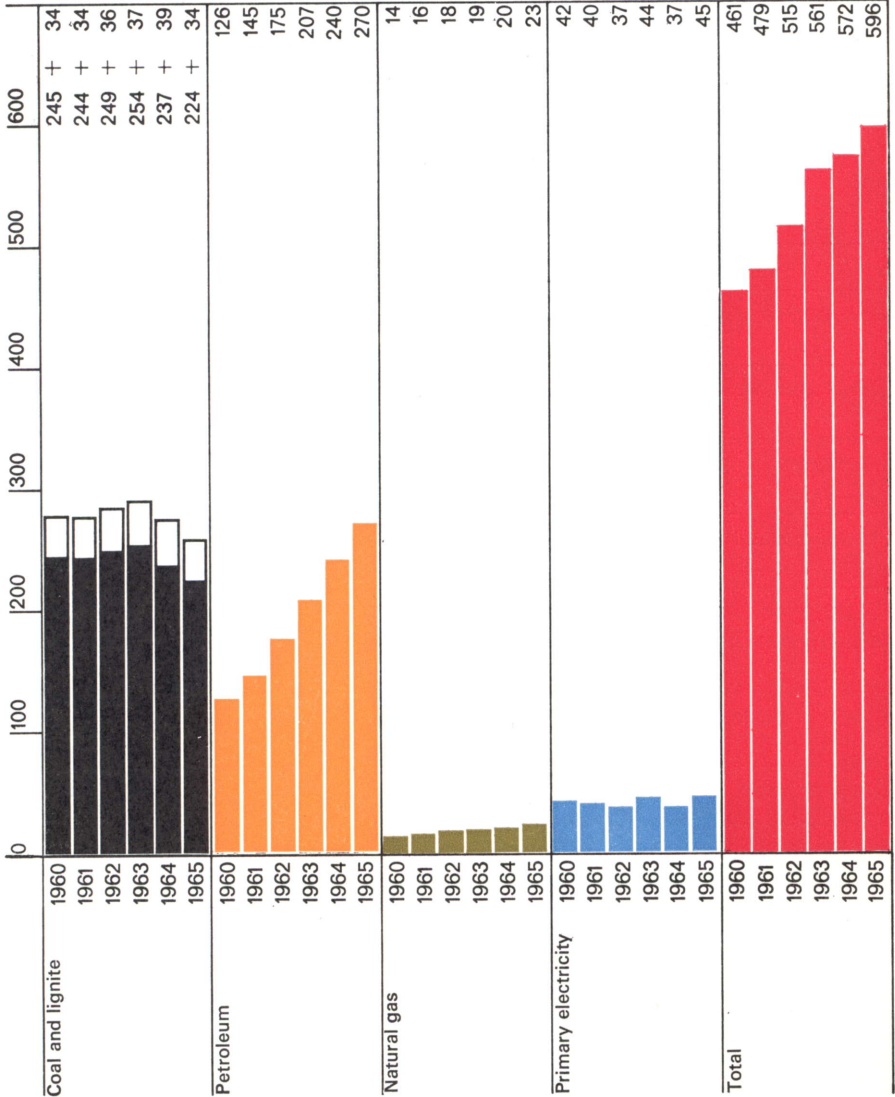
■ million tons c.e.
● %.

⁽¹⁾ Of which : coke consumption at blast-furnaces and sinter plants :

1950	1955	1960	1964	
24-25	37.8	49.0	49.0	million tons c.e.

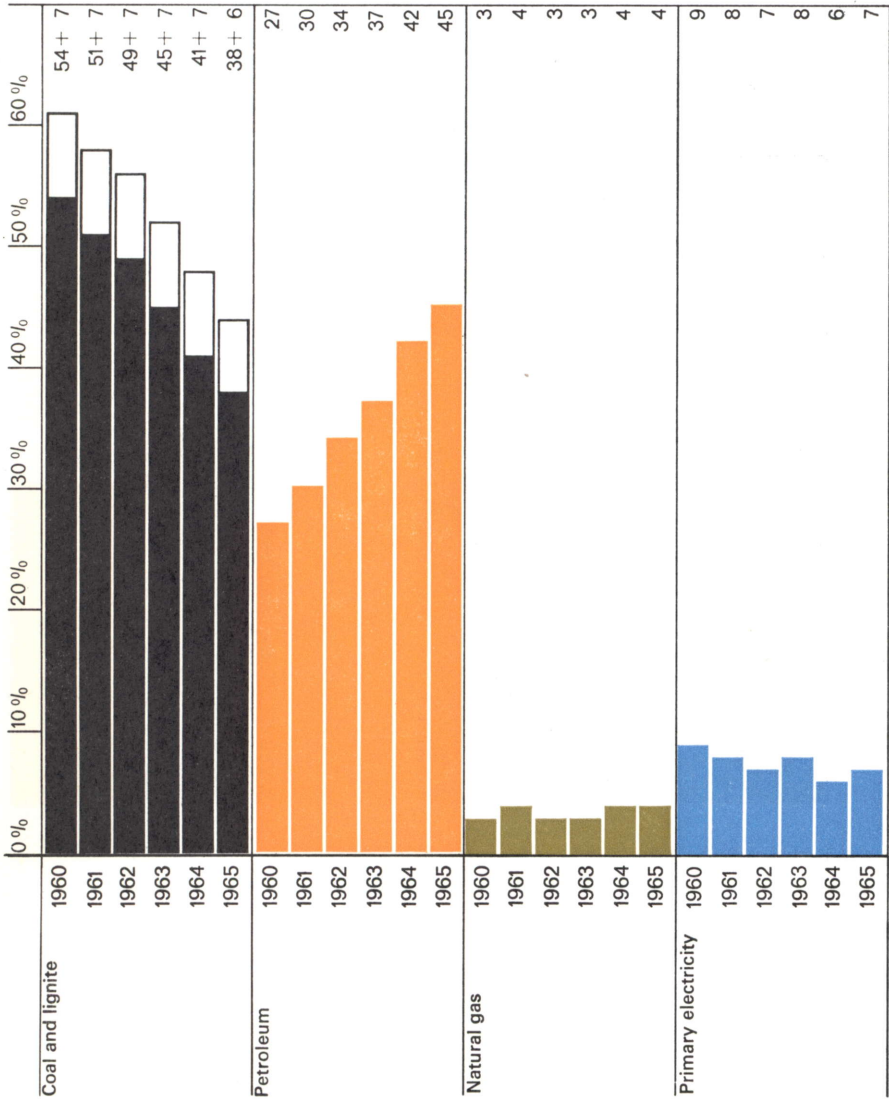
Trend in total consumption in terms of primary energy

million tons c.e.



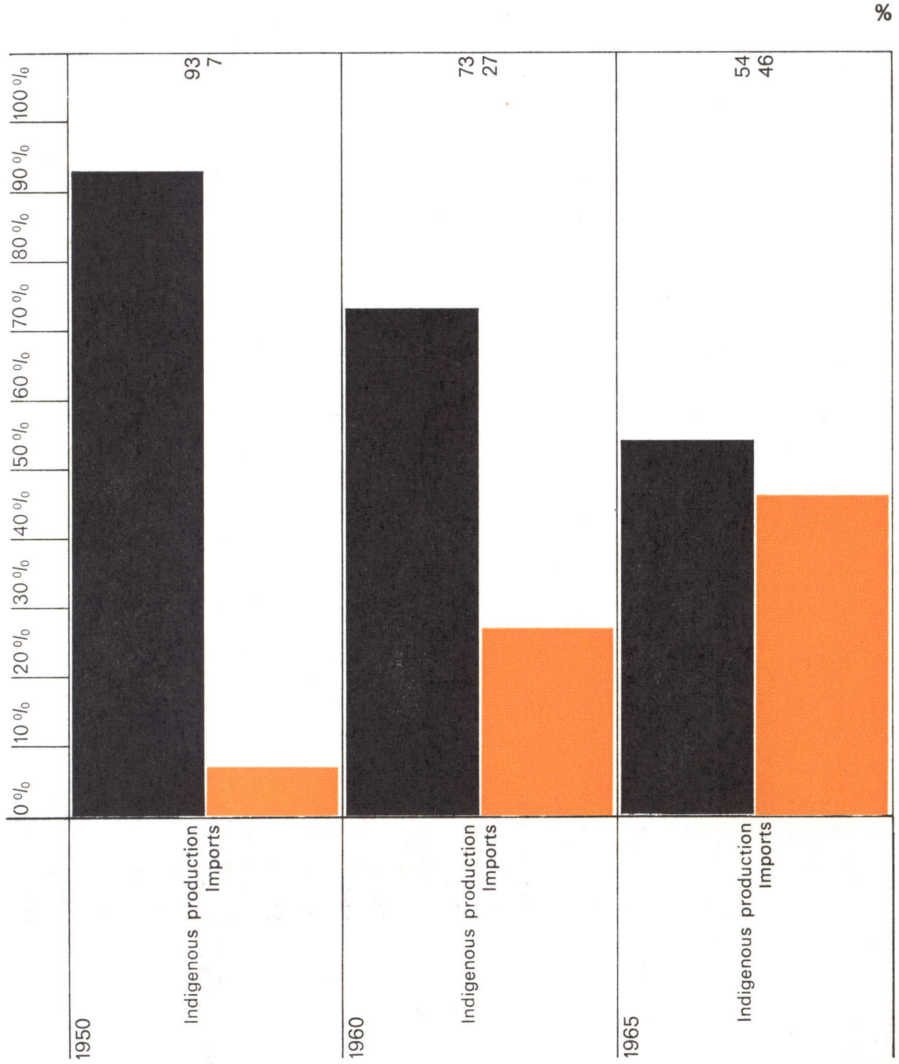
Shares of the different primary energy sources in total consumption

%



IV

Shares of indigenous production and imports in demand coverage



%

Energy supply

For the last ten years the supply of energy in the Community has been influenced by the following factors:

- the discovery and exploitation of substantial reserves of cheap new energy sources in various parts of the world;
- major economies in transportation, including a reduction in costs resulting from bigger and faster ships and increasing reliance on special facilities such as oil and gas pipelines, methane tankers and high- and very high-voltage electricity transmission networks;
- progress on the utilization of nuclear energy;
- the exploitation of new energy sources in the Community itself, especially natural gas;
- rationalization of Community coalmining through pit closures and productivity increases to adjust production to the changed state of the European energy market.

The first four of these developments set in during the early 1950's, since when the effects have increased rapidly, finally bringing about the entirely new energy pattern apparent in Europe today.

At first the structural change was not clear, owing to the high level of general business activity and the progress in economic reconstruction in the Community countries after World War II. Consequently, it was assumed for years that energy would remain permanently in short supply—an assumption which, incidentally, had much to do with the shaping of the ECSC Treaty. On the strength of this expected shortage extra efforts were made to substitute other fuels and to cut consumption of coal and coke, especially in the big consumer sectors such as the iron and steel industry and in power-stations. If there had been no improvement in the efficiency of coal valorization plant since 1950, the steelplants and coal-fired power-stations in the Community would have consumed about 50 million tons more coal in 1965 than they did. The rate of technological progress has produced each year a fresh saving of two to three million tons of coal in these two sectors alone.

In 1957, however, after the Suez crisis, the underlying trend which remained latent so long suddenly emerged into full view. At the time, Suez masked the troubles which were about to overtake the European coal industry and deferred their impact, but they came soon enough, having been hastened and accentuated by the side-effects of the steps taken to meet the emergency.

- The big oil companies, to cope with the huge demand, decided to organize their operations on a more elastic basis by diversifying the areas in which they were prospecting and by stepping up production. Action by the United States Government in the form of import quotas to protect the home market caused the bulk of the increased supply to be directed to Europe, since in the face of the American measures the surplus from the world's centres of production naturally flowed elsewhere to industrialized countries with large consumer markets, which meant, in practice, Western Europe.

- To make matters worse, the Soviet Government, which had not operated in the world market for years, chose this precise moment to restart selling Russian oil.

- The pressure on prices caused by such an increase in supply was further aggravated by the appearance in the world market, alongside the eight established major companies, of new, independent operators seeking to carve themselves a share by offering extremely low prices.

Some of the basic characteristics of the present world oil market are indicated in Figures V, VI and VII.

- Suez also had its effect on the coal industry by prompting many European coal importers to conclude long-term contracts for American coal on rather unfavourable terms as regards prices and transport charges. Imports from the United States shot up from 16 million tons in 1955 to 38 million in 1957, while consumers doubled their stocks in the same two years. These two factors inevitably exerted further pressure on the European energy market when the Suez crisis abruptly ended and there proved to be far too much energy available in the world market after all.

● A temporary but general economic recession brought a sudden slowdown in the upward movement of energy consumption just when, as has been indicated, supplies were exceptionally plentiful. Pithead stocks of coal in the Community leapt from 7.2 million tons in 1957 to over 31 million in 1959. With the prices of oil and imported coal tumbling, the Community's coal industry had no option but to slash its own prices accordingly and at the same time take drastic steps to adjust production. The comparative price movements of imported coal and Ruhr coal are shown in Figure VIII.

● Since then rescaling of the Community's coal production has been going forward on a scale and at a pace without precedent in the industry's history. The rationalization measures adopted have consisted, firstly, of shutting down uneconomic capacity, and secondly, pushing ahead with mechanization, linking different pits and working them in combination ("concentration"), and streamlining production operations to ensure maximum efficiency.

Table 4

**Progress of rationalization in the
Community coalmining industry**

	1957	1965	Percentage change
1. Production in million tons	254	224	— 12
2. Workers employed below ground	658,500	401,600	— 24
3. Pits in operation	416	240	— 42
4. Fully-mechanized workings as % of all workings	20	70	+ 50
5. Average output per man-shift in kg.	1,594	2,461	+ 54
6. Average daily output per pit in net tons	2,085	3,390	+ 63

Note to Figure V

The dominant position of the Middle East is quite clear: production is nearly eight times as high as consumption and yet represents only a fraction of the existing reserves, which account for two-thirds of the entire world's. Present known reserves there are sufficient for another 80 years' production, compared with only 10 years in the United States.

Two important points for the world market are the major role of the United States, producing 29% of the world's oil and consuming 37%, and the prospect that Western Europe, as a big and growing consumer with meagre resources of its own, will have to rely increasingly on the Middle East for its supplies.

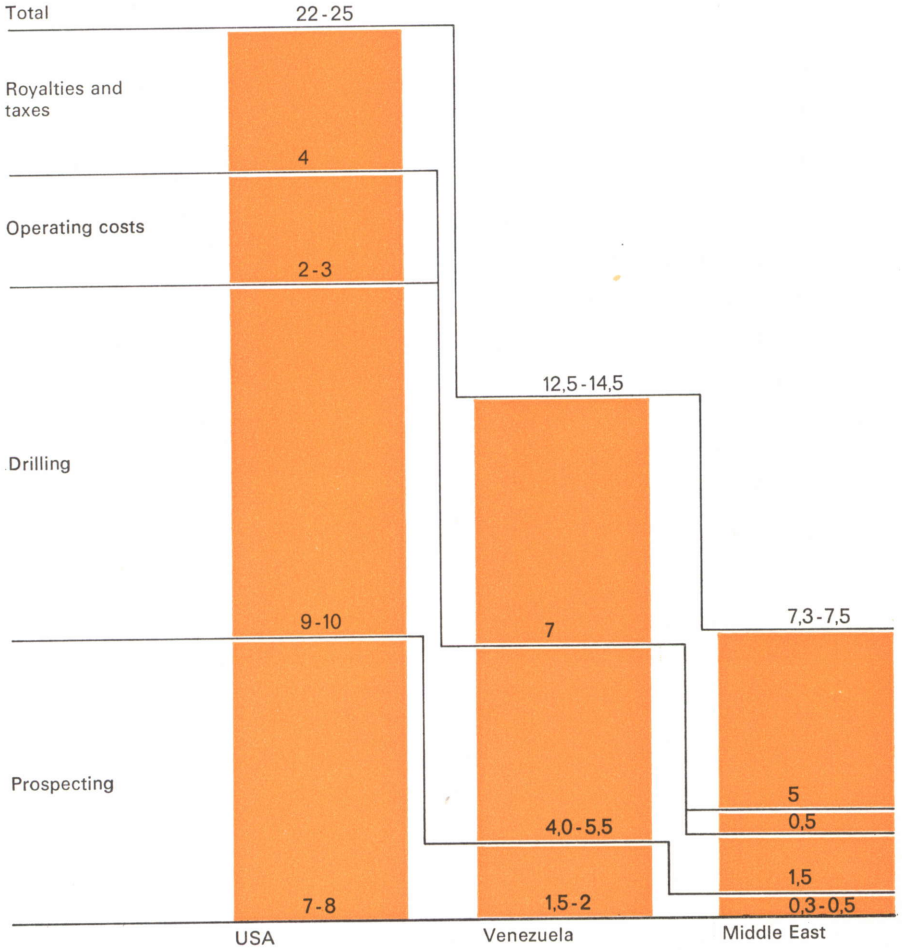
World consumption, production and reserves of crude oil at end 1964



VI

Crude-oil production costs

\$ per ton of crude



VII

Cif-price of Kuwait crude

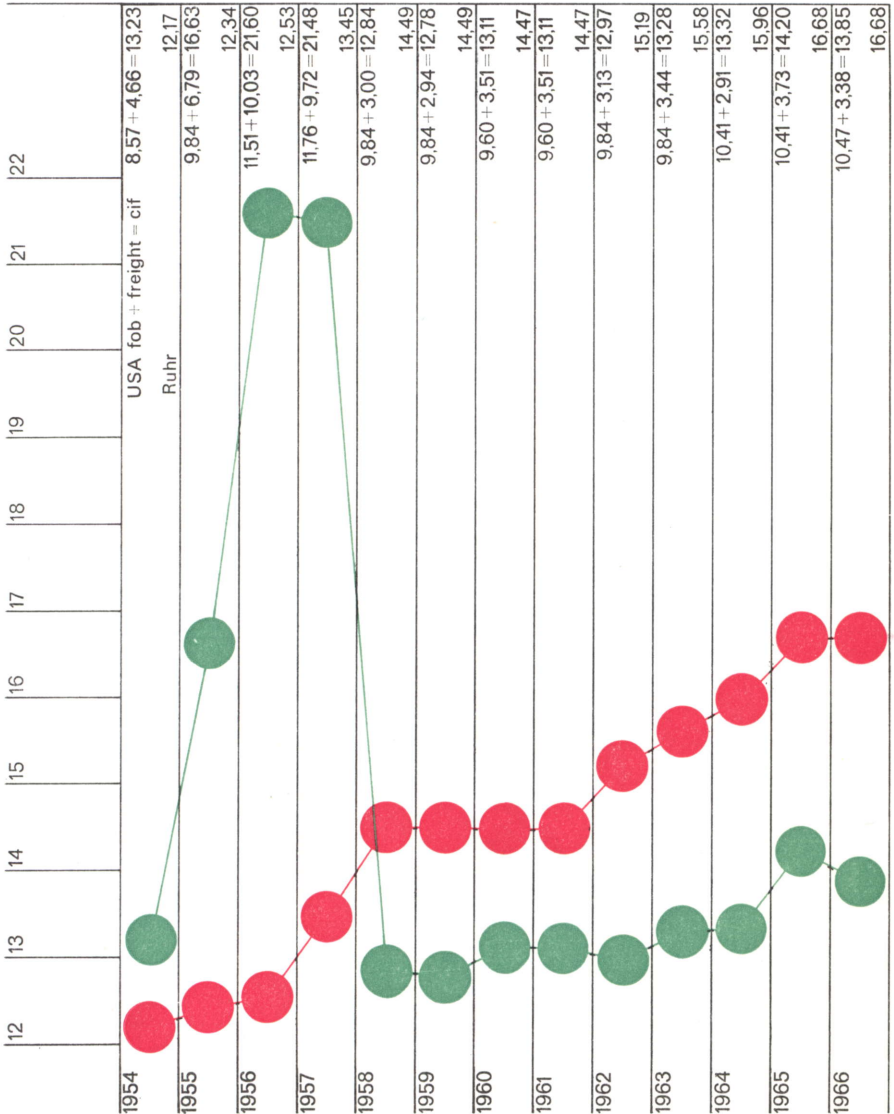
\$ per ton of crude



VIII

Comparative price movements of imported American coal and Ruhr coal

- American coking fines in \$ (fob-price + AFRA = cif-price
Amsterdam / Rotterdam / Antwerp)
- Ruhr bituminous in \$ (schedule price ex mine)



The Current Position and the Energy Balance-Sheet for 1966

Coal's worsening troubles and efforts to tackle them

In spite of the industry's strenuous exertions, sales of coal in the Community in the last five years have gone from bad to worse. The enormous stocks that had piled up in 1958-59 diminished in 1960 owing to unusually favourable cyclical factors, and bitterly cold weather in 1962 and 1963 again temporarily disguised the underlying lack of demand, but in 1964, with business in general somewhat sluggish and temperatures normal, slump conditions returned, and in 1965 they worsened, with sales dropping by 19 million tons. Of this total, 10 million tons were accounted for by reduced output resulting from pit closures and short-time working; the remaining 9 million was produced but had to be put to stock. The total of unsold coal at the end of 1965 was 25 million tons which, together with a further three million tons of coke, was worth about \$450 million.

The sales trend thus resulting from the changes in the Community's energy supply pattern is still in progress, although the member governments and the High Authority are trying hard to see that no serious social or regional disturbances result. There are three points to note in this connection.

- While the overall demand for energy continues to rise steeply, the increase is in fact confined exclusively to the consumption of liquid and gaseous hydrocarbons. Consequently, the proportion of imported to total energy supplies is soaring.
- The main reason for this is the difference in prices between the competing energy sources. Also, in spite of intensive research on improved methods of coal valorization and utilization, the fact that the gaseous and liquid fuels are still easier and more convenient to use is an undoubted sales advantage to them.
- The various arrangements introduced in the coal-producing countries since 1958 to ease the position for indigenous coal have considerably affected the normal relationship between the prices of imported and Community

coal. Traditional protection, in the form of import restrictions and extra taxes, has worked well enough against American coal, but it has been withdrawn bit by bit as a defence against oil imports because of the large difference which resulted between the price of Community coal and the untaxed price of petroleum products. Instead, the governments have taken to subsidizing coal, a policy which has, however, failed to prevent a further all-round deterioration in the industry's finances.

With regard to the payment by the Community governments to the collieries of increasingly large sums in subsidies and assistance with the cost of financing social security for the workers, it is important that the system should be under High Authority control, in order to avoid distortions within the Common Market. To safeguard the Common Market against this possibility, the High Authority issued Decision No. 3/65, which is discussed in detail in the concluding section, "Towards a Common Market for Energy".

The great bulk of this assistance is given to offset the disproportionately high social-security charges resulting for the collieries from the fact that the number of actively-employed workers there is steadily dwindling.

In 1965 according to the governments' declarations, aid in this category worked out at \$3.75 per ton of coal produced in Germany, \$5.70 in Belgium, \$4.85 in France and \$0.85 in the Netherlands. In 1966 these figures went up to \$4.21, \$6.91, \$5.31 and \$1.91 respectively, and in 1967 still larger amounts will probably have to be paid out of the public purse for the purpose, with no prospect that the coal industry's financial position will be materially improved thereby. Obviously, the present assistance and subsidization arrangements should be regarded as no more than a first tentative step in the difficult process of instituting a common energy policy for the European Community, of which the reconstruction of the coal market is one part. A single comprehensive policy on energy remains the great objective of the Community Executives

It should be noted that the High Authority's work to promote the "readaptation" (retraining and re-employment) of redundant miners and the industrial redevelopment of the areas most affected has helped to cushion the social and regional impact of the decline of coal. The experience thus gained will certainly prove of considerable value for the future common energy policy.

The energy balance-sheet for 1966

Such is the general background to the following facts and figures concerning energy in 1966.⁽¹⁾

▶ Overall requirements

Practically the whole of the 3.3% increase in energy requirements from 596 million tons c.e. in 1965 to 617 million in 1966 had to be met by imports, bringing the proportion of imported energy to 49.6%.

The position for the four main energy sources was as follows :

▶ Coal

Although production was 6% down on the previous year, to around 205 million tons (199 million tons c.e.), this resulted in a further surplus of about 13 million tons c.e. (coal and coke together), most of it concentrated in Germany. Community coal's share in total energy demand fell to 30%, and looks like falling still further.

▶ Petroleum

While the Community's own production dropped slightly, from 15.47 million tons of crude to 15.25 million tons, imports jumped by 15%, from 230 million tons to 262.5 million tons. Not all of this was refined in the Community for internal consumption since part was re-exported. Internal consumption of petroleum products in fact amounted to 210 million tons, very nearly half (48%) of the total energy requirements.

▶ Natural gas

In 1965 and 1966 extensions to the distribution network proceeded and a number of large-scale contracts were concluded, mostly for Dutch gas, while in addition several further sizeable strikes of gas were made in the Community. Consumption went up in the space of a single year by 20%, from 23 million to 27 million tons c.e.

⁽¹⁾ Report on the Community's energy situation, end 1966; outlook for 1967 (Luxembourg, January 1967).

► Electricity

Output rose by 7%, from 416 to 445 TWh⁽¹⁾ : this was made up 118 TWh by primary electricity (hydro, geothermal and nuclear energy), 313 TWh by secondary electricity (from thermal power-stations), and 14 TWh of net imports. As new capacity has come into production in the last two or three years there has been a steady increase in the proportion, firstly, of dual- and multi-fired stations (i.e. those equipped to run on more than one type of fuel), and secondly, of nuclear stations.

The breakdown for the newly-built stations is :

	1964	1966
single-fired stations	61%	35%
multi-fired stations	35%	51%
nuclear stations	4%	14%
	100%	100%

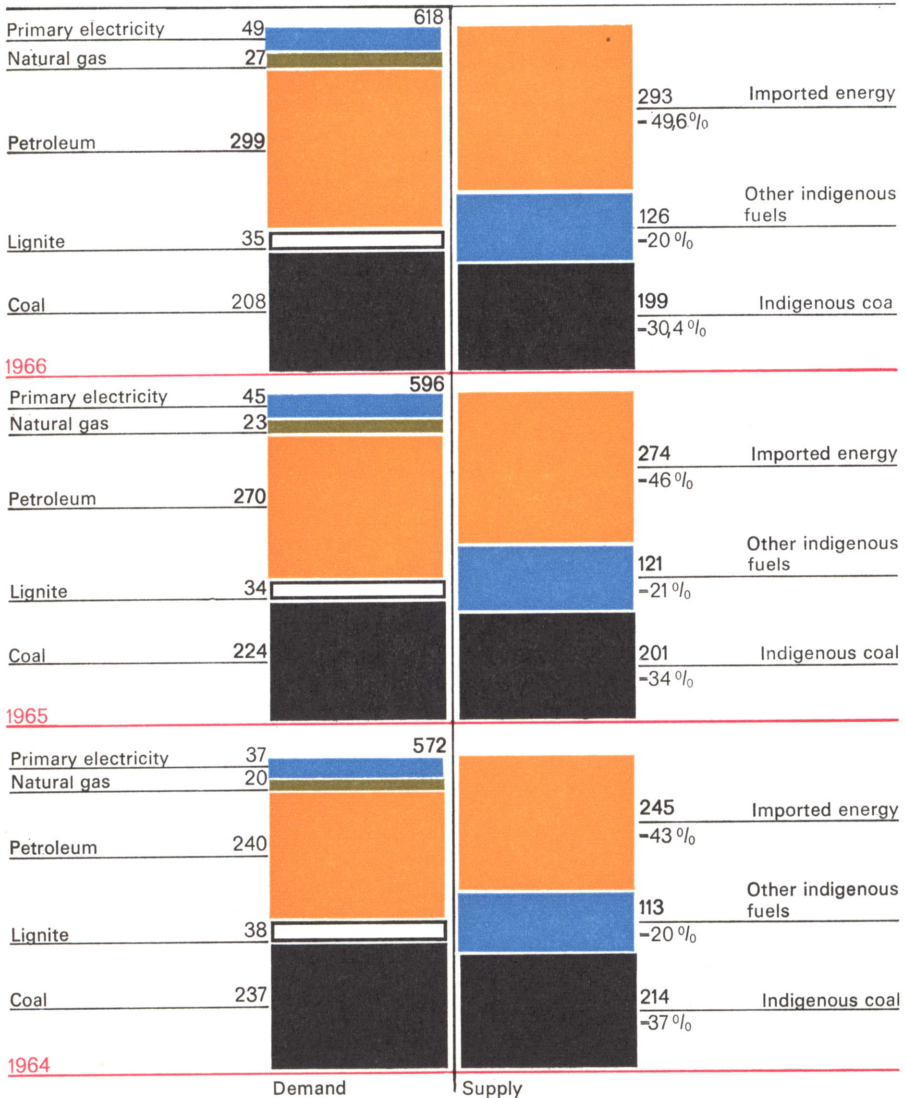
The growing preference for multi-fired plant is due to keenness by the electricity industry to take advantage of the competition in the energy market by buying cheap fuel ; the trend on the nuclear side is an indication that competitiveness with conventional generation is approaching.

¹⁾ TWh = terawatt hours = 1,000m. kilowatt-hours.

IX

Community energy balance-sheet, 1964-65-66

million tons c.e.



Outlook for the Community energy economy

The High Authority, in consultation with the EEC and Euratom Commissions, recently reviewed the long-term prospects for the Community energy economy, and issued its findings in April 1966.⁽¹⁾ The point that emerged most forcibly is the continuing steep rise in the Community's overall energy consumption.

Year	Consumption
1965	▶ 596 million tons c.e.
1970	▶ 743 million tons c.e. (1965—1970 + 25%)
1980	▶ 1,130 million tons c.e. (1965—1980 + 90%)

This forecast is based on certain assumptions as to trends in population growth, in the economy generally and in individual sectors. Further indications as to consumption in the different member countries will be found in Figure X, on the pattern of energy supply in Table 6, on the shares of the different energy sources in Figure XI, and on the breakdown of consumption by sectors in Table 7.

The two terminal years adopted are intended only as guidemarks, to give an idea how the position is likely to evolve in the medium term (up to 1970) and in the long term (up to 1980); similarly, the figures are only rough approximations, and must not be taken as production targets or "assured sales" forecasts of any kind. What the three Community Executives were out to do was to put forward the outlook for the Community as a whole,

⁽¹⁾ Review of the Long-Term Energy Outlook for the European Community :
Recent Developments, Prospects for 1970, Trends up till 1980.

indicating the energy problems which the Community authorities, the governments and the energy industries would have to tackle together in the years ahead.

Two dates were picked because the medium- and the long-term problems and ways of taking action are entirely dissimilar

As far as 1970 is concerned, the whole producer and consumer apparatus is to a great extent predetermined by decisions already taken, so that additions or alterations will affect the general situation only marginally.

For 1980, on the other hand, the situation is nothing like so clear and there is scope for major new decisions and new fields of action.

The major problem up to 1970 : the sales prospects for Community coal

Demand

Total energy consumption will go on rising, yet one of the main problems for the next few years is the sales trend for Community coal, which affects each sector in a different way. For forward estimates of each sector's total energy consumption, see Table 7.

- ▶ In the iron and steel industry, with coke input rates being steadily pared and a slackening expansion in steel production, consumption of coke is expected to remain at about its present level.
- ▶ In other industries, given the present relative price levels, the change-over from coal to fuel oil will continue.
- ▶ The mounting energy requirements in the transport sector will be met almost entirely by petroleum products.
- ▶ Consumer behaviour in the private-household sector is the hardest to predict. A major factor here will be the large share of the market which is being acquired by natural gas.

▶ Consumption of electric current will increase rapidly, more than doubling in ten years. Full exploitation of all other sources—hydro power, lignite, nuclear energy—will leave 125 TWh to be made up from coal, fuel oil and gas.

▶ The modernization and rationalization in progress in the energy producing and converting industries is enabling specific consumption to be steadily reduced, so that the absolute tonnages required will probably remain pretty much the same, while the proportion of total coal consumption will diminish. The prospects for increased sales of coal to this sector are therefore not promising.

▶ Out of an estimated overall energy demand of 743 million tons c.e., coal requirements (exports included) may be put at somewhere between 200 and 233 million, to be covered from indigenous production and imports together.

Supply

The forecast supply situation in 1970 is governed, firstly, by measures already taken or being taken in 1965, with regard to availabilities, and secondly, by the expected movement of production costs.

▶ Community coal

In France, Belgium and the Netherlands the governments are acting directly to scale down production. In Germany an Act to promote colliery rationalization has been passed encouraging pit closures and production cutbacks.

The cost trend will be affected by productivity improvements of varying incidence which are in prospect, averaging about 20% for the Community overall.

Table 5**Expected trend in underground output per man/shift**

		kg.
Coalfield	1965	1970
Aachen	2,221	2,700
Ruhr	2,895	3,600
Saar	2,740	3,500
Campine	2,102	2,500
South Belgium	1,697	1,800
Nord/Pas-de-Calais	1,659	2,100
Lorraine	3,239	3,700
Limburg	2,253	2,600
Community	2,461	3,000

On the other hand, as some cost items are likely to go on rising, nominal costs as a whole must be expected to go up by perhaps 3% p.a., giving a total increase of 15% over the period 1965—70.

► Imported coal

Little change is expected up to 1970.

► Petroleum

With world production capacity still expanding and world reserves almost limitless, the general surplus on offer is likely to continue. As in the past, the Community's requirements will be on a very flexible basis, made possible by its possession of substantial refinery capacity and substantial volume of trade in

petroleum. This being so, quantitatively the estimated 1970 demand of 365—398 million tons c.e. should be met without difficulty.

► Other energy sources

The combined share of the market enjoyed by lignite, hydro-electricity and nuclear electricity may be expected to increase from 77 million tons c.e. in 1965 to about 88 million in 1970.

There will be a big upsurge in production of natural gas from the Dutch and north German gasfields ; consumption by the Community will rise from 23 million to 53 million tons c.e., 47 million tons of it from indigenous sources.

The balance

Coal requirements, as we have seen, should work out in 1970 somewhere between 200 million and 233 million tons c.e. Of this total, part—just what part must depend on the energy policy pursued—will be covered by imports : if the present arrangements remain in force these would amount to 32—35 million tons c.e.

The sales range for indigenous coal would thus be :

$$200 - 32 = 168 \text{ million tons c.e.}$$

$$233 - 35 = 198 \text{ million tons c.e.}$$

The present production targets in the member countries add up to a maximum figure equal to the upper limit of 198 million tons c.e. Whether the tonnages produced will in fact find buyers remains open to question, especially as supply will be further swelled by pithead stocks totalling over 40 million tons c.e.

What scope is there, then, for action to create a more favourable climate for sales of Community coal ?

There are, in particular, two sectors in which something really could be done—the steel industry, where action is definitely necessary, and the power-stations, where it could produce quite substantial results.

► In the steel industry, unless cyclical factors intervene, demand for coking coal, now running at around 50 million tons c.e. a year, is not expected to change much up to 1970, but it is not certain whether some of the member governments will feel able to maintain the present restrictions on the importation of cheap American coal. This is because the amount of Community coal the steel plants are now taking is driving up their production costs. The restrictions have the double result of placing Community steel producers at a disadvantage compared both with their competitors outside the Community, who can buy coking coal cheap in the world market, and with one another, since some have readier access to imported coal than others, depending on the import policy adopted by their own government.

Consequently, the governments of the coal-producing countries are being pressed to bring down the cost of coking coal, either by lifting restrictions on imports or by subsidizing Community coal. (For an analysis of the present situation see p. 56.)

► Thermal power stations are the only sector in which judicious action could increase the consumption of Community coal. Here there is a comparatively small number of big consumers with quite a wide margin of choice: in the next few years considerable numbers of new stations will be coming into service which can be designed to run on whatever fuel may be cheapest; indeed, many stations are already multi-fired. Consequently, any arrangement enabling the electricity producer to operate at the same cost whether with coal or with one of the alternative fuels would help to maintain, and even increase, Community coal sales.

► In all other sectors the future movement of coal requirements depends largely on the choice of the individual consumer. The one essential if the drift away from coal is to be moderated is that the price of Community coal should be kept somewhere more or less in the neighbourhood of other energy prices.

The breakdown of the estimated total energy demand in 1970 of 743 million tons c.e. is thus approximately as follows :

	million tons c.e.	%
Community coal	■ 168—198	● 23—27
Other energy sources	■ 575—545	● 77—73
Total	■ 743	● 100

The breakdown between indigenous and imported energy is then :

	million tons c.e.	%
Indigenous energy, all Sources	■ 331—361	● 45—49
Imported energy	■ 412—382	● 55—51
Total	■ 743	● 100

The efforts of the High Authority and individual governments to make it possible for Community coal to put up a good market performance within these limits are described in the next section, "Towards a Common Market for Energy."

The major problem for 1980 : security and cheapness of supply

Demand

Estimates show that Community energy requirements will rise from 1965 to 1980 at approximately 4.4% per annum, thus very nearly doubling over the 15 years to reach by 1980 a total of about 1,130 million tons c.e.

The market shares of steel and other industries, private households and sundry consumption are expected to contract in varying degrees, while transport will show a minor increase and power-

stations a major one (see Table 7). These shifts will of course produce some alterations in the pattern of demand for the different energy sources.

What will affect the latter to a much greater extent will be the supply situation. The long-term energy supply situation, up to 1980, can be analysed only in the world context: Table 8 and Figure XII accordingly show the High Authority's estimates for the world position in 1980.

Supply trends in the world market

The world energy picture for 1980 suggests that the Community's import position will be roughly as follows:

► Coal

On the coal side, the main external source of supply will in all probability still be the United States. Production costs there are not expected to rise much in the years ahead, or at least not so much as those in the Community, since steadily rising productivity will almost entirely offset the forecast wage increases. There is also room for savings on the cost of transporting coal to the port of shipment, though little will probably be done about this unless it becomes definitely necessary. In terms of tonnage and price, therefore, American coal looks like remaining a good proposition.

This only applies, however, if the current assumptions about future developments for all energy sources in the United States are correct. Conclusions would have to be revised if America raised coal production to a level well above what might ordinarily be expected for the next 15 years.

► Petroleum

Oil will still be the biggest single energy source in the world market in 1980. Just how much of it will have to be bought will depend on a choice of options.

● Either the big consumer areas—Western Europe, North America and Japan—will set out to increase production from their own relatively high-cost resources, or they will not. If they do, they will have a deficiency of 1,500 million tons c.e., to be made up by imports from the surplus-producing areas of Latin

America, South-East Asia, Africa and, above all, the Middle East, the last-named of which would furnish about 1,200 million (equivalent to 1,000 million tons of crude, compared with 360 million in 1960).

● If they do not raise internal production they will rely still more on imports, in which case their outside purchases will run at around 2,000 million tons c.e., including 1,900 million (equivalent to 1,500 million tons of crude) from the Middle East.

There is no operational difficulty in supplying these amounts, though it would mean stepping up prospection. It ought to be possible with petroleum products to bring costs down by technological improvements in transport and processing ; costs for crude are more difficult to predict at long range, owing to the imponderables involved in prospecting.

With regard to prices, on the other hand, it must be borne in mind that, with total world energy requirements up from 4,350 million tons c.e. in 1960 to 10,900 million, the more speculative elements in pricing, such as oil royalties, may well come more into play than hitherto.

In any event, the European Community will remain heavily dependent on imports. Its best course, to ensure an adequate flow of supplies at reasonable prices, would therefore seem to be to establish as even a balance as possible between judiciously diversified outside purchasing and thoroughly efficient exploitation of its own resources.

The Community's own energy potential

▶ Natural gas

Even on the most conservative estimate, the contribution of natural gas to the Community's energy supplies will be a substantial one. By 1980 indigenous production should be

around 110—130,000 million cubic metres a year, representing 120—140 million tons c.e. or 11%—13% of total demand.

▶ Petroleum

Oil strikes within the Community so far have been comparatively small; proven reserves now stand at about 300 million tons of crude, and it does not look at present as if there is very much more to come. The 1980 flow of indigenous crude to the market is accordingly put at 20—40 million tons, representing 30—50 million tons c.e. or 3%—4% of total demand.

▶ Nuclear energy

A first “target program” issued by Euratom in 1966 set an installed nuclear capacity of 40,000 MW⁽¹⁾ as the absolute minimum for 1980; the various schemes announced by the member governments would give a combined total of 60,000 MW. The corresponding figures for electricity production would be 280 and 400 TWh⁽²⁾ per annum respectively, giving a range of from 90 million to 125 million tons c.e. or 8%—11% of total demand.

▶ Hydro power

There is little water power in the Community left to harness. The contribution of hydro-electricity in 1965 was 39 million tons c.e.: in 1980 it will be at most 46 million, or 4% of requirements.

▶ Lignite

Production of lignite is expected to increase from 32 million tons c.e. in 1965 to about 40 million in 1980, of which 95% will be in Germany. As in the past, the main consumers will be the power stations. Lignite’s share in total demand will thus be 3%.

▶ Coal

There is still plenty of scope for productivity improvements at the pits provided a thorough overhaul is made of present coalmining methods. This will be very costly, besides being geologically feasible only in certain mines. In addition a big push will be needed to streamline operations at the surface. In

(¹) Megawatts: 1 MW = 1,000 kilowatts.

(²) Terawatt-hours: 1 TWh = 1,000 million kilowatt-hours.

view of probable increases in real wages over the years, and of the considerable expense of rationalizing, it will only be possible to keep real production costs at the level they are now if productivity is doubled over the 15 years, 1965—1980. The prospects of doing so cannot really be assessed until the collieries have made an intensive study of the subject, including the size and individual characteristics of the different coal deposits.

Whether the Community should aim at this is for future European coal policy to decide. There is undoubtedly a big margin of uncertainty as well as the openings for action. The forecasts for 1980 indicate, as a rough working hypothesis, a demand range for coal of 100—185 million tons c.e., with 185 million as the absolute, and highly unlikely, maximum and 100 million as about the nucleus the Community industry can continue to produce competitively.

The breakdown of the estimated total energy demand in 1980 of 1,130 million tons c.e. should be as follows :

	million tons c.e.	%
Community energy production, all sources	■ 425—585	● 38—51
Imported energy	■ 705—545	● 62—49
Total	■ 1,130	● 100

It will be for those deciding the future energy policy of the European Community to ensure that, within these margins, the supply flow is as steady and as economical as man can possibly make it. For this purpose the necessary armoury will have to be established beforehand ; an account of the steps taken so far in this respect is given in the section following.

Forecast total primary-energy consumption in the Community countries up to 1980

million tons c.e.

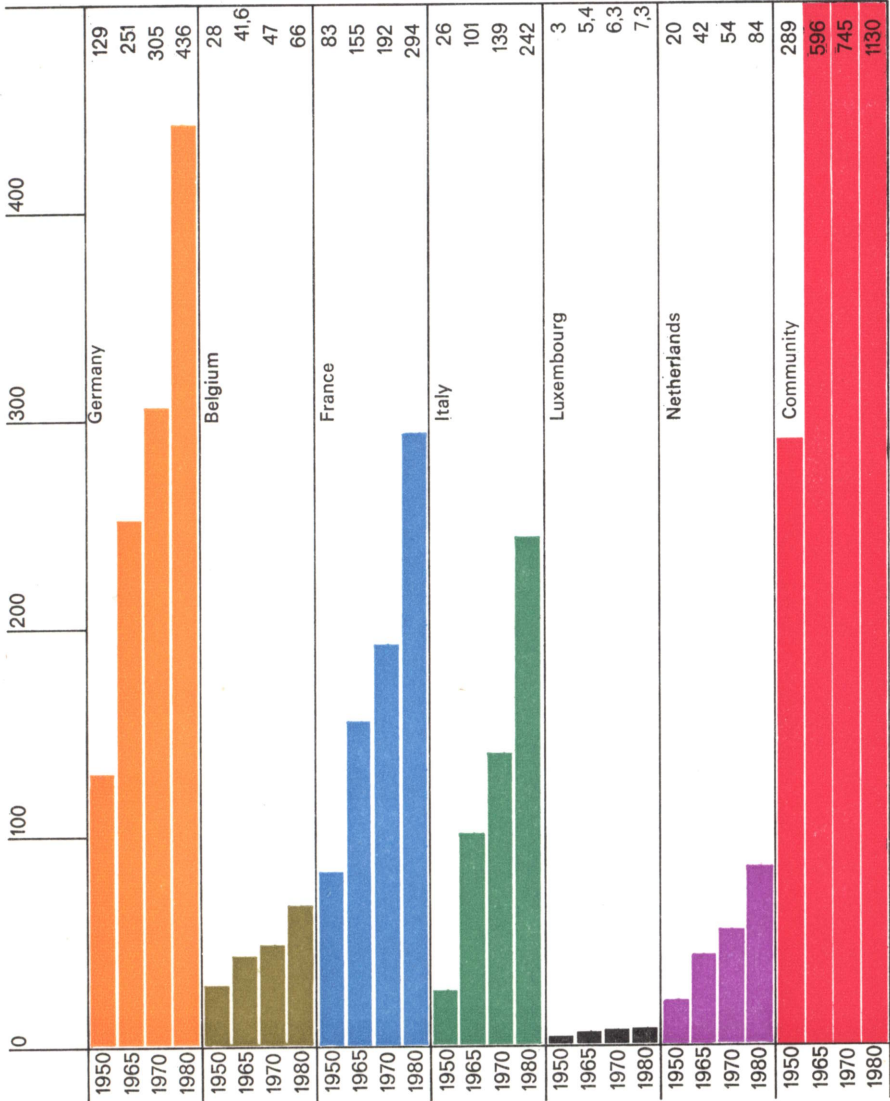


Table 6

The Community's energy supply pattern, 1965, 1970 and 1980

	Indigenous energy				Net imports				Total		
	1965	1970	1980	1965	1970	1980	1965	1970	1980	1970	1980
■ Coal	201	168-198	100-185	23	32-35	695-525 ⁽¹⁾	224	200-233	825-760 ⁽¹⁾		
■ Petroleum	25	28	30-50	245	370-337		270	398-365			
■ Natural gas	22	47	120-140	(0,5)	6	10-20	23	53	130-160		
□ Lignite	32	36	40	2	2	-	34	38	40		
■ Hydro power	40	41	46	3	2	1	43	43	47		
■ Nuclear	2	11	90-125	-	-	-	2	11	90-125		
■ Total	322	331-361	425-585	274	412-382	705-545	596	743	1,130		

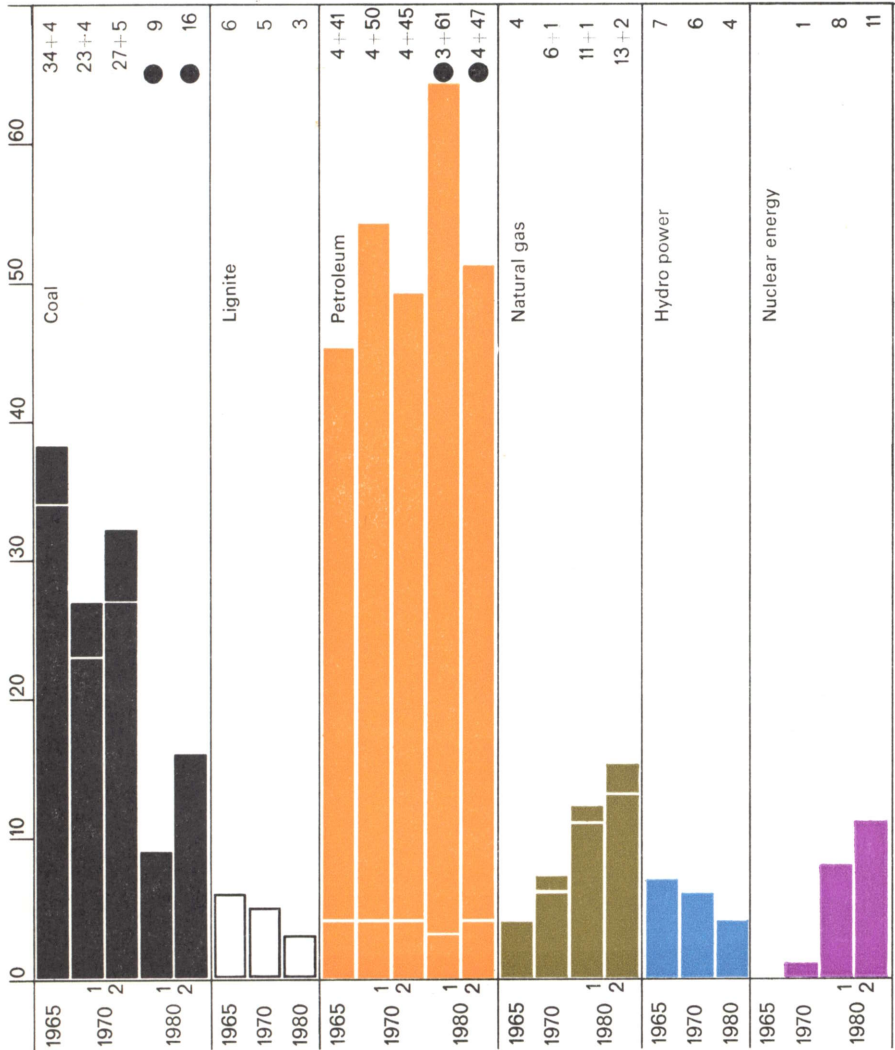
■ million tons c.e.

⁽¹⁾ Coal and petroleum figures not available separately.

XI

**Shares of the different energy sources in total consumption,
1965, 1970 and 1980**

%



Notes to Table 6 and Figure XI

Where future consumption is expressed in ranges of quantity, the first figure of the two in the table and the corresponding column 1 item in the diagram are based on the assumption that the Community will take advantage of the world supply situation to import as much of its energy as possible, thus avoiding expensive arrangements to safeguard and protect indigenous production. The second set of figures and the column 2 items represent the alternative assumption of aiding and developing indigenous production so far as economically justifiable, in order to reduce dependence on energy from abroad.

In the diagram, the lower part of the column, up to the white line, shows in each case the share of demand that can be met from indigenous resources, and the part above the line the share that will need to be imported. As it has not been possible to establish an accurate breakdown for 1980 between coal and oil imports, the two have been joined together in the oil column.

Table 7

**Breakdown of total consumption by sectors,
1965, 1970 and 1980**

■ million tons c.e.
● % of total

		1965 ⁽¹⁾	1970	1980
Iron and steel ⁽²⁾	■	61	66	74
	●	10	9	7
Other industries	■	115	144	205
	●	19	20	18
Transport	■	77	109	164
	●	13	15	15
Private households	■	139	165	220
	●	24	22	19
Hydro and nuclear power stations	■	45	54	386 ⁽³⁾
	●	7	7	
Thermal power stations	□	107	153	34
	○	18	21	
Consumption in primary-energy production, conversion and distribution losses, and miscellaneous	■	52	52	81
	●	9	7	7
Total	■	596	743	1,130
	●	100	100	100

⁽¹⁾ Figures as in Table 2, but rounded.

⁽²⁾ Of which: coke 1965 1970 1980
 49 50 51 million tons c.e.

⁽³⁾ No separate figures available for hydro, nuclear and thermal power stations.

Table 8

Outline of the world energy position, 1960, 1970 and 1980

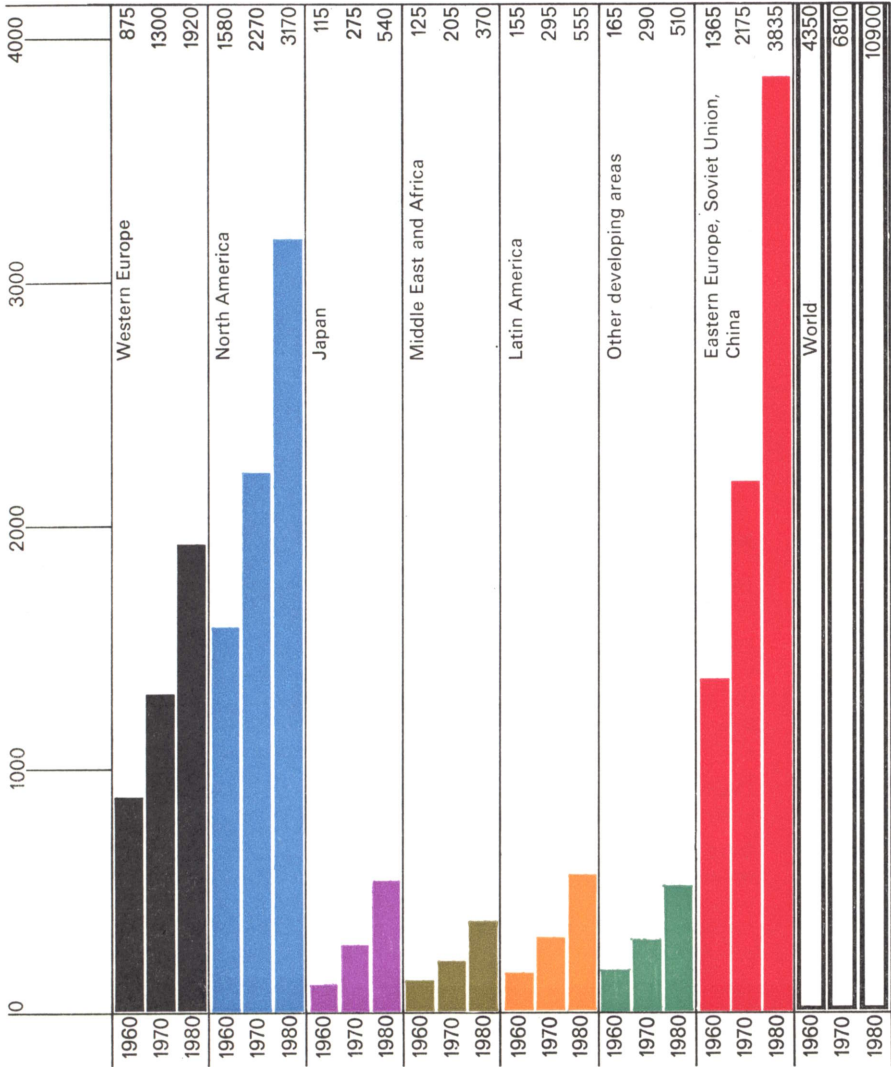
	1960		1970		1980		■ million tons c.e.
	Demand	Production	Demand	Production	Demand	Production	
■ Western Europe	875	545	1,300	590	555	1,920	945
■ North America	1,580	1,440	2,270	2,080	2,000	3,170	3,145
■ Japan	115	60	275	70	70	540	100
■ Middle East and Africa	125	415	205	1,245	1,280	370	2,010
■ Latin America	155	290	295	435	435	555	580
■ Other developing areas	165	135	290	215	215	510	345
□ Total, non-Communist world	2,985	2,885	4,635	4,635	4,635	7,065	7,065 ⁽¹⁾
■ Eastern Europe, Soviet Union, China	1,365	1,410	2,175	-	-	3,835	-
□ Total, world	4,350	4,295	6,810	-	-	10,900	-

⁽¹⁾ To allow for the possible impact of American coal production on the internal production of Western Europe and Japan, 60 million tons c.e. altogether should be deducted from the figures for the two latter to bring the total equal with the calculated demand, 7,065 million tons c.e.

XII

Possible movement of world energy demand, 1960, 1970 and 1980

million tons c.e.



Notes to Table 8 and Figure XII

These are offered not as forecasts but as outlines of how the positions may develop relevant to the main pattern and approximate quantities involved.

The calculations of demand are based on the assumption of fairly sustained world economic growth. The Communist bloc is excluded from the table for production, as it is impossible to predict what tonnages the countries with state-controlled trading systems will be putting on the world market and how this will affect the world energy position generally.

The two sets of production calculations have been arrived at on the following alternative hypotheses :

Case 1 : the industrialized areas will adopt the high-cost policy of concentrating on security of supply, based on stepped-up internal production and diversification of oil imports. In 1970 the effects are observable only for Western Europe, with repercussions in the Middle East ; by 1980 they are world-wide.

Case 2 : the industrialized areas will resort to massive imports from the Middle East, where the costs of prospecting are lowest.

In Case 1 requirements of Middle East crude in 1980 would amount to 1,000 million tons, and in Case 2 to about 1,500 million.

Towards a Common Market for Energy

On the basis of the forecasts summarized above, it is now for the European Community to adopt a Europe-wide energy policy aimed at establishing a full-scale Common Market for energy.

There is general agreement on what the objectives of that policy should be :

- Energy should be cheap. This does not mean the market price ruling at any particular time, but the cost to the Community over an extended period. It should come in an assured, steady flow—steady in terms of both price and quantity.
- The consumer should be left full freedom of choice, and all firms in the Community have equal access to the supply of energy.
- Competition should be fair as among the different energy sources, this being made possible, among other things, by the alignment of the clauses in the ECSC, EEC and Euratom Treaties relating to commercial policy vis-à-vis non-Community countries, to state aid and to pricing.
- Every care should be taken to safeguard the interests of workers and the balance of regional labour markets during the necessary phased reconstruction of the coal industry, which should be accompanied by the preparation of area redevelopment programmes designed to create new jobs.

Following the Communities' activities in this field⁽¹⁾, the member governments on April 21, 1964, took the first practical step towards a common energy policy at a meeting of the ECSC Council of Ministers when they adopted the Protocol on Energy Problems⁽²⁾ drafted by a special committee which had been set up for the purpose under a Member of the High Authority.

⁽¹⁾ See page 12 above and Annex I.

⁽²⁾ Reproduced in full in Annex II.

The Protocol

- sets out the energy policy objectives just discussed,
- records a firm declaration of intent by the governments "to continue their efforts to establish and apply a common energy policy,"
- provides the necessary basis in law for emergency action to aid Community coal,
- indicates lines on which the Executives are invited to submit further proposals, and
- contains a preliminary directive on the timetable to be followed in working out the common energy policy.

Action taken to date under the Protocol has been as follows :

- ▶ the High Authority has launched an emergency programme for coal ;
- ▶ the EEC Commission has submitted to the EEC Council an initial memorandum on Community policy on oil and natural gas ;
- ▶ the Euratom Commission has issued its First Target Program.

The emergency programme for coal

- ▶ With regard to coal policy, the Protocol provides for :
 - a Community system of state aid, as proposed by the High Authority ;
 - the devoting of special attention to the question of long-term supplies of coking coal ;
 - consultation between the Council of Ministers and the High Authority before any other energy measures are taken.

On February 17, 1965, the High Authority issued a Decision, unanimously endorsed by the Council, setting up a **Community system of state aid for the coalmining industry**, under which member States are empowered to assist collieries financially, though in accordance with rules ensuring that this is in the common interest.

The assistance permitted is of two kinds :

(a) straight subsidization, for which the High Authority's approval has to be secured each year. Subsidies may be granted for three purposes :

- Positive rationalization, i.e. capital projects for linking up pits or workings, intensifying mechanization, improving coal valorization facilities and raising standards of mine safety, as well as expenditure on the recruitment, training, adaptation and stabilization of personnel.

- Negative rationalization : in the case of closures and cutbacks in capacity the governments may help collieries to meet expenditure resulting from exceptional social-security charges for workers losing their jobs, the payment of pensions above legal requirements, deliveries of free coal, residual tax burdens, additional underground safety operations, any subsidences occurring as a result of closure, and residual charges arising from water and sewerage rates.

- Regional adjustment : "where the adjustment of collieries to the altered state of the coal market is liable seriously to disturb the economic and social balance of an area because the openings for development there are not yet adequate," the High Authority may permit temporary state assistance to enable the rationalization to be effected by comparatively easy stages.

(b) contributions to help offset coal industry's disproportionately heavy burden of social-security charges. This is the result of the sharp and sudden drop in the number of actively-employed miners, which has meant that the relation between the charge per operative and the benefit per payee is considerably higher

there than anywhere else. Government payments to help bring this state of affairs more into line with that in other industries do not require specific High Authority approval ; they need only be notified to it.

Larger amounts of state aid have been paid out each year since 1965 with the result that the collieries have not been obliged to make their competitive situation any worse by further price increases.

The long-term supply position of coking coal has been gone into very carefully by the High Authority, which is continuing to follow developments closely. Trade in coking coal and coke has kept up well, and the iron and steel industry is still mainly using Community coal, only a tenth of its consumption being from America. However, the fact remains that some consumers are being quoted exceedingly attractive prices for American coal, so that the Community coal producers are finding themselves compelled to allow rebates they will not be able to afford for long. To meet this competition, the High Authority in July 1966 proposed to the Council of Ministers that Community coking coal should be subsidized, so as to bring the price down to that of the delivered price of the imported product. An **ad hoc** Committee on Coal Problems, composed of senior government representatives under a High Authority chairman has worked out practical suggestions for a Community-level compensation scheme.

The Council of Ministers at its meeting on February 16, 1967, gave the necessary unanimous approval to a High Authority Decision concerning coking coal and coke for the Community iron and steel industry to have effect from January 1, 1967, to December 31, 1968. This provides that:

- the governments of the producer countries may pay subsidies averaging approximately \$ 1.70 per ton on disposals of coking coal and coke to iron and steel plants in the country of production, on condition that the producer enterprises use the money to bring down the delivered prices of the coal and coke as near as possible to the price level for imported coking coal;

● a common financing system is to be instituted to enable lower prices to be charged for disposals of coking coal and coke from one Community country to another. Under this arrangement, a yearly maximum of \$ 22 million will be made available from which sales to the iron and steel industry will similarly be subsidized to an average amount of \$ 1.70 per ton. Forty per cent of this total will be furnished by the supplier countries, the exact contribution from each depending on the tonnage delivered by its producers, and the remaining 60% by all six in accordance with the following breakdown:

Belgium	11%
France	28%
Germany (F.R.)	28%
Italy	14%
Luxembourg	9%
Netherlands	10%

As the ECSC Treaty makes no provision for such an arrangement, the scheme had to be specially devised in close co-operation between the High Authority and the member governments. Since the conflict of national interests in the matter of energy and coal policy is quite as great if not more so than in agriculture, the fact that the Ministers reached unanimous agreement is all the more striking. It is worth noting, too, that they did so in a period of generally rather low business activity.

A further step has thus been taken, in accordance with the Energy Protocol of April 1964, and the general Decision on subsidization of February 1965, towards the common energy policy that is so vital to the future of the Common Market.

The periodic **consultations on energy policy** required by the Protocol among the member governments and between them and the High Authority are taking place. Among the points dealt with have been the German Government's proposed measures to encourage coal consumption by thermal power-stations and the French nationalized coal industry's forward production schedules, under the Fifth National Plan.

To help put the consultations on a genuinely Community basis, the High Authority drew up a Memorandum on the coal production target for 1970 and on coal policy, as a kind of aide-

mémoire on the objectives on which the governments would need to focus. Meanwhile, the Council at its meeting on March 7, 1966, set up a separate ad hoc committee on coal problems to assist it in grappling with the whole complex situation.

Community policy on oil and natural gas

On February 14, 1966, the EEC Commission issued an initial memorandum on Community policy concerning oil and natural gas. This sets out, on the basis of the EEC Treaty and the Energy Protocol of April 1964, what the main aims of such a policy should be, and suggests appropriate steps for implementing them. Practical action however of course rests with the member governments.

► In the Commission's view, the priorities for a **European oil policy** are:

- well diversified sources in the world market, at prices as consistently low as possible. This would necessitate regular consultations with the international companies and with the governments of the main non-Community countries, namely the United States and Britain. Also, steps must be taken to strengthen the competitive position of Community oil companies in the world market. Work must be begun at once on the preparation of the unified external trade policy which is to be instituted at the final completion of the Common Market;
- judicious development of Community production using such tax reliefs or aids as the Treaty permits;
- a common stockpiling policy;

- elimination of all discriminations based on nationality;
 - harmonization of taxation on fuels and other petroleum products, and of safety regulations;
 - regular reporting of all investment projects.
- ▶ With regard to **natural gas** the Commission proposes:
- elimination of all discriminations based on nationality; especially in the sales policy of natural gas firms and undertakings,
 - common principles for gas transmission and common safety regulations for the construction of pipeline networks;
 - regular reporting of all investment projects.

Euratom's target programme

▶ The Euratom Commission issued its first target programme in March 1966 ⁽¹⁾. This examines in detail from the technical, economic and supply angles the potentialities of nuclear energy as a future cheap and reliable source of supply for helping to meet the Community's rapidly-rising electricity requirements. The programme fits in with the High Authority's survey of the outlook up to 1980, ⁽²⁾ and also offers as a rough working hypothesis a longer-range indication on the possible position in A.D. 2000.

Electricity consumption by then, the Euratom Commission calculates, will be about 3,450 TWh, compared with 466 TWh in 1966. To achieve steady, dependable satisfaction of this gigantic demand at reasonable cost, half of the power-stations in service

⁽¹⁾ Official Gazette, No. 77, 1966.

⁽²⁾ See pages 50 and 51 above.

will have to be nuclear, producing over two-thirds of the total power. As a basis for the phased build-up of this system the Commission suggests the following time schedule of minimum capacity and production targets.

Table 9

Minimum targets for nuclear capacity and production

Year	Installed capacity at January 1 in MW	Net annual production in TWh
Target programme proper		
1970	4,000	28
1975	17,000	120
1980	40,000	280
Long-range indications		
1985	78,000	540
1990	135,000	920
1995	226,000	1,500
2000	370,000	2,400

A timetable for the common energy policy

These various activities and proposals by the European Communities do not in themselves add up to a common energy policy. For the present they amount only to limited, piecemeal action to prevent the individual countries' energy set-ups from diverging any further. Once such national arrangements, introduced in haste to cope with a fluid situation, become firmly established, they are likely to be very difficult to dismantle later on. To ensure smooth economic integration it is all-important that distortions of this kind should be removed now by the framing of a common energy policy.

The official adoption of the policy, and the fixing of a date for it to become operative, is of course a political-level matter. The Community governments in the Protocol of April 21, 1964, did mention a date—the date of the merger of the three Communities.

This merger, by reason of the very big changes involved, will require the drawing-up of a new single Treaty, in which there will have to be a special section devoted to energy policy and to the Community's powers in the energy field. It is unthinkable that, in a Community which has hammered out common directives and regulations for agriculture, competition, tax and other fields, energy policy should remain on its old compartmentalized, national basis.

The securing of agreement on a common agricultural policy in the first half of 1966 was a demonstration that where there is a will—and a timetable—there is a way. The driving force which that event generated can and must eventually bring the Community to agreement on an energy policy also. And indeed a beginning has been made, notwithstanding the many conflicts of interests involved, more especially in the coal sector.

Annex

I — Studies and Documents on a Common Energy Policy

High Authority in its own capacity ; High Authority on behalf of the Inter-Executive Working Party on Energy ; EEC and Euratom Commissions :

- | | | |
|--------------|------|---|
| October 10, | 1959 | Aide-mémoire on the co-ordination of energy policy (Working Party). |
| March 19, | 1960 | Interim general directives for a co-ordinated energy policy (Working Party). |
| January 10, | 1961 | Initial measures to co-ordinate energy policy (Working Party). |
| October 26, | 1961 | Initial measures concerning coal imports from non-member countries (High Authority). |
| June 25, | 1961 | Memorandum on energy policy (Working Party). |
| December 21, | 1962 | Study on the long-term energy outlook for the European Communities (Working Party). |
| April 3, | 1963 | Draft agreement creating, with respect to the Treaty establishing the European Coal and Steel Community, the prerequisite conditions for the introduction of a common market for energy (High Authority). |
| February 17, | 1965 | Decision No. 3/65, on the Community system of state aid to the coalmining industry (High Authority). |
| February 14, | 1966 | Initial memorandum on Community policy for oil and natural gas (EEC Commission). |
| March 9, | 1966 | Memorandum on the coal production target for 1970 and on coal policy (High Authority). |
| March, | 1966 | First target programme for the European Atomic Energy Community (Euratom Commission). |

- April, 1966 Revision of long-term forecast of energy requirements of the European Community (Working Party).
- February 21, 1967 Decision No. 1/67 concerning supplies of coking coal and coke for the steel industry of the Community.

Member governments and ECSC Council of Ministers

- September 11, 1963 Draft transitional protocol among the member States of the European Coal and Steel Community, containing special temporary provisions aimed at the attainment of the objectives laid down in the Treaty establishing the European Coal and Steel Community (German Ministry of Economic Affairs).
- November 22, 1963 Draft resolution (Special Committee on Energy Policy (German Ministry of Economic Affairs).
- April 21, 1964 Protocol on energy problems, adopted by the Council of Ministers.

European Parliament

- June 22, 1959 Resolution on the development of a European energy policy.
- June 30, 1960 Resolution on matters relating to the co-ordination of energy policy.
- February 20, 1962 Resolution on the co-ordination of energy policy.
- October 17, 1963 Resolution on the energy policy proposed in the memorandum of June 25, 1962.
- November 28, 1963 Resolution on social aspects of common energy policy.
- January 22, 1964 Resolution on the energy policy proposed in the memorandum of June 25, 1962.
- March 25, 1964 Resolution on the outlook regarding nuclear energy in the European Community.
- May 14, 1964 Resolution on Community energy policy and the protocol of April 21, 1964.
- September 24, 1964 Resolution on energy policy as affected by the proposed merger of the European Executives.
- March 23, 1965 Resolution on the High Authority's decision concerning the Community system of state aid to the coalmining industry.
- June 30, 1966 Resolution on the first target programme for the European Atomic Energy Community.

II — Protocol on Energy problems,

adopted by the Governments of the member States of the European Communities at the 94th meeting of the Special Council of Ministers of the European Coal and Steel Community in Luxembourg on April 21, 1964

The Governments of the Community member States, meeting in the Special Council of Ministers of the ECSC,

(1) recognizing it to be necessary to set up within the general Common Market a common market for energy in which due account shall be taken of :

(a) the fact that

the proportion of hydrocarbon imports is increasing and will in the view of the Inter-Executive Working Party account in a few years' time for over one-half of the Community's total demand coverage, indigenous energy resources exist within the Community, new prospects are afforded by the development of nuclear energy, and the social aspects involved must not be lost sight of,

(b) and the need for

cheapness of supply,
security of supply,
phasing of substitution processes,
stability of supply both cost- and tonnage-wise,
freedom of consumer choice,
fair competition in the Common Market among the different energy sources,

as well as of considerations of general economic policy ;

(2) having regard to the time which it will still take to finalize a common energie policy ;

(3) having regard to the need for immediate action in face of the present coal situation ;

(4) having regard to the decision taken by them on February 24, 1964, to effect a merger of the Communities ;

I

(5) declare themselves resolved to continue their efforts to establish and apply a common energy policy in accordance with the said decision, notably in the matter of

commercial and procurement policy vis-à-vis non-member countries, state aids and subsidies, and rules and conditions of competition in respect of the different energy sources ;

II

- (6) and in view of the foregoing are prepared
- (a) to establish conditions calculated to ensure the viable exploitation of existing energy sources and prevent the emergence among Community producers of distortions liable to interfere with the proper functioning of the Common Market, and
 - (b) to promote the development of Community energy production in the manner indicated below.

III

Coal

With regard to coal, the governments

(7) recognize it to be necessary, through appropriate legal machinery, to afford the collieries state aid for the measures, and in particular the rationalization schemes, undertaken by them for the purpose of adjusting their operations to the state of the market, and in addition to assist them with protection or support, these latter to be as a rule on a degressive basis ;

(8) will have the necessary arrangements made to see that cyclical factors are not allowed to interfere with the implementation of their energy policy and the operation of the Common Market ;

(9) consider it desirable that the energy measures introduced should enable the countries concerned to draw up medium-term quantitative forecasts of production by coalfields ;

(10) undertake, in order that future measures under the present Section, and measures already taken, shall be in line as far as possible with the aims set forth in subsection 1 above,

to consult with the High Authority in the Special Council of Ministers concerning projected measures under the present Section before action is in fact taken, except in the event of real emergency, and

to endeavour to co-ordinate all measures in this connection ;

(11) request the High Authority to submit to them as and when necessary, in accordance with the Treaty of Paris, procedural proposals for the institution of a Community system of state aid ;

(12) consider that the Council should devote special attention to the question of the Community's long-term supplies of coking coal.

IV

Hydrocarbons (Oil and Natural Gas)

With regard to the hydrocarbons, the governments, in accordance with the Rome Treaty,

(13) are anxious to institute a common policy ensuring a widely diversified flow of supplies at prices as low and as stable as possible, organized on a flexible basis allowing of adjustment to prevailing circumstances ;

(14) are prepared to promote the viable development of indigenous hydrocarbons production ;

(15) will endeavour to agree a common policy on the stockpiling of hydrocarbons ;

(16) repeat that they are resolved progressively to eliminate from their national laws and regulations, and from the application thereof, all discrimination between their own nationals and those of the other member States ;

(17) will endeavour to institute fiscal arrangements for petroleum fuels in line with the policy aims set forth above ;

(18) trust that attention will be given to the question of harmonizing taxes and dues on petroleum products other than fuels ;

(19) will engage in ongoing consultations with the EEC Commission for the purpose of achieving the aims enumerated and of co-ordinating action in the hydrocarbons sector.

V

Nuclear Energy

With regard to nuclear energy, the Governments are prepared, in accordance with the provisions and procedures of the Euratom Treaty, to

(20) promote and intensify research and experimental work and foster the industrial development of nuclear energy in the Community, in order that this new energy source may make its full contribution as soon as possible, at economic cost, to the coverage of Community energy requirements.

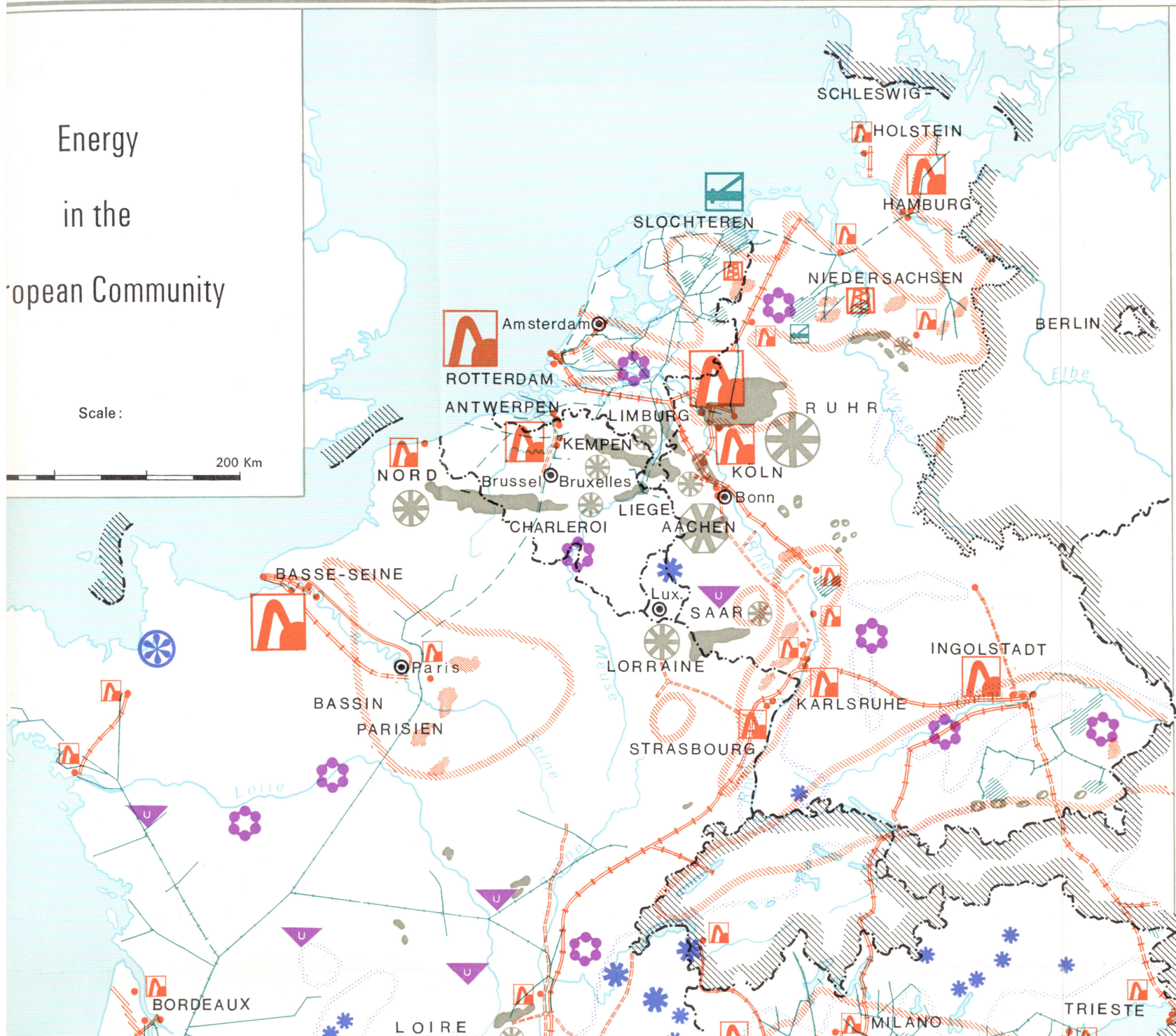
Energy in the European Community

Scale:



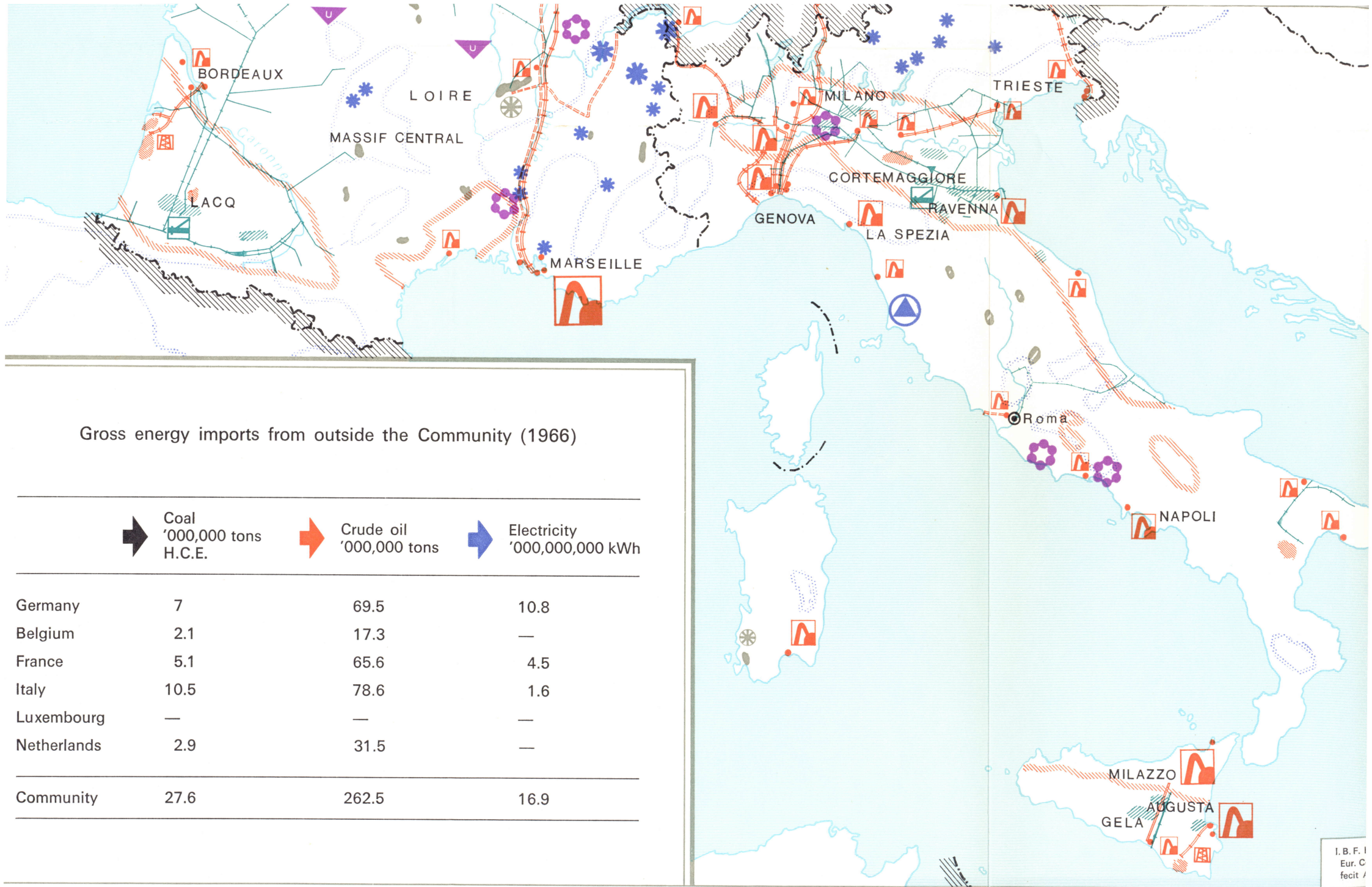
Energy in the European Community

Scale:  200 Km



Key

-  Coal-field
-  Hard-coal production
-  Lignite field
-  Lignite production (important)
-  Uranium production
-  Nuclear power station
-  Hydro-electric power catchment area
-  Hydro-electric power station
-  Geothermal power station
-  Tidal power station
-  Sedimentary rock basin
-  Oilfield
-  Oil production
-  Regional refinery capacity
-  Refinery location
-  Pipeline system for crude oil, in service
-  Pipeline system, building
-  Pipeline system for refined products, in service, or under construction
-  Gasfield
-  Natural-gas production
-  Main/ancillary natural-gas distribution network, in service
-  Natural-gas distribution network, building



Gross energy imports from outside the Community (1966)

➔ Coal '000,000 tons H.C.E.
 ➔ Crude oil '000,000 tons
 ➔ Electricity '000,000,000 kWh

Germany	7	69.5	10.8
Belgium	2.1	17.3	—
France	5.1	65.6	4.5
Italy	10.5	78.6	1.6
Luxembourg	—	—	—
Netherlands	2.9	31.5	—
Community	27.6	262.5	16.9

