COMMISSION OF THE EUROPEAN COMMUNITIES

AN EXAMINATION OF THE QUESTION OF COAL SUPPLY AND PRODUCTION IN THE COMMUNITY

3541/1/XVII/70-E

CONTENTS

INTRODUCTION

1. Community coal production has decreased substantially in the recent past owing to the slump in sales. As a result, the upturn in demand since 1968, due to market factors and in some measure also to weather conditions, has faced the Community with shortages which will certainly persist throughout 1970 and 1971 and which it will be no easy matter to alleviate.

In order to give an account of the Community's problems on the coal side, it has been necessary to estimate the probable movement of Community coal production and demand for some years ahead; the period chosen is that up to 1975, a medium-term span within which the problems impending can be pretty accurately visualized.

2. Since the instrument authorizing the present direct aids to the Community coal industry, High Authority Decision No. 3/65,[1] expires on 31 December 1970, it will be necessary during 1970 to settle what is to be done next and to put through the appropriate enactments.

The present study is not concerned to offer solutions, and does not attempt to do so. Its object is to clarify existing facts and pinpoint problems, in order to facilitate the forthcoming discussions on the future organization of aids and other arrangements in the coal sector. Accordingly, it deals not only with the quantitative aspects but also with matters concerning adjustability of production, pricing, colliery finances and financial measures by Member Governments on behalf of the coal industry.

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[1] Decision of 17 February 1965 on Community-coordinated measures by Member States for the benefit of the coal industry (Journal officiel des Communautés européennes No. 31, 25 February 1965, p.480).

3. The story of Community coal in the last ten years shows indigenous production turning more and more into a political affair. The coal industry has been partly insulated from the competitive conditions prevailing in the world market by a variety of protective measures instituted by Member Governments, and partly enabled to face up to that competition by state aids, some of them furnished under Community enactments such as High Authority Decision No. 3/65 and Commission Decision No. 70/1.[1]

4. The fact that, thanks to the general business climate, coal sales are at the moment doing fairly well must not be taken as indicating that there is any real prospect of a radical improvement in coal's competitive position in the medium and long term. Further action at a future date to trim production to the structural decline in demand is inevitable, and plans for doing so, official and unofficial, are in being in the coal-producing countries of the Community.

Medium-term production forecasts and targets to date vary in authoritativeness from country to country and from coalfield to coalfield. Estimated 1975 tonnages per coalfield have been indicated in Belgium, France and the Netherlands: Dutch production is expected to have ceased altogether by that date, while in Belgium and France the amount by which production will actually be cut between now and 1975 will depend largely on the social complications involved.

No official figures are available on future German production. However, the Federal Commissioner for Coalmining and Coalfields has

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[1] Journal officiel des Communautés européennes No. L 2, 6 January 1970, p.10.

published estimates to 1973 indicating a contraction of some 11 million tons in sales but of only 4.5 million in production. From this figure (4.5 million tons coal equivalent = five million ton for ton), the European Commission calculates that production in 1975 will be ten million tons t/t down on the 119 million tons t/t of 1970.

The calculations which follow are based on the Member Governments' production forecasts, and in the case of Germany on the Commission's own estimates; it must be borne in mind, therefore, that the figures are to some extent hypothetical.

5. None of the Governments has so far fixed a lower limit of production, or "production nucleus", for coping with possible difficulties as to security of energy supply. The German Government alone did make the point, in the preamble to the law of 5 September 1966 designed to maintain the use of coal in electricity generation,[1] that its energy policy seeks "to take account both of the cheapness angle and of the security angle, in which regard the German coal industry has always had a special part to play".[2] In addition, the security factor was one of the considerations taken into account, for the time being, when the subsidization arrangements were enacted with respect to the flow of coking coal for the steel industry.[3]

6. The figures in Annex 1 indicate a total 1975 Community production of approximately 143 million tons t/t, representing a diminution of about 38 million on 1968 (181 million) and 34 million, or 20%, on 1969 (176.4 million).

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[1] Bundesgesetzblatt I, p.545.

[2] Bundestagsdrucksache V/679, p.5.

[3] Commission Decision No. 70/1/CECA (Journal officiel des Communautés européennes No. L 2, 6 January 1970).

Whether production in 1975 does actually work out at 143 million tons will depend on the sales curve, on the employment and social problems that arise in the coalfields, and on pricing policy and subsidization requirements.

7. Comparison by coalfields and by countries shows marked differences in the scale of the cutbacks. By countries, the decrease from 1968 to 1975 may be expected to amount to:

Germany	-6.9%
Belgium	-39.2%
France	-40.3%
Netherlands ...	Cessation of production
Community	-20.8%

The higher-cost coalfields (see Chapter II) will, as before, be cutting back considerably more than the relatively lower-cost German fields and Lorraine. This trend is resulting in a restructuring and rationalization of Community production. The German share of the total is likely to be up from 64.7% in 1968 to 74.9% in 1975.

8. The production of the different grades of coal is governed by the price and sales trends in the coking-coal, steam-coal and house-coal markets and the technical and geological conditions at the pits.

The Governments' published schedules for 1975, and the estimates for Germany, refer to coalfields' total production, not the breakdown by grades. However, as this breakdown offers valuable indications as to the particular supply problems on the three markets, an attempt has been made to estimate how it is likely to work out.

It has been assumed that by and large the pattern of production within each coalfield will not alter between 1968 and 1975 even though, absolutely, production is contracting.

As can be seen from the figures in Annex 1, on this assumption the disparate trends in production between coalfield and coalfield can be expected to result in a change in the breakdown of Community production taken as a whole.

Thus overall Community production by grades[1] should change as follows between 1968 and 1975:

house coal	... ...	-43.0% (= -14.5 million tons)
coking coal	... ...	-15.1% (= -19.5 million tons)
steam coal	... ...	-20.7% (= -3.7 million tons)
total	... ...	-20.8% (= -37.7 million tons)

This means that the share of coking coal in the total will go up and the share of house coal down, while the share of steam coal will remain about the same (see Annex 1).

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[1] The subdivision of production by grades is that of the official international statistical classification and is not to be equated with the employment in practice of particular grades and types for particular applications (see Chapter I following).

Chapter I

Coal as an element in the Community's energy position

9. There are fundamental differences between the coke and the coal supply situations in prospect for the Community up to 1975.

The present tightness of coke is evidence of a problem of physical demand coverage: given the extremely limited possibilities for importation from the world market, even at high prices, the Community is finding itself compelled to produce for itself most of the coke it needs, which makes it essential to maintain an economically viable flow geared to peak requirements.[1]

As regards coal, while there are certain difficulties at world level here too, especially in the case of coking coal, the range of the supply potential is a good deal greater than for coke. This being so, Community consumers are for the most part prepared to take indigenous coal only if it is quoted at world prices.

10. Coal consumers may want security of supply, but they are not so keen about it as to be willing to pay a premium in the form of higher prices. Practically all those who do buy Community-mined coal at schedule prices above the prices for rival sources of energy do so because they are obliged to, either by direct compulsion (as with the French power stations) or by restrictions on procurement of non-Community coal (such as import quotas).

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[1] From current production or from producers' stocks.

I.1 Supply of coking coal

I.1.a Demand for coke

11. As requirements of coking coal are directly bound up with coke production, it was, of course, essential to form an estimate of the demand for coke.

The figures shown for 1975 in Annex 2 are offered for guidance; while it is not felt necessary to go into details of the arithmetic involved, two points do call for mention with regard to the results arrived at.

(a) The irreducible (because irreplaceable) metallurgical-coke requirements for 1975 are put at 52-56 million tons.[1] This is higher than the 1980 figure given in previous forecasts.[2]

(b) The 1975 coke requirements of the "other industries"[3] and household sectors have been marked down fairly substantially (compare downward trend for 1961-68 and for 1968-75). Demand must be expected to drop to this extent in consequence of the price increases for coke that will be needed for the coking plants to break even. In the household sector in particular it must be borne in mind that in 1968 9.4 million tons of coke were furnished by mine-owned and other coking plants and some two million tons of gas coke by gasworks, making 11.4 million tons in all; by 1975, on the other hand, such gasworks as are still operating now will in all likelihood have closed in face of the continuing advance of natural gas, and a mere six million tons of coke will be on offer from the mine-owned and other coking plants for the private consumer.

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[1] To be on the safe side, the upper figure is the one used in the calculations which follow.

[2] See "Study on the Question of Coking Coal and Coking for the Community Iron and Steel Industry" (Energy Series No. 2), sec. 53.

[3] Coke is also a non-substitutable element in certain production processes in the chemical industry, so that there too problems of "specific supply" present themselves.

Accordingly, these estimates of coke requirements are to be regarded as minima.

I.1.b Coking capacity

12. Community coking capacity at the beginning of 1969 totalled an approximate annual 70 million tons.[1] As is apparent from the forecast coke requirements, it is not possible to calculate in terms of a reduction in this capacity between 1969 and 1975: in view of the uncertainty of the demand estimates this is ruled out.

13. The age pattern[1] of the coking plants is such as to necessitate taking obsolete installations out of service and building new ones. Moreover, some mine-owned plants will be deprived of their flow of coal by the closure of the mines concerned. The likelihood is therefore that a sizable amount of new capacity will be built adjacent to steelmaking complexes.

14. Investment plans at the beginning of 1970 indicate that the following new coking capacity should be in production by 1975:

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[1] See "Study on the Question of Coking Coal and Coke for the Community Iron and Steel Industry"; Annex 21.

	Annual capacity ('000 tons)	Capital expenditure (million u.a.)
Germany: mine-owned plants	9 285	236
steelworks-owned plants	510	21
	9 795	257
Belgium: steelworks-owned plants	1 381	48
France: steelworks-owned plants	2 300	70
Italy: steelworks-owned plants	3 500	107
Netherlands: steelworks-owned plants	2 000	70
Total Community:		
mine-owned plants	9 285	236
steelworks-owned plants	9 691	316
Total	18 976	552

The new mine-owned plants to be installed in Germany are exclusively replacements for old ones; the steelworks-owned plants planned in the other countries represent new capacity only part of which is intended to replace scrapped mine-owned plants. This shift in the pattern of coke production will bring steelworks-owned capacity up from 21.4 million tons of coke in 1969 to 31.1 million in 1975, and mine-owned capacity down (assuming the Community total is to remain at about 70 million tons) from 44.5 million to some 35 million.

These structural changes in coking capacity and coke requirements are an indication that the coking plants are coming more and more to be purely caterers to the steel industry, as they already are in the United States. This will mean that cyclical fluctuations in the steel industry's coke requirements will have a much greater impact on coke production as a whole than hitherto.

Pattern of Community coking capacity

	1969		1975	
	(million t coke)	(%)	(million t coke)	(%)
Mine-owned plants	44.5	63.7	35	50.0
Steelworks-owned plants	21.4	30.6	31	44.3
Independent plants	4.0	5.7	4	5.7
Total	69.9	100.0	70	100.0

15. It is particularly important for the practical conduct of the restructuring operation that closures and constructions should be properly synchronized so as to avoid both temporary bottlenecks and possible overcapacities - not that it looks, on present form, as if the latter problem is likely to arise between now and 1975.

16. The capital expenditure required for installing new coking capacity works out at about 550 million u.a. It should not be difficult to find the necessary sums in the case of the steelworks-owned plants, where the money can be put up by the steel industry. For the new mine-owned replacement capacity in Germany it may well be hard to raise the funds. Injections of outside capital will only be forthcoming if there is sufficient prospect of the new plants paying their way.

I.1.c Supply of coal to the coking plants

17. The High Authority and the Governments made it their particular concern during the sales slump to ensure as far as possible that the coking plants continued to take Community coal. To this end the

High Authority on 21 February 1967 issued its Decision No. 1/67,[1] which expired, after one extension, on 31 December 1969. The unified Commission in its turn took up the matter, and to promote the use of Community coal it took the step, with the unanimous endorsement of the Council and after hearing the Consultative Committee, of enacting a fresh system of aids for coking coal,[2] to run up to 31 December 1972.

18. Approximately nine million tons of imported and 77 million tons of indigenous coal (10.5% and 89.5% respectively) were carbonized in the Community in 1968 (see Annex 3). The proportion of indigenous coal differs from country to country, ranging from 99.7% in Germany to 32.2% in Italy.

In 1969 the proportion, for the Community as a whole, decreased to 87.7%, and in 1970 to 85.4% (see Annexes 2 and 5).

By 1975 it will have diminished further. All the indications are that the new steelworks-owned coking plants now building, as we have seen, in steelmaking and coastal areas will be increasingly using imported coal. Given an annual output of 9.7 million tons of coke, their input of imported coal would work out at up to about 14 million tons, which added to the 14 million or thereabouts[3] already being imported in 1970 would give a 1975 Community total of up to 28.5 million tons of imported

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[1] Journal officiel des Communautés européennes No. 36, 28 February 1967.

[2] Commission Decision No. 70/1 CECA, of 19 December 1969, on coking coal and coke (Journal officiel No. L 2, 6 January 1970).

[3] Including gasmaking coal (see Annex 5).

coal for coking (see Annex 2). The proportion of indigenous coal would thus be down in 1975, as a result of these changes in coking-plant location alone, to an average 69.0% for the Community overall.

What further decrease there will be when the support arrangements for coking coal expire in 1973 is impossible to say at present; it will depend primarily on the availabilities and prices in the world market.

19. In addition to the tonnages imported, at least 63 million tons of indigenous coal will be needed to meet the coking plants' requirements in 1975 (see Annex 2).

20. A coking-plant consumption of 63 million tons of indigenous coal would necessitate - given the geological and technical conditions in the mines - a total Community production of approximately 100 million tons. The so-called "entailed" production[1] would then work out at 37 million; actual production in 1975 may be put some 43 million above this.

From the breakdown by grades of the input in 1968 it can be estimated that of the 63 million tons some 58.3 million will be true coking coal of Groups V and VI, and 4.7 million coal of other categories. Comparison of V/VI coking coal production[2] and V/VI coking-plant consumption shows the trend to be as follows:

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[1] Indigenous coal only.

[2] See Annex 1.

(Community total; million tons)

	1961	1968	1975
Production (V/VI)	172.3	129.4	109.9
Coking-plant consumption (V/VI)[1]	86.9	72.5	58.3
Computed surplus	85.4	56.9	51.6

The "computed surplus" of indigenous coking coal is falling steadily, but even in 1975 it will still be substantial - at around 50 million tons.

On these various assumptions and mathematical hypotheses, and provided the necessary tonnages of imported coking coal can in fact be procured, the coking sector should not face any quantitative problems of coal supply between now and 1975.

I.2 Supply of house coal

21. As more and more housing is built and the standard of living rises, the fuel requirements of the household sector, which are highly sensitive in the short term to ups and downs in weather conditions, will in the longer term follow a steadily rising trend. Notwithstanding, within this general movement consumption of solid fuels must be expected to continue to decline.

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[1] Indigenous coal only.

22. A forecast of household demand for coke is given above (sec. 11); it remains to estimate that for coal and for briquettes.

As is shown in Annex 5, 9.4 million tons of indigenous coal was briquetted in 1968[1] and 18 million supplied direct to households.

In the seven years 1961-68 the aggregate tonnage, of coal and briquettes together, fell by nine million tons; for the following seven years, to 1975, a similar absolute decrease of nine million tons is extrapolated. This presupposes a relative though not an absolute quickening in the contraction of demand, nine million tons between 1961 and 1968 representing a drop of 25%, and between 1968 and 1975 of 33%.

23. On these hypotheses, about 6.5 million tons of indigenous coal would go for briquetting in 1975, and 12 million tons be supplied to the household sector direct.

Comparison of house-coal production (Groups I and II) and coal briquetted or sold as it stood shows the trend to be as follows:

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[1] Although small amounts of briquettes are also supplied to industry, for convenience sake the whole tonnage is here treated as pertaining to the household sector.

	(Community total; million tons) 1961	1968	1975
Production (I/II)	37.2	33.7[2]	19.2[2]
Coal briquetted[1]	12.5	9.4	6.5
Coal sold direct as such[1]	24.1	18.0	12.0
Total requirements[1]	36.6	27.4	18.5
Computed surplus	0.6	6.3	0.7

The computed surplus, which was very small indeed in 1961, when house coal was in short supply, had risen again by 1968 to 6.3 million tons, but it will fall once more down to 1975, since Community production of house coal is expected to contract faster (-14.5 million tons) than demand (-9 million tons).

It is of course possible to switch to some extent between one coal and another. The above figures for Groups I and II are intended only as a skeleton indication, since on the one hand not all the I/II coal produced is consumed exclusively in the household sector,[3] and on the other hand the other coals of Groups III to VII can be made usable for domestic purposes given certain technical conditions. However, as overall Community production is decreasing rapidly, the possibilities of substitution are limited from the outset, so that it will probably be necessary to align the flow of imported coal from abroad (2.3 million tons in 1968) on these coming developments. Since it is

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[1] Indigenous coal only.

[2] See Annex 1.

[3] Some, for instance, is added to coking coal in carbonization to reduce its swelling power. It is impossible to establish exactly which coals are used by which consumer groups, as the necessary statistical material is not available.

impossible to judge with any accuracy what Community import requirements of house coal will be in 1975, no figures are given for these in Annex 5.

24. Domestic consumers, as private individuals, are not really in a position to follow the state of the market or tackle sudden supply problems on their own. Governments, however, do have a say in the matter of production and import levels, so it is up to them, to a certain extent, to see to it that the household sector is kept adequately supplied.

Special problems arise with regard to conversions, inasmuch as the cost of switching from one type of firing to another is a severe financial strain for some sections of the population.

I.3 Demand for steam coal

25. In view of the special problems connected with the power stations' coal requirements, general industrial consumption and power-station consumption are here treated separately.

The indigenous production remaining after deduction of the tonnages calculated above for coking-plant and household demand works out as follows:

(Indigenous coal, million tons t/t)

	1961	1968	1975
Availabilities			
A. From production			
Production (III/IV/V)	25.4	17.9[1]	14.2[1]
"Computed" surplus after coking[2] (V/VI)	85.4	56.9	51.6
"Computed" surplus after provision of house coal[3] (I/II)	0.6	6.3	0.7
B. From pithead stocks	2.8	7.7	-
	114.2	88.8	66.5
of which, disposals to			
gasworks	7.1	2.1	-[4]
coking plants (I/II/III/IV/VII)	5.0	4.7	4.7[4]
exports	3.6	2.9	1.0
	15.7	9.7	5.7
Remainder: steam coal	98.5	79.1	60.8
of which			
for industry generally	49.1	22.7	13.7
for power stations[5]	49.4	57.4	47.1[6]
(statistical difference)	(-)	(-1.0)	(-)

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1 See Annex 1.

2 See p.13.

3 See p.15

4 See p.12.

5 Publicly owned stations, pithead stations and industrial self-suppliers.

6 Consumption calculated theoretically from hypotheses.

I.3.a General demand for steam coal

26. The Community's estimated general requirements of steam coal by consumer groups, extrapolated from trend values, to 1975 are as follows:

(Community, million tons t/t)

Indigenous coal	1961	1968	1975
Collieries' own consumption	8.9	5.0	3.0
Steel industry	3.3	4.3	4.3
Other industries[1]	25.4	10.3	6.0
Transport	11.1	2.7	-
Sundry	0.4	0.4	0.4
	49.1	22.7	13.7

As regards the scale of the expected decreases in demand this table calls for no particular remark, there being little margin for variation owing to the smallness of the quantities to be estimated. Only as to the item "other industries" is there some uncertainty.

I.3.b Demand for power-station coal

27. By these calculations, availabilities of indigenous coal for the power stations will move as follows:

(Community, million tons t/t)

	1961	1968	1969	1975
Power-station consumption (Community-mined coal)	49.4	57.4	59.0	47.1[2]

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[1] Less private industrial generating plant.

[2] Equal to 40.2 million tons coal equivalent, lower calorific value.

The flow of indigenous coal to the power stations, then, will appreciably diminish. If the requirements of the "other industries" in 1975 turn out below the estimated figure, the amounts left over could go to the power-station sector. To suggest a likely range, we may take it that the supply of Community-mined coal for power-station consumption will be somewhere between 47 and 50 million tons t/t.

28. The outlook for the Community as a whole does not reflect the different state of affairs in the different countries. The cutbacks in Belgium, France and the Netherlands will deprive a number of pithead stations of their coal supply in any event, and some small sets at collieries will probably be taken out of service too as part of the streamlining of the electricity sector. In Germany there is a certain amount of scope for remodelling coal sales by abandoning outlets where the distances involved are so great that the net returns do not cover the production costs.

29. Power-station coal is subsidized in all four coal-bearing countries of the Community, in different ways. In Belgium, France and the Netherlands it is sold below cost and the loss made up to the collieries by direct payments. In Germany it is usually sold at break-even schedule prices, which, however, are well above the prices for heavy

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fuel oil; on some of the Community coal[1] so supplied - about seven million tons - the price difference vis-à-vis oil is made up to the power stations by payments under the second Verstromungsgesetz (Law on Power Generation).

30. Gross Community electricity production may be expected to rise from 493 000 million kWh in 1968 to 850 000 million in 1975[2] (see Annex 4), and the fuel requirements of the conventional thermal power stations - allowing for a further decrease of some 10% in specific consumption of fuel per kWh[3] - from 125.3 million tons coal equivalent (lower calorific value) to 211 million. Of the latter totals, the coal- and oil-fired stations accounted for 88.5 million tons coal equivalent in 1968 and will account for an estimated 158.7 million in 1975, an increase of approximately 70 million.

31. Community import requirements of fuels for conventional power stations are rising as follows:

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[1] This arrangement is not confined to German coal.

[2] The estimates of electricity production in 1975 and breakdown by energy sources are taken from Doc. No. 1703/XVII/70.

[3] The calculations in Annex 4 are based on an increase in average efficiency of thermal electricity production from 36% in 1968 to 39% in 1975.

(million tons coal equivalent)

	1968			1975		
	Indigenous	Imported	Total	Indigenous	Imported	Total
Coal	49.0[1]	7.3	56.3	40.2[2]	..	..
Petroleum products	1.5	30.7	32.2	1.5	..	..
Total	50.5	38.0	88.5	41.7	117.0	158.7

Requirements of fuels from outside the Community are thus up from 38 to 117 million tons coal equivalent, i.e. by 79 million.

32. There is some scope for the Community to diversify in making up this margin.

In free competition the market shares of the imported energy sources would be determined by price. This would of course involve doing away with the restrictive practices still current at present.

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[1] 49.0 million tons coal equivalent = 57.4 million tons t/t; see Annex 5.

[2] 40.2 million tons coal equivalent = 47.1 million tons t/t; see Annex 5.

33. There are so many question marks about the supply position that it is impossible to estimate what share of the 80-million-ton margin will fall to fuel oil and what share to imported coal.

The 1975 figures for coal in Annex 5 have been left incomplete because it cannot be calculated what part imported coal will play in the power-station sector. If it is assumed that imported power-station coal competing against fuel oil secures at most a quarter of the margin to be made good, total Community imports of non-Community coal in 1975 would work out at 40-60 million tons, viz.

coking coal	28.5	million
house coal	3-5	"
steam coal for industry generally ...	1-2	"
steam coal for power stations	7-27	"
Total	40-63	"

Imports of coal into the Community in 1968 totalled 22.6 million tons. The highest level ever reached was 44 million, in 1957.

I.4 Security of supply

34. On the subject of security of energy supply generally, the point should be made that the maintenance and growth of gross national product are directly bound up with a sufficient flow of energy. In 1967 Community consumption of primary energy in industry and transport came to roughly 432 million tons coal equivalent[1] and GNP to 340 300 million u.a., which gives a GNP of something like 800 u.a. per ton coal equivalent.

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[1] Exclusive of private households; Community energy consumption overall in 1967 was 632 million tons coal equivalent.

35. While the coal supply and demand position (see Annex 5) does not indicate any actual shortages of Community coal in 1975, it is evident from the foregoing that problems will arise as regards relating the impact of the impending production cutbacks to the demand, i.e. seeing that the main brunt is borne by the consumer groups to which risks to their flow of supplies are not a matter of crucial importance.

36. Community coal, being subsidized, lacks one major market regulator, a break-even price. This means that the market moves in response to demand only in accordance with the subsidized prices. The dangers of this must not be underrated.

37. Some of the coals subsidized are for specific applications (coking coal, power-station coal), in respect of which special links have been instituted between indigenous coal and the consumers. The question here is whether the arrangements should be maintained, in consideration of security of supply and world supply potential.

38. On the power-station side, it is currently calculated that availabilities of indigenous coal for generating purposes in 1975 will amount to 40.2 million tons coal equivalent[1] (= 47.1 million tons t/t), representing (on the other hypotheses in Annex 4) a decrease in the share of indigenous fuels in the total gross electricity production from approximately 75% in 1968 to 55% in 1975. It will need to be carefully examined whether, and on what terms, the balance can be procured on the world market, and what problems this is likely to involve as regards security of supply.

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[1] Sufficient to produce 129 300 million kWh (see Annex 4).

39. As to coking coal, the production and marketing of coking coal and coke for the iron and steel industry are, by the terms of Decision No. 70/1, to be Community-subsidized for three years. The object is to enable the steel industry during that time, having regard to its security problems, to straighten matters out with the Community coal industry as concerns the future flow of coking coal, bearing in mind that there is little hope of obtaining extra amounts of coking coal on the world market in the short term, and that to meet the coke requirements of the steel industry and other Community consumers will strain existing coking capacity to the limit.

40. In the domestic sector there are some problems with regard both to coal and to coke and briquettes: the trouble is not so much long-term security of supply as the fact that, on past experience, short-term coverage is liable to be a difficulty if very severe winter weather pushes demand to a peak.

Chapter II

The supply position regarding coverage of the Community's coal requirements

II. 1. Imported coal

41. For various, and varying, reasons there is in the Community a structural demand for imported coal, which has grown appreciably in the last ten years with the steep rise in the production costs of indigenous coal. Since the introduction of state aids, the Community's imports of coal from outside have ranged between 18 million tons (in 1960) and 34 million (in 1963), and the share of these imports in its total coal supply between 7% and 12.5% (see Annex 6).

The countries producing little or no coal of their own, such as Italy and the Netherlands, take particularly large amounts of non-Community coal, which in 1968 accounted for 69% of Italy's and 16% of the Netherlands' coal consumption.

42. Practically all the Community's coal imports are from four traditional sources, namely the United States, Britain, Poland and the Soviet Union. The percentage pattern has, however, been shifting in favour of the two latter; the share of American coal decreased between 1958 and 1968 from 81% to 53%.

43. By grade and provenance, the flow breaks down as follows (see Annexes 7 and 8).

(a) The Community's biggest supplier of coking coal is the United States, despite the very sharp decline in the proportion of American Group V and VI coals imported, from 90% in 1958 to 61% in 1968. The share of Polish V/VI coals increased in the three years 1965-68 from 5.5% to 20%.

(b) The bulk of the house coal (Groups I and II) imported - 60% in 1968 - is from the Soviet Union; 20-30% comes from Britain. Imports of American anthracite have been discontinued.

(c) The other coals, used mainly, along with some of the V/VI tonnages, by the power-station and "other industries" sectors for steam raising, are approximately 50% of American and 40% of Polish origin.

44. In considering where to shop in order to cover the extra import requirements calculated in the foregoing chapter, it must be borne in mind that the world trend in demand for coal may well be different from the Community trend. The United Nations Economic Commission for Europe estimates that world coal consumption will continue at least level until 1980, and may even rise further. The Community, with many of its own collieries closing or due to close, will find in turning to the world market for the additional quantities it needs that the principal supplier countries are having to cope with rising demand not only at home but from elsewhere, more particularly from Japan and South America.

45. There are two arguments in favour of the Community's having increased recourse to the world market.

(a) Thanks to improved shipping facilities, Community consumers might be able to obtain supplies from sources hitherto ruled out by reason of the unduly high transport costs involved; take for instance the flow of imports just starting to come in from Australia.

(b) In several countries, notably Canada, coalmining is being expanded. This will bring new, potent suppliers into the market, which could result, at any rate indirectly, in larger tonnages becoming available for the Community.

An account follows of the main producer areas capable of supplying the Community in the medium term with the necessary tonnages of coking, house and steam coal, on a regular basis under long-term contract.

II.1.1. Coking coal

46. The Commission's report to the Council, "A Study on the Question of Coking Coal and Coke for the Community Iron and Steel Industry",[1] makes a number of points, from which it is concluded that world reserves of coking coal should suffice for the long-term coverage of an increased Community import demand. Certain very recent new developments, with regard both to demand and to supply, must, however, be recorded here in order to keep the picture up to date.

47. Crude-steel production must now be expected to increase faster than was assumed for the purposes of the Coking Coal Report. Given the Japanese steel industry's latest capital projects, and also the probable trend in the Community, world crude-steel production could be up by 1975 to between 735 and 765 million tons, 515-545 million in free-market and 220 million in state-trading countries. This represents annual average growth rates of 4.7 and 5.4% respectively over the period 1968-75, whereas the Coking Coal Report assumed an annual 4% for the period 1967-80. In the free-market countries this faster expansion will mean an increase of 50-60 million tons on 1968 in the input of coal for making blast-furnace coke.

.../...

[1] Energy series, No. 2.

48. The United States is not only the Community's traditional supplier of coking coal but, by reason of its abundant deposits, the only one in a position to meet substantial increases in world demand in the long term. This point was made in the Coking Coal Report.

The American coal industry has been in vigorous and pretty well continuous expansion since 1962. To meet rising demand from abroad it would need to invest in extra capacity, and this the mining companies are mostly prepared to do only if they are assured of guaranteed sales by long-term contracts. Their further insistence that those who buy the coal ought to part-finance the investment projects is quite a new departure in export practice.

Recent estimates indicate that the production costs of deep mining in the American exporter coalfields (Districts 7 and 8) are likely to go up about two dollars per ton by 1975. This is assuming output per manshift will rise from 12.4 tons in 1967 to 16.5 in 1975, i.e. at an annual 3.6%, only slightly less than the rate for the years before 1967.

In view of the wage claims being entered (for an increase from $36 to $50 per shift "in the near future"), it may be wondered whether the cost increase just mentioned will not be exceeded. Moreover, costs will also be driven up by the dust control and anti-explosion devices which are having to be introduced in underground workings under the Mine Safety Act.

49. Coking coal can also be obtained by the Community from other exporter countries, but not on such a large scale. The Polish industry is planning to step up production, though the proportion exported seems likely to go down.

.../...

	1960	1968	1970[1]	1975[1]	1980[1]
1. Production of coal (million tons)	104.4	128.6	137.5	157.0	176.0
2. Exports of coal (million tons)	17.5	26.0	26.5	28.5	30.0
3. 2 as a % of 1	16.8	20.2	19.3	18.2	17.1

Exports of the coking grades, which have risen from 600 000 in 1965 to an estimated 4.0 million in 1969, are to be increased further, with the opening-up of more seams in the Rybnik coalfield, whose production it is planned to push up from 25 million tons at present to 37 million in 1975.

Prices, judging by Poland's export pricing hitherto, are likely to be brought further into line with world levels. For contracts with Japan, to take effect from 1972, $13 to $14 per ton fob Gdansk (Danzig) is quoted. Poland is apparently prepared to supply substantial extra tonnages to western Europe provided this is treated as a guaranteed long-term sales flow, in consideration of the capital investment involved; in addition efforts are being made to arrange for the importers to bear part of the capital costs.

50. Australia has in the last ten years or so been selling more and more coking coal in the world market, so far almost entirely to Japan; principally by reason of the rising demand from the Japanese steel industry, Australian coalmining is booming.

	1960/61[2]	1965/66[2]	1968/69[2]
Production of coal (million tons)	23.2	32.8	43.2
Exports of coal[3] (million tons)	1.9	8.0	14.4

.../...

[1] Mean of three variants in the forecasts of the Polish Planning Commission.

[2] Fiscal year, July-June.

[3] Practically entirely sales of coking coal to Japan.

The reserves of coking coal present cannot be properly assessed as yet, since exploration is still in full swing, particularly in Queensland. Workable resources of approximately 2 000 million tons have been proved to date, 1 300 million tons of these in New South Wales.

The Australian industry is not able at present to meet its contractual commitments in full. It remains to be seen whether production and transport capacity can be sufficiently expanded by 1975 to export something like 45 to 50 million tons. Substantial Japanese and American capital has been sunk in the investment projects in hand in Queensland.

The Australians are anxious to diversify their export markets, and all the indications are that Europe too will become one of their regular outlets. Loading facilities are being installed for cargo vessels of over 100 000 tdw; when these are in service the maritime freight-rates for the European run, assuming combined cargo trips, would be perhaps $3.50 to $4.00 per ton.

51. Another new coking-coal supplier which is thinking big is Canada, which has substantial reserves in Alberta and British Columbia. In the past it has not produced much and disposals have been mainly to the Japanese steel industry (latterly about one million tons a year). Trends to date in the Canadian coal market have been as follows (million tons):

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	1952	1960	1969 (estimate)
Production	16.0	10.0	9.6
Imports	22.2	11.3	15.5
Exports	0.4	0.8	1.3

The Japanese steel industry has now concluded long-term contracts with Canada, after making sure the necessary capital could be found for working up Canadian coal production, costs could be cut by streamlining carriage by rail to the west coast, and a deep-water port accommodating vessels of up to 200 000 tdw would be available.

It is not clear at present whether there is any prospect of west Canadian coal also being purveyed regularly to western Europe, since the Panama Canal takes only ships of up to 70 000 tons or so. However, even if no direct trade flow of this kind develops, the Canadian export trend now emerging does indirectly affect the Community's future supply position, in that it could help to reduce the tightness in the world market for coal.

II.1.2. House coal

52. Most of the Community's imports of house coal are from the Soviet Union and from Britain (1.6 and 0.9 million tons respectively in 1968; see Annexes 7 and 8), the remainder consisting chiefly of South African anthracite.

Britain's coal problems are much the same as the Community's, and so therefore is the trend in coal supplies. British intentions regarding future production of the household grades are not known, but it can be assumed that, given the existing configuration of supply and demand, the tonnages for export will not measurably increase in the medium term.

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Russian coal production, on the other hand, continues to climb: under the new Fuel and Power Programme to 1980 the production of the Donets basin is scheduled to increase from 206 million tons in 1965 to 260 million in 1980, and production of anthracite (according to the Press) from 85 million tons in 1968 to about 100 million in 1975. Soviet planners calculate that overall exports of coal will be up by 1980 to 34 million tons, compared with 21.3 million in 1968, which suggests some possibility of increasing Community imports of house coal from the USSR in the medium term.

South Africa's extensive coal reserves (approximately 80 000 million tons) include only limited reserves of anthracite (200 million tons), in Natal; while coalmining as a whole is expanding vigorously, anthracite production has been running for years at a mere 1 to $1\frac{1}{2}$ million tons, of which about half goes for home consumption and half for export, mainly to Japan and Italy. So far as is known there are no plans for increasing this volume, and in view of the poorish long-term sales outlook for anthracite it seems unlikely that the industry would undertake the necessary capital projects for extensions to production and transport capacity.

II.1.3. Power-station coal

53. In the power-station sector, the potential outlet developing in the Community for imported energy - including in principle imported coal - works out, as we have seen in Section I.3.b. above, at something like 80 million tons coal equivalent, very much larger than the outlet for coking coal and for house coal. The outstanding suppliers are the United States and Poland, which in 1968 furnished 60% and 22% respectively of the Group III-VII coal imported (see Annexes 7 and 8). It would actually be possible to extend the range of steam coal procurements by buying also from, say, South Africa, but as the American and Polish

reserves are sufficient to cover the extra demand from the Community, we here confine ourselves to examining the potential of these two main supplier countries.

54. (a) The United States' reserves[1] of bituminous coal are put at 609 000 million tons, including 250 000 million in the Appalachian coalfield, which is advantageously located for exportation. Polish reserves at depths of 1 000 metres or less amount to 100 000 million tons.

(b) In both countries home requirements of power-station coal are expected to rise steeply: in the United States the increase is forecast at 60 to 70 million tons over the next five years, and in Poland it is planned that, as before, something like 95% of the demand for electric current should be met by coal-fired stations ("coal" here including brown coal).[2]

(c) In both countries coal production has been increasing for years, and there is not much slack left to take up.

55. This being so, it will not be possible to export much more steam coal until the necessary extensions in capacity have been carried out. Now capital projects of this kind are usually only undertaken if the disposal of the bulk of the production increment resulting is assured by long-term contracts. There is no telling to what extent the Community electricity industry would be prepared, on the strength of its assessment of the future relative competitive positions of imported coal and hydrocarbons, to conclude such contracts, nor whether coal producers

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[1] In seams over 14 inches in thickness, at depths of 3 000 feet or less.

[2] Hard coal and brown coal power stations.

outside the Community would attempt to step up their disposals of power-station coal to the Community without pretty full guarantees of purchase. As there are a good many more question-marks involved than in the case of coking coal, it is correspondingly harder to calculate which way enterprises are likely to decide.

56. One element of uncertainty is institutional: there would be no point in non-Community producers even trying to acquire substantial shares in this market for power-station coal unless the import restrictions in some Community countries were lifted.

57. In the United States production costs for steam coal will rise more slowly than for coking coal, one important reason being that an increasing proportion will be opencast, and opencast costs, according to the above estimates,[1] will go up between now and 1975 by only 20 to 30 cents per ton.[2] With the switch to large-capacity transatlantic colliers of up to 150 000 tons, transport costs could be some 70 cents per ton lower than with the present fleet. In the American ports of shipment the necessary facilities will be in readiness by 1975, so it will depend largely - apart from such other considerations as the trend in shipbuilding costs - on the extension of Community port installations how far the expected rise in production costs by 1975 can be offset by a fall in transatlantic freight-rates.

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[1] See Section II.1.1.

[2] Not counting additional costs for the reconditioning of opencast sites.

II. 2. Community-mined coal

II.2.1. Future trends in production and employment

II.2.1.1. Production patterns

58. As we saw in the Introduction, the trend in overall Community coal production to 1975 is downward, the estimated total for that year being 143 million tons t/t. The scale of the cutbacks varies from country to country.

59. The sharp decline in Belgian, French and Dutch production must be expected to result in these countries' intra-Community disposals petering out altogether. This is not a de-integration of the common market in coal, but a rationalization of outlets, imposed by hard economic facts. As production declines the sales area tends to contract inwards towards the producer centre, since the greater the distances, and hence the transport costs, the smaller the producer's net earnings ex mine if he aligns his delivered prices on lower quotations from competitors.[1]

II.2.1.2. Trend in productivity

60. The usual yardstick of colliery productivity is underground output per manshift - a quantitative concept, not to be equated with the statistical productivity index for industry generally.

61. Colliery OMS went up markedly faster from 1958 to 1968 than in any previous decade, in several coalfields more than doubling

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[1] Especially where the coal has to be carred towards ports of importation, or to coastal areas of the Community.

(see Annex 9). Pressure of competition and the consequent compulsion to rationalize had a great deal to do with this.

Factors contributing to the rise in average OMS per coalfield over these ten years were

(a) technical progress proper in the pits themselves (mechanization, etc.);
(b) improvements in operational organization and infrastructure;
(c) winning only from the best seams ("negative rationalization");
(d) closure of uneconomic mines.

It is not possible to pinpoint the respective contributions of these factors to the end result.

The number of pits in production and average daily output per pit have moved as follows:

	Pits	Daily output (tons)
1958	389	2 235
1966	216	3 545
1967	187	3 675
1968	166	4 126
1969	154	4 373

62. As can be seen from Annex 9, OMS in the Community varies greatly from coalfield to coalfield, and also, within the coalfields, from pit to pit. The highest OMS per pit in 1968 was over six tons, and the lowest under 1.5. The scatters for the different coalfields are shown in graph form in Annex 10: the Ruhr and Nord/Pas-de-Calais curves are shallower than the others, a point of importance since in coalfields with a wide productivity scatter there is more scope for bringing down the cost average by closing marginal pits than in those with a narrow one.

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The OMS scatter has a bearing on the scatter of production costs: there is a close correlation between the level of costs and the level of OMS (see Section II.2.2.1 below).

63. The increases in collieries' OMS in the last few years have been achieved largely by more intensive mechanization. Some Community coalfields now have very nearly 100% mechanization (see Annex 11); any further raising of OMS will have to be by way of improvements in the type of machinery.

One possibility offering plenty of openings for productivity increases in wider use of powered supports, though it must be borne in mind that these are unsuited to certain geological conditions. The percentages of coal from power-supported faces in the different Community countries are as follows:

Germany, March 1969	23.1%
Belgium (Campine), March 1970	18.3%
France, May 1969	13.8%
Netherlands, 1968	21.3%

64. By fully exploiting all current methods and techniques making for higher productivity, and introducing new ones still at present in the development stage, it will be possible to secure further increases in the Community collieries' OMS as time goes on. Annex 9

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gives some very approximate forecasts for 1975, roughly estimated from trend values and intended, for the purposes of the present study, merely to give a general idea of the way the figures are likely to move.

The Annex also shows the German industry to be doing the best in the matter of productivity increases. If we assume a 1980 OMS of eight tons,[1] the intermediate figure for 1975 works out at six tons, representing an annual increase of 7%. As for the Belgian, French and Dutch industries, their estimated increases to 1975 will not, on past form, be anything like enough to keep production costs more or less steady: on the contrary, notwithstanding large-scale closures of marginal collieries, their operating losses per ton produced must be expected to rise.

II.2.1.3. Investment

65. Colliery investment fell heavily between 1958 and 1968 (see Annex 12). Specific capital expenditure in the Community coal industry as a whole in 1968 averaged 0.68 u.a. per ton produced, while depreciation for wear and tear averaged 1.20 u.a. per ton, so that the collieries are suffering a wastage of real assets.

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[1] Figure indicated by Ruhrkohle AG. The Commission's Coking Coal Report (Energy series, No. 2) in subsection 75 states that an OMS of 9.6 tons will be needed in 1980 if production costs in the Ruhr are to be kept on an even keel allowing for a rise of 6% p.a. in wages and 1% p.a. in prices generally.

66. Investment during the last ten years has been confined almost entirely to rationalization of existing installations, the only exception being the sinking between 1958 and 1968 of five new pits in Germany. The investment in "shafts and underground workings" shown in Annex 13 related principally to technical improvements and alterations in mine layout. The figures do at the same time indicate that expenditure on machinery has decreased less than that on other capital items.

67. It is not easy to find the cash to pay for capital projects in the Community coal industry, for these offer such a poor return that loan capital from outside sources is practically unobtainable. Consequently, according to the statistical data, it has been necessary for the most part to draw on sums set aside for depreciation, and that thanks, in the main, to the indirect and direct subsidization of the industry by the Governments.

68. Direct state assistance for colliery investment in 1969 was as follows:

(a) The German Government furnished investment assistance under Article 3 of Decision No. 3/65 to a total of 45 million u.a. (= 0.39 u.a. per ton), in order to build up the volume of investment from the low level it had reached following the reorganization of the German coal industry. Disinvestment assistance totalling 46.7 million u.a. was also granted under Article 4 of the Decision to collieries facing closure.

(b) The Belgian Government provided 3.1 million u.a. in depreciation assistance and 4.4 million in investment assistance (the two together working out at 0.56 u.a. per ton), intended chiefly

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to keep operations going and ensure that safety standards were maintained; in addition an appropriation of 400 000 u.a. was made for disinvestment assistance. Articles 3 and 4 of the Decision have not so far been invoked in France or in the Netherlands.

69. There is no prospect in the Belgian, French and Dutch industries of a real improvement in the costs of whole coalfields in consequence of state-aided rationalizations - only, perhaps, in those of some individual collieries. Despite this gloomy state of affairs, however, a certain amount of capital spending will have to go on in the three industries, even at uneconomic pits, on raising standards of mine safety.

What investment activity there is going to be in the German industry is almost impossible to say. It will be practically out of the question to obtain any outside capital to speak of in the money market; on the other hand the industry will have some funds of its own at its disposal - thanks to the Government's indirect assistance - from "earned" depreciations. Whether subsidies should be granted towards colliery capital projects is a matter that can only be considered case by case, but wherever the projects are for safety improvements the answer ought to be yes.

II.2.1.4. Employment and social problems

70. It is with the employment problems arising in the coalfields as a result of colliery closures that the Governments' actions in the coal sector in the last few years have been mainly concerned. Of the direct assistance to the Community coal industry in 1969 under Articles 3 to 5 of Decision No. 3/65, 80% (389 million u.a.)

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was under Article 5, for the avoidance of serious regional and social strains.

71. Colliery redundancies stem from the closure of uneconomic pits and productivity gains in the pits remaining in operation.

A tentative estimate is offered in Annex 14, based on the production and OMS forecasts in Annexes 1 and 9 and assuming, purely as a working hypothesis, that the number of hours per shift and shifts per man-year will remain the same, of the size of the colliery labour force at end 1975. The figures are intended as approximations only. The assumption of no change in the length of shift and length of man-year must not be taken as in any way anticipating future employment policy; needless to say any alterations in these would affect the size of the labour force, and should it be felt desirable to introduce multi-shift working in "good" coalfields for the sake of better plant utilization this too would push up manpower requirements above the levels shown in Annex 14.

72. As the Annex indicates, the actual numbers of redundancies occurring in the Community[1] are likely to decrease somewhat, with departures between 1968 and 1975 (including natural wastage through retirement by reason of disability or age) working out at 244 400, as against 329 100 between 1961 and 1968. Of the 140 200 departures

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[1] In the Community overall, not in individual coalfields.

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of underground workers over the period 1968-75, approximately 84 900 will be due to higher productivity and 55 300 to closures.

73. Given the age pyramid of the colliery labour force, the pits in production in 1975 will be needing a sizable intake of new entrants, who will have to possess higher occupational skills than their predecessors owing to the advance of mechanization. It will not be possible to recruit these men unless they are offered a better-than-average wage and security of employment: the latter in particular is likely to be crucial in attracting young workers from within the country concerned.

74. The manpower problem is additionally complicated by the fact that workers are being laid off from non-viable pits while viable ones are short of skilled men. Miners are not much inclined to mobility, and to get large numbers of them to transfer elsewhere within the industry would be pretty well impossible.

75. A further problem is that after the collieries have trained young skilled workers for various trades and occupations these very men are often the first to leave and take employment in other industries in the event of redevelopment: the collieries pay, and the other sectors benefit.

76. Subsidies to prevent regional and social difficulties in the coalfields are declared by the Governments to the Commission under Article 5 of Decision No. 3/65, but usually in all-in figures, which does not make for the necessary transparency. Fuller particulars of the steps being taken in the matter of coalfield redevelopment would help the Commission to form a proper picture of the aid situation.

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II.2.2. Financial position of the enterprises

77. The Community coal industry consists of enterprises which mine the coal and convert a good part of it into coke, gas, chemicals, briquettes and other patent fuels, steam and electricity; in 1968 just on half the coal produced was so processed at mine-owned valorization plants. The position varies from enterprise to enterprise, but none of them confine themselves solely to actual coalmining.

78. Average costs and revenues (underground and surface) per coalfield are declared to the Commission quarterly, but not the corresponding figures per enterprise or per colliery. Community-level conventions ensure that the coalfield or national averages are calculated by micro-economically comparable criteria. Depreciation for wear and tear and servicing of working capital are included in the costs.

II.2.2.1. Colliery costs

79. The macro-economic costs of the Community coal industry are unknown; it would be a very laborious and technical business trying to compute them, and even then the results would probably not be fully reliable.

Now this is a most important point, for the colliery costs worked out micro-economically by the enterprises comprise only

that portion of the macro-economic costs[1] which falls within their (the enterprises') costing.

If the micro-economic costs are taken as being the enterprises' routine operating costs, we must reckon over and above these the costs borne by the public at large, viz.

(a) the amount by which what the coal industry takes from the general pool of the economy exceeds what it puts into it in taxes;

(b) operating costs borne not by the coal industry but by the authorities or by other industries (e.g. those interlocking with it);

(c) all direct and indirect social-security arrangements for the benefit of actively-employed mineworkers which are financed by the authorities and not by the enterprises;

(d) other allowances, such as depreciation reliefs, interest reductions, research grants, etc.

To work out the incidence of all these items in full falls well outside the scope of this study. It must be remembered that other industries too receive assistance with their costs, in greater or lesser degree.

80. Ongoing macro-economic costs do not include the following, since they are "hangover" charges from the past:

(a) charges borne by the authorities with respect to the separate mining industry social insurance schemes (state payments to the insurance institutions);

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[1] The macro-economic costs of the industry are borne by the community, through purchases of coal (at a price which may be higher than that of competing products owing to protective measures) and through taxes.

(b) past charges incurred by the coal industry but not covered by its present level of contributions, and accordingly, under integrated social insurance schemes, partly borne by other industries.

Concerning (a), which is quantifiable, fuller details are given in Chapter II.2.3.2 subsection 119 below; (b), however, cannot be amplified in this way, as in the case of integrated social insurance schemes it is practically impossible to break down the charges by industries.[1]

81. The micro-economic costs figuring in the enterprises' costing have risen over the last ten years, in national currencies, by different amounts in different coalfields (see Annex 16). The German coalfields' costs, in marks, remained relatively steady, thanks mainly to the substantial productivity gains achieved, but partly also to state intervention in the matter of miners' insurance (sickness insurance being incorporated into the general scheme); French costs, in francs, showed the largest increase, by reason firstly of the general price trend[2] and secondly of the fact that productivity rose only a little in comparison with wages, so that labour costs went up.

As Annex 16 indicates, there were times between 1957 and 1969 when costs were reduced, but from 1969/70 an upward movement is everywhere apparent, due chiefly to relatively considerable wage increases.

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[1] As the Belgian coal industry's retirement pensions arrangements were integrated in 1968, no figures for 1969 could be included in Annex 15.

[2] The general price trend affects the cost of colliery equipment.

Comparison of the movement of colliery costs in each country with that country's wholesale price index (see Annex 24)[1] shows that in Germany the two moved between 1957 and 1968 approximately in parallel, whereas in the other Community countries the former far outstripped the latter.

82. The movement of nominal colliery costs, in national currencies, is largely governed, owing to the high incidence of labour costs, by the movement of wages and output per manshift in relation to one another. As can be seen from Annexes 17, 18 and 19, colliery productivity, expressed as underground OMS, rose in all countries except Germany more slowly than hourly wages and related charges;[2] in France in particular the gap was very wide indeed.

83. The disparate movement of wage costs and productivity not only determined the trend in costs overall, but altered the cost pattern. Thus only in the German coalfields and Lorraine was the share of labour costs in the total kept steady at just under 60%; elsewhere it went above 60%.

84. The differing movements of costs in national currencies (see Annex 16) do not reflect the shifts in the competitive positions of Community coal producers vis-à-vis one another and vis-à-vis imports. To compare costs country by country it is necessary to convert the national figures into units of account at the currently ruling rates of exchange, which underwent several alterations between 1957 and 1969 (5% revaluation of the mark and guilder in 1961, successive devaluations of the French franc in 1957, 1958 and August 1969 by 37% in all, 8.5% revaluation of the mark in October 1969).

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[1] Comparison within each country.

[2] Incl. social security charges.

Comparison of Annex 16 with Annex 20 shows that the highly disparate movements of costs in national currencies as between coalfield and coalfield over the period 1957-69 were strikingly offset by adjustments in exchange rates. Thus with the 12% devaluation of the French franc in the summer of 1969, the 1% cost increase in francs during that year becomes a 5% cost reduction in units of account.[1] Conversely, with the mark revalued, German costs in units of account work out 8.5% higher in the last quarter of 1969 for that reason alone, the relevant indices (see Annex 20) ranging from 126 to 139 according to coalfield; this is, in some cases, above the French and Belgian figures, even though in the German industry productivity gains between 1958 and 1968 fully kept pace with wage increases, which in the French and Belgian industries they very definitely did not.

85. While micro-economic colliery costs are computed by the same criteria in all the Community countries, for purposes of country-by-country comparison it is necessary to know exactly how they are made up. Thus for instance, for reasons connected with the French social insurance arrangements, the incidence of social-security charges is about two units of account per ton higher in the French coalfields' costs than in any others.[2] This is not allowed for in Annex 21, which is based on producers' original declarations of their micro-economic colliery costs.

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[1] The French cost averages for 1969 were arrived at from weighted values converted for the first half-year at the old parity and the second at the new.

[2] The amount is made up to the Charbonnages de France direct by the Government. To calculate the difference in incidence, a comparison was made between the Ruhr and Lorraine coalfields. According to "Social Statistics" (Statistical Studies and Surveys of the Statistical Office of the European Communities, vol. 5/1968, p. 151), employers' related charges (= social-security charges) per hour in respect of underground workers in 1967 worked out at 0.58 u.a. in the Ruhr and 1.16 u.a. in Lorraine; per ton produced this gave 1.32 and 2.54 u.a. respectively, a difference of approximately 1.2 u.a. per ton. Allowing for the higher OMS in Lorraine and for the trend in 1968 and 1969, the extra charge on the French coal industry vis-à-vis the rest is estimated at 2.0 u.a. per ton.

86. Annex 21 shows the variations in the different coalfields' costs at ruling exchange rates from the Community average, as an indication of their relative competitive positions in the Common Market. In point of fact, however, there is not much cost-based competition, since for the most part coal is not sold in the Community at break-even but at subsidized prices, often far below cost.

It is not necessarily true for all collieries that relatively high costs mean high operating losses: some coals, such as anthracite, are expensive to mine but sell well and fetch good prices. At coalfield level, however, it is, generally speaking, a fact that high costs mean an adverse trading position. At the same time low costs do not of themselves ensure a relatively satisfactory one: a coalfield's average earning capacity depends on the grades of coal mined, and also on the size of the selling area, for sales to consumers at great distances earn collieries very little.

87. As can be seen from Annex 21, the cost scatter among the coalfields widened between 1958 and 1968; in 1969, however, in consequence of the devaluation of the French franc and revaluation of the mark, there was a contraction, particularly as between the French and the German coalfields.

88. Down to mid-1969 the Ruhr had the lowest costs in units of account, but in the fourth quarter, as a result of the 8.5% revaluation

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coupled with wage increases, these went 2% above Lorraine's, although in 1968, prior to the devaluation of the franc, they had been 24% below them.

89. Judging by the movement of costs in national currencies hitherto, it appears most unlikely that any reductions will be achieved by 1975.

Over the period 1958-69 the annual increase in costs was between 1% and 6%, according to coalfield (see Annex 16).

In the Belgian, French and Dutch mines there is no prospect of maintaining stable costs in national currencies, as it will not be possible, any more than in the past, to offset wage increases by productivity improvements. Even with uneconomic pits closed, the coalfields' average costs must be expected to continue rising, at an annual 2% to 2.5% in Belgium and 3% to 4% in France.

In the German coalfields too it is doubtful whether costs can be kept as steady as they formerly were. They are bound to be driven up by the substantial increases in wages and social-security charges, with only relatively small accompanying productivity gains, in 1969-70. They will therefore be appreciably higher in 1970 than in 1968; whether it will be possible to stabilize them at their 1970 level until 1975 is uncertain.

II.2.2.2. Coal prices and colliery revenues

90. Under Article 60 of the ECSC Treaty, enterprises of the coal industry are required to publish their prices. These schedule prices, however, are revised only at longish intervals, and are not a means whereby the enterprises can react sensitively to changing conditions of competition in the energy market: short-term price flexibility in line with the prevailing state of business could not readily be achieved by adjusting the schedule prices.

Community schedule prices went up sharply in the autumn of 1969. Expressed in units of account the amounts of the increases in national currencies were sometimes offset and sometimes cumulative. The following figures, an abstract of those in Annex 22, show the increases in national currencies and the effects of the parity changes.[1]

	Price increase in national currency	Parity change	Overall change in schedule prices, in u.a.
Ruhr			
Coking fines	+13%	+8.5%	+22.5%
Blast-furnace coke I	+19%	+8.5%	+30.2%
Belgium			
Coking fines	+16.7%	-	+16.7%
Blast-furnace coke I	+30.0%	-	+30.0%
Nord/pas-de-Calais			
Coking fines	+23.5%	-11.2%	+12.3%
Blast-furnace coke I	+30.7%	-11.2%	+19.5%
Lorraine			
Coking fines	+14.9%	-11.2%	+3.7%
Blast-furnace coke I	+33.8%	-11.2%	+22.6%

As Annex 22 indicates, the scatter of coal prices at April 1970 was wider than before; also, the highest-cost coalfields quote the lowest schedule prices and vice versa.

.../...

[1] Price movements between 1 January 1969 and 1 April 1970.

In comparing schedule prices account has to be taken of the quality of the coals concerned: French and Belgian coking coal, for instance, is inferior to Ruhr coal for producing blast-furnace coke. Quality differences are extremely difficult to compute, but it is unlikely that they are as marked as the differences in the schedule prices.

The effect of the 1969-70 price increases will be to render the Community coal industry as a whole less competitive than ever, even though the prices of the competing products are going up too.

91. Since rebates are granted so extensively in order to align the quotations on those for competing products, the schedule prices no longer really reflect the true Community price level: to obtain this we have to take the net earnings on coal ex mine.

Net colliery revenues, in national currencies, increased less between 1958 and 1969 than did wholesale prices and general consumer prices in the respective countries (compare Annexes 23 and 24). Coal became relatively cheaper as compared with the movement of prices generally.

92. In all the coalfields except the Ruhr and Aachen net revenues ex mine in national currencies rose considerably less between 1958 and 1969 than costs (compare Annex 23 and Annex 16).

93. The operating losses incurred in the French, Belgian and Dutch industries in consequence of this lag between costs and revenues have been made up by subsidization, which could be taken as indicating that the common market in coal has been thrown completely out of gear by the granting of different amounts in subsidy.

.../...

However, this would be to misunderstand the fundamentals of the situation. It is undoubtedly a fact that competition between Community producers is confined to a very small proportion of the coal mined: only 2% of production in 1968 was sold by downward alignment of one Community producer's price on another's. This is because the Community's coalfields are situated comparatively far apart and transport costs are a serious obstacle to long-distance disposals. As production contracts, each coalfield's sales radius will contract too, and sales will be only to consumers in the vicinity.

It is not that competition between coal producers is being prevented by state subsidization: inexorable economic processes have led to a state of affairs where such competition is practically non-existent. The price of Community-mined coal is determined by the price of imported coal and of competing energy products,[1] and is not affected in the least by the trifling competition between indigenous producers. Disposals of German coal to other Community countries - now accounting for something like 85% of all intra-Community trade in coal - consist almost entirely of coking coal, much of it supplied under long-term contracts at prices aligned on those of imported coal and yielding the producers very low net returns.

94. Net colliery revenues are micro-economically comparable as among the Community countries, because they are calculated by uniform criteria; the market valuation of coal, on the other hand, differs from one country to another. In comparing the coalfields' revenue averages it is necessary to bear in mind:

(a) quality differences in the coal sold;
(b) differences as to types and grades in the tonnages sold;

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[1] Imported rival energy products are of course handicapped by the assistance given to the Community coal industry.

(c) differences in the location of the coalfields in relation to the ports through which imports enter the Common Market;

(d) differences in size of selling area;

(e) national financial, administrative and fiscal measures serving to protect indigenous coal (subsidies to consumers of Community-mined coal, duties and quotas on imported coal and consumer taxes on competing products all help to boost its net earnings);

(f) subsidies to enterprises direct, allowing of schedule prices below break-even point and downward divergence of revenues from costs.

These non-quantifiable factors apart, Annex 26 shows a diminution between 1958 and 1968 in the scatter of the coalfields' revenue averages, the spread beginning to widen again only in 1969.

The scatter of net revenues ex mine in 1968 was only about two units of account per ton, much smaller than the corresponding figure for costs (see Annex 32),[1] and also smaller than that for schedule prices, owing to the levelling-out effect of rebates granted to align on the prices of imported energy. This levelling of revenues is thus due not to competition by Community coal producers with one another, but to competition from imports and to subsidization.

95. It is pretty well impossible to suggest any figures for net earnings to 1975: these will depend on the subsidies, the protective arrangements and the prices of the competing energy products.

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[1] For explanatory notes on the figures in Annex 32, see Annex 30.

Prices and revenues in the least viable coalfields will, as before, bear practically no relation to costs at all, since these prices have for social reasons to be kept well down until such time as production is actually discontinued.

Assuming that by and large the present system of aids to the coal industry is maintained, colliery revenues will be principally determined by the movement of imported energy prices.

II.2.2.3. Profit and loss position of the collieries

96. The subsidization of the Community coal industry is necessitated first and foremost by the losses on coalmining proper, and only to a minor extent by those on coking.

The profit and loss position of the Belgian and French collieries can be described without exaggeration as disastrous. The cost/revenue gap is such that they were able in 1969 to cover only between 55 and 60% of their costs (see Annex 27): even the relatively high-performance Lorraine coalfield managed, in terms of micro-economic revenues, no more than 65%, though if allowance is made for the exceptionally high social-security charges there (two units of account per ton above other Community coalfields) this works out at 73%. In some Belgian and French coalfields losses in 1968 were 10 to 11 u.a. per ton at the ruling exchange rates; in these cases the revenues are nothing like enough to cover the collieries' current operating expenses.

The Limburg and Saar coalfields' cost coverages in 1969 were 78 and 85% respectively, which is not really enough to meet ordinary operating expenses either. The Ruhr and Aachen made a better

showing; average operating losses in 1969 for Germany overall amounted to 0.6 u.a. per ton.[1]

97. If the subsidies to the Belgian, French and Dutch industries were cut off, 85-90% of production would have to cease more or less forthwith, giving rise to serious social problems. Even in Germany withdrawal of the subsidies would result in considerable worsening of the industry's finances, and were the protective arrangements to be done away with as well German production likewise would have to be drastically curtailed.

As can be seen from Annex 32,[2] in 1968 only about 20 million tons, or 12%, of the Community's capacity would have been viable unsubsidized;[3] inclusive of subsidy the proportion was higher, some 50 million tons, or 28%.

98. Even with the subsidies, most Community enterprises are running at a loss, with consequent wastage of real assets.

In the Belgian industry in 1968 all the collieries were making losses, which were only marginally reduced by the enterprises' other business activities. The subsidies to the Belgian mines are as a rule calculated individually in accordance with the state of the particular enterprise's finances, to offset losses, and

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[1] Revenues are calculated inclusive of the coking-coal subsidy payable under Decision No. 1/67, at about 0.4 u.a. per ton.

[2] See explanatory notes in Annex 30.

[3] But assuming continuance of the state payments to the mines' social insurance scheme, and of the various protective arrangements.

there is no possibility of any rent accrual.[1] These offsetting subsidies are only sufficient to keep the collieries going for a time, as they are smaller in amount than the operating losses.[2] In 1957, 40 of the Belgian industry's 51 enterprises paid dividends, in 1968 only 19 enterprises remained, of which two paid very small dividends.

The make-up of the capital holdings of the French nationalized coal corporation, the Charbonnages de France, changed as follows between 1959 and 1968:

FF millions

	Proprietary capital	Borrowed capital	Total capital
Position at 31.12.59	3 829	5 485	9 314
Change	- 2 783	+ 2 061	- 722
Position at 31.12.68	1 046	7 546	8 592

The decrease in proprietary capital represents the writing-off of operating losses remaining after payment of subsidy. The subsidies are calculated individually in line with the particular colliery's balance-sheet, with no residue for rent accrual. The Charbonnages de France's proprietary capital at end 1968 was only 12% of the total.

In the Netherlands the State mines' losses are compensated by the profits on natural-gas production, both coming under a single State energy corporation; the privately-owned collieries receive subsidies which offset their operating losses in full, an arrangement regarded by the enterprises as a price the State must pay for not allowing them to close the uneconomic private pits on the spot.

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[1] This does happen, on a minute scale, with the investment and depreciation aids, which are payable on a flat-rate basis.

[2] Depreciations and servicing of proprietary capital are not included in assessment for subsidy.

In Germany the indirect assistance given, in the form of the requirement that power-stations shall burn indigenous coal, benefits economic and uneconomic collieries alike, and so too do some of the direct subsidies, such as the shift bonus and rationalization aid. This system does allow of rent accrual[1] at good pits; at bad ones, however, the amounts are not sufficient to offset losses. Analysis of the balance-sheets of 14 typical mining companies in the Ruhr, accounting among them for 53.2% of total Ruhr production, still shows an average cash flow of DM 11.52 per ton and a net profit of DM 2.59 per ton, or 2.88 and 0.65 u.a. per ton respectively at the 1968 exchange rate. It remains to be seen whether similar results will be obtained in 1970 now that there is a single coal corporation, Ruhrkohle AG, and financial adjustments between the former parent companies and the collieries are no longer possible.

99. The Belgian, French and Dutch coal enterprises' finances are in a very bad way even with the subsidies, and there is no chance whatever of their recovery even if the prices of imported coal were to go up. Subsidization will have to continue in these three countries so long as coal is mined there at all.

In Germany the profit and loss position will deteriorate in 1970. It is doubtful whether operating losses can be reduced, or eliminated, between now and 1975 in consequence of increases in prices of imported coal, or through rationalizations. If the existing support measures were to be withdrawn the German coal industry too would face grave financial difficulties.

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[1] Rent accrual in 1968 amounted to perhaps 10% of the aggregate sum paid out in subsidy in the Community.

II.2.3. State assistance to the coal industry

100. By way of introduction to the section which follows, it must be emphasized that the frequent use of the term "assistance" is not based on detailed economic analysis of the concept's implications. It may seem foolhardy to embark here on a discussion of matters of economic importance without a firm scientific base; nevertheless the attempt has to be made, in order to establish some rough quantities and pointers.

It is no part of the object of the present study to explore the theory of assistance. For the purposes of this paper, the generic expression "assistance" is taken as meaning intervention by the public authorities, in the form of either protection or subsidization, in favour of particular enterprises or industries. As regards impact, it is immaterial whether we deal with the primary or with the secondary impact of any given intervention: what matters is its aim.

Protection and subsidization are further subdivisible into direct and indirect protection and direct and indirect subsidization. Protection comprises interventions to shield the enterprise or industry concerned from competition, subsidization interventions to afford direct or indirect financial support to un- or under-economic plants, firms, industries or areas.

This classification is purely for convenience, and in no way an anticipation of any future findings by specialized economists.

.../...

II.2.3.1. Movement and pattern of financial assistance

II.2.3.1.1. Developments between 1965 and 1969

101. Financial assistance to the coal industry under Decision No. 3/65[1] during the period 1965-69 is dealt with in various High Authority and Commission memoranda to the Council,[2] to which the reader is referred for further particulars.

102. The Governments' interventions are mostly for three- or four-year periods; an exception is the German legislation on coal consumption by power stations (the Verstromungsgesetze), which is to run for ten years. The amounts of the subsidies are often fixed year by year between the parties concerned.

103. The movement and pattern of the assistance are tabulated in Annex 28: the figures there given for 1965 to 1968 are not those in the memoranda for the respective years, which are the targets, but the actual amounts disbursed by the Governments. The references in the breakdown by Articles of the Decision are to:

Article 2,2: State payments to the mines' social insurance schemes, and not to the enterprises;[3]

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[1] See Journal officiel des Communautés européennes of 25 February 1965, No. 31, pp. 480 ff, and 28 October 1967, No. 261 (extension of the Decision for a further period).

[2] 1965, High Authority Doc. No. 6100/65, of 29 September 1965;
1966, " " " " 2000/2/66, of 29 June 1966;
1966, supplement, High Authority Doc. No. 415/2/67, of 12 April 1967;
1967, High Authority Doc. No. 700/67, of 21 June 1967;
1968, Commission Doc. No. 1121/68, of 3 June 1968;
1969, " " " 6890/1/XVII/69, of 8 July 1969.

[3] An exception is France, where in addition to the state payments to the social insurance institutions there are direct subsidies to the Charbonnages de France to offset the higher social-security charges in the French industry (approximately 2.0 u.a. per ton above the level elsewhere in the Community).

.../...

Article 3: Subsidies to enterprises for positive rationalization;
Article 4: Subsidies to enterprises for negative rationalization;
Article 5: Subsidies to enterprises to prevent serious imbalance of economic and social conditions in the coalfields.

The Governments' disbursements under these heads were checked by the High Authority, or later the Commission, for conformity with the terms of Decision No. 3/65, and thereupon duly authorized.

104. As can be seen from Annex 28, the scale of the assistance under the Decision increased considerably between 1965 and 1969, though in different degree for the different types of intervention.

105. The state payments to the mines' social insurance schemes rose over this period by 300 million u.a., from 900 million in 1965 to 1200 million in 1969 (+ 35%), and can be expected to show a further increase in 1970. As was explained in the yearly memoranda, this upward movement was automatic inasmuch as

(a) the number of contributors is diminishing in consequence of the contraction and rationalization of production, with the total personnel of the Community coal industry down from 736 000 at end 1964 to 471 000 at mid-1969 (- 36%);

(b) the number of pensioners dropped only slightly, by perhaps 4%, the total for the coal industry standing in 1969 at some 1 200 000.

This is bringing an automatic shift in the ratio of contributors to pensioners: in 1969 the ratio was approximately 1:3, as against 1:0.5 for the general scheme.

.../...

A further complication for the finances of the mines' scheme is that although the amounts paid in per contributor are going up so too are the amounts paid out per pensioner; as there are many more pensioners than contributors, the increase in outgoings is considerably larger than the increase in incomings.

Consequently, the state payments to the insurance institutions are not operating subsidies, for they have nothing to do with present production: they relate to charges resulting from, but not covered by, past operations, and hence now requiring to be met by the public at large. The macro-economic costs of present and future operations must be treated as comprising only current drawings on goods and services, and not unmet charges from the past.

106. The subsidies under Articles 3 to 5 of the Decision really do constitute assistance for current operations. The figure here rose from some 80 million u.a. in 1965 to close on 500 million in 1969 (see Annex 28). Percentagewise, however, the increase was smaller and smaller each year, and in 1970 there will be an absolute decrease, mainly owing to the contraction in production.

Rationalization subsidies under Articles 3 and 4 accounted in 1969 for 20% of disbursements under Articles 3 to 5 together; they go chiefly to the relatively remunerative pits in Germany, while the Article 5 subsidies are paid for the most part to France and Belgium, where the profit and loss position is worse than average and for social reasons the rate of pit closures has to be adapted to openings for the reabsorption of the miners rendered redundant.

107. As appears from Annex 29, the amounts paid in subsidy under Articles 3 to 5 vary fairly markedly from coalfield to coalfield; the problems this poses with regard to competition are discussed in the yearly memoranda on the interventions.

.../...

II.2.3.1.2. Overall assistance position, 1968

108. The subsidies under Articles 3 to 5 of Decision No. 3/65 are not the only forms of assistance to current operations. The following is a tentative assessment of the position as to assistance overall, based on the figures for 1968, the latest year for which the final data on colliery costs and revenues were available at the time of writing.

109. Assistance to the coal industry in 1968 as declared by the Governments to the Commission included, over and above the subsidies under Articles 3 to 5, the items:

coking-coal subsidy	74.7 million u.a.
other assistance	84.9 " "
	159.6 " "

With the 424.6 million u.a. shown in Annex 28 for the subsidies under Articles 3 to 5, this brings the grand total for 1968 to 584.2 million u.a.

110. At the same time it must be borne in mind that current operations are not only subsidized but protected. The implications of the protective arrangements are not quantifiable. Thus in the case of the various taxes payable (except in France) on heavy fuel oil, it is not possible to compute how far their abatement or abolition would drive down average colliery earnings per ton or, if there were no price alignments, the tonnages of coal sold. In the absence of price alignments, smaller sales tonnagewise would not mean lower average earnings per ton, but might mean higher costs in the event of a drop in capacity utilization. Once capacity had been trimmed to the

.../...

reduced sales outlets by the closure of uneconomic pits, some coalfields' average costs, and operating losses also, could even be lower than before the abolition of the tax. It would also depend partly on the oil companies' pricing policy what impact reduction or removal of the tax would have on average revenues from sales of Community-mined coal to industry and private households. Much the same difficulties would be involved in seeking to calculate the effects on colliery finances of abolition of the restrictions on coal imports, or, similarly, the effects of tax concessions, interest reductions and so on.

111. The incidence of these non-quantifiable advantages (which are itemized in Annex 31) from protection and indirect subsidization differs from one Community country to another, the economic benefit to the collieries working out highest in Germany, and less elsewhere. It is not possible to suggest any figures, but termination of the arrangements would certainly hit the collieries hard even if subsidization continued at the level of 584.2 million u.a.

112. Annex 31 shows the quantifiable subsidies broken down by their effects on the collieries' costs and revenues. For methodological and practical reasons it was necessary to deduct from the grand total of 584.2 million u.a. the sum of 62.4 million u.a., as impossible to classify. The latter amount is made up as follows:

.../...

Germany:	Compensatory shifts	57.7	million	u.a.
Belgium:	Payments to local authorities in whose areas colliery personnel are living	0.2	"	"
	Reduced holiday fares for miners	0.8	"	"
	Payments to mines' contributory holiday schemes	3.7	"	"
		62.4	"	"

The remaining 521.8 million u.a. is classified in Annex 31 by the nature of the subsidy's effect on micro-economic colliery costs or revenues in the different countries. It does not include the portion of the coal industry's social-security charges met in 1968 from public funds.

As the Annex shows, generally speaking the micro-economic costs and revenues declared for the German collieries need to be corrected for subsidization before they can properly be compared with the figures for the other countries.

113. This correction having been made, the unsubsidized costs and revenues of the Community collieries, grouped in batches of about 10 million tons in descending order of solvency, are shown in Annex 32. This gives a rough picture of the financial profit and loss situation in 1968 before subventions. The last two columns of the table give the input and output of the coking-plants of each batch, which are of particular importance for the supply of metallurgical coke to the steel industry.

.../...

114. The following points emerge from Annex 32.[1]

(a) Of the 1968 production of 180 million tons, about 20 million would have paid off even unsubsidized. Unprotected, probably hardly a single pit in the Community would have had any prospect of surviving for long.

(b) The costs scatter (unsubsidized) among the batches of collieries in 1968 was between 11 and 30 u.a. per ton, but the scatter of revenues only between about 13 and just over 14.

(c) Total operating losses (unsubsidized) in 1968 amounted to approximately 720 million u.a. net, i.e. the aggregate loss of 743 million by the loss-making pits minus the aggregate profit of 23 million by the profit-making ones.

(d) The assistance of 517.9 million u.a.[2] furnished in 1968 covered 72% of the net operating losses. The loss of roughly 202 million left outstanding after subsidization represents an aggregate loss of 274.8 million minus an aggregate profit of 73.2 million.

(e) With subsidization, the Community had in 1968 an apparently viable capacity of about 50 million tons.

(f) The scatter of rates of subsidy per ton among the batches of collieries in 1968 was between 1.5 and 11.0 u.a. As clearly appears, in respect of 100 million tons or so the marginal subsidy is less than 2.0 u.a. per ton, but after that it goes up in a series of leaps to nearly 11.0.

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[1] The increases in revenues after the schedule prices were put up in 1969 made very little difference to the profit and loss position, as cost increases occurred at the same time.

[2] The 521.9 million u.a. shown in Annex 31 becomes 517.9 million in Annex 32 owing to the exclusion of Lower Saxony and the small mines.

(g) From the subsidies paid not pro rata of individual pits' operating losses, but at a flat rate for ton of coal sold or produced irrespective of viability, there accrued at the apparently viable pits rents to a total of 49.9 million u.a.,[1] usable after tax for either ploughing back, redemption or distribution in dividends.

115. Despite subsidisation the majority of enterprises in 1968 underwent asset wastage: that is, the assistance was not sufficient to maintain production capacity in the long term. To do this, either the protection or the subsidies would have had to be stepped up to cover the costs in full.

The total production from uneconomic pits after subsidy in 1968 was 127.9 million tons, and the total operating losses of these pits after subsidy 274.8 million u.a. (see 114,d above). Had the object then been to keep production indefinitely at the 1968 level, it would thus have been necessary to furnish in that year a further 275 million u.a. in subsidy to cover these losses too.

116. With a total subsidy of 792.7 (=517.9 + 274.8) million u.a., the conditions would theoretically have been present, on the 1968 basis - i.e. retaining all the existing forms of protection and other assistance (see Annex 31) and taking no account of the continuing social-security charges to be met by the public - for the long-term maintenance of Community coal production. In fact, however, in view of the movement of costs, the amount would have had to be increased as time went on.

Any change in even a single one of the factors involved in this overall calculation means a change in the amount of the assistance required - a point of particular importance in discussing future eventualities in this regard.

.../...

[1] This works out at 1.0 u.a. per ton produced.

117. Annex 33 offers a very tentative assessment of the amounts of subsidy for given levels of production. The figures for the sums actually paid in 1968 are those shown in Annex 32, and those for the additional sums that would be needed represent coverage of the losses after subsidy of the respective batches of collieries, also shown in Annex 32. Annex 33 thus seeks to indicate what it would have cost to maintain production on the 1968 basis, and what it would cost to do so at certain other production levels.

The reduction of production by segments of roughly 10 million tons, starting with the closing of the least viable pits, is a purely mathematical exercise, not corresponding at all to the actual sequence of closures scheduled down to 1975. As can be seen from the figures in Annex 1, closures are not always (though usually) effected according to the solvency rating of the coalfield concerned, but also in the light of social considerations.

The variants in Annex 33 range down to a production level of about 100 million tons, which would have been necessary in 1968 to assure the requisite flow of coking coal and coke to the Community steel industry. As can be seen, at this level the amount of the subsidy, on the 1968 basis, would have worked out at approximately 220 million u.a.

118. As to how the volume of subsidy is likely to move in the future, it is impossible to suggest any figures: quite apart from the numerous economic factors involved, the total scale of subsidization will be a matter for political-level decision.

II.2.3.2. Special points with respect to social security burdens

119. State payments to the mines' social insurance schemes under

.../...

Article 2,2 of Decision No. 3/65 in 1969[1] totalled:

	million u.a.	u.a. per ton produced (t/t)[2]
Germany	691.2	5.99
Belgium	142.5	10.63
France	372.4[3]	8.87
Netherlands[4]	13.2	2.40
	1 219.3	

These being charges from the past, they were borne by the public; they are not included in collieries' micro-economic costs, nor should they be reckoned to current costs of production.

The following points should be noted.

(a) The Member Governments also make payments out of their overall tax revenues to the insurance institutions for the other industries (the "general scheme").[5] Macro-economically, this is a general social adjustment between the working population and the population no longer working. The payments to the separate insurance scheme for the mines must therefore be viewed in context.

(b) The charge in respect of retired and disabled miners is a charge from the past, which has to be borne by the public because the enterprises have not been in a position to build up reserves and

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1 See Doc. No. 6890/1/XVII/69, p. 65; the u.a. figures there given are reproduced here without alteration, notwithstanding the changes in the parities of the French franc and the mark in the second half of 1969.

2 For the problems involved in converting the amounts into u.a. per ton, see Doc. No. 6890/1/XVII/69, p. 64.

3 Incl. 87.2 million u.a. paid direct to the Charbonnages de France to offset the exceptionally high social security charges.

4 The low figures are due to the fact that Dutch social insurance is funded, in contrast to the schemes in the other countries, which are contributory.

5 See Annex 15.

the incomings under the contributory schemes[1] are insufficient to cover inherited charges of this nature - a contracting industry being very differently placed in this regard from one that is growing or on an even keel. Earlier on, down to 1957, the fact that coal prices were government-controlled prevented the enterprises from setting aside the necessary reserves against the contingency of production cutbacks; after 1957 the state of competition made this impossible.

(e) A major increase in contributions in order to have the enterprises bear past social security charges in their entirety would be in the first place impracticable and in the second place a wrong approach, since this would mean that current production had to carry not only the macro-economic costs but also the charges still outstanding from the past.

(f) Current production gives rise to fresh social security charges, which have to be borne by the public where they cannot be reckoned in with normal costs.[2]

120. This matter of the coal industry's fresh charges on the social security side is highly relevant to any assessment of the total charge resulting to the public in the future from the continuation of coal production.

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[1] In Germany, France and Belgium the mines' insurance schemes are contributory; the funding principle is employed only in the Netherlands.

[2] Increased colliery social security charges would drive up costs. Given the interdependence of the subsidization arrangements and effects, State payments to the mines' insurance schemes would go down, but the subsidies to offset the enterprises' operating losses would go up by the corresponding amount, as revenues could not be increased. The volume of State disbursements in subsidy would remain unchanged.

121. The following observations are felt to be called for. On the theoretical hypothesis of coal production's being scaled down over the next few years - at a socially acceptable rate - to nil, the question of extra social security charges and subsidies to meet them would be immaterial, for it would in any case be the public that was left to foot the bill: that is, it would have in any case to furnish several thousand million units of account a year to cover the charges left behind by the coal industry, since these would not end with the ending of mining operations, but would go on needing to be paid for a number of years.

122. If, on the other hand, production is maintained, or allowed to contract only slowly - instead of being run down as rapidly and consistently as social considerations permit - the question of the extra social charges does assume importance, since in this case there would be an added burden on the public over and above the direct and indirect subsidization and protection already being provided.

123. The argument that the state payments to the mines' social insurance schemes would not need to be so large with production remaining stable or contracting slowly as they would with it falling steeply - because the incomings from contributions would be larger - is true, but for the present purpose irrelevant: the point is that the extra charges, though for the time being they would be lower if production continued at the same level, would extend over a much longer period of time and so work out higher.

124. It is very difficult indeed to calculate how much in the way of extra social security charges the coal industry would be unable to bear. Our own evaluation suggests that the additional amount might be round about 1.0 units of account per ton produced; this would have to be treated as additional subsidy to current and future production.

No conflict arises here with Article 2,2 of Decision No. 3/65, since calculations thereunder are in ratios, and after all the public is anyhow being burdened more and more with ever-increasing state payments to industry in general, financed from general tax revenues which are in their turn raised from industry. It follows that, macro-economically, the process is one of redistributing incomes between the working and the ex-working population.

CHAPTER III

Flexibility in response to demand fluctuations

125. The underlying trend in Community demand for coal from 1957 to 1969 was sharply downward, the level falling from about 291 to about 212 million tons, i.e. at an average 6.5 million tons a year (see Annex 34, col. 9). The movement was not, however, a uniform but a fluctuating one, which caused considerable difficulty in the short-term adjustment of supply. In no one year did production plus imports for practical purposes balance requirements: only over periods of several years were supply and demand matched, by major changes in stock and import levels.

The reason why adjustment is so difficult in the Community coal market is that supply and demand differ in flexibility. When business is booming shortages develop; when the boom eases off structural substitution processes make their effects felt on production, and colliery closures follow, with their attendant social problems.

III.1. Fluctuations in coal requirements

126. Demand fluctuations do not stem purely from the current state of business, but also from extraneous circumstances. The factors which influence them are

(1) the general level of economic activity;
(2) the level of economic activity in the steel industry (coke requirements);
(3) the weather, viz.
    (a) outdoor winter temperatures (householders' requirements),
    (b) rainfall (variations in hydro-electric output are reflected in the consumption of the thermal power stations).

In the short term these various factors do not cancel one another out to any great extent: experience has shown that they have much more often tended to operate all together in the same direction, whence the very great quantitative swings in the demand for coal (see Annex 35). The fluctuations in the steel industry's coke requirements play an important part in this connection, inasmuch as they not only cause the demand for coking coal to fluctuate correspondingly, but also pose problems of adjustment for the coking plants and to the non-industrial (domestic) consumers of coke. Taken over the whole period, the range of fluctuation of the steel industry's coal requirements (see Annex 35) has been very wide indeed, $\pm$ 7 million tons.

Annex 35 also shows that the interventions in favour of coking coal and power-station coal have had a steadying effect on the demand from the steel and electricity sectors, though they have not ironed out the fluctuations altogether. (Some cokable coal is burned at power stations.)

127. Since 1957 the fluctuations in the Community's coal requirements have tended downward, that is, the downturns have been greater and lasted longer than the upturns. In the very short term, from year to year, downturns may amount to as much as 15-20 million tons, but upturns at the utmost to 5-10 million (see Annex 34). As business cycles extend, it has been found, over three to five years, that a boom means that an extra 30-35 million tons of coal has to be provided during three or four years, whereas when demand is slackening the flow will have to be curtailed by 45-55 million tons for four or five years.

This is the "normal" swing: at times of special crisis the variation may be much larger, as for instance in 1958, when demand plunged by nearly 30 million tons in a single year (see Annex 34).

It is true that as coal consumption diminishes so too, in absolute terms, will the cyclical ups and downs in demand, but relatively speaking the problems of adjustment for the (diminished) coal supply will certainly be aggravated, as consumption will be confined more and more to the consumer sectors most sensitive to the vagaries of the economy and the weather.

128. Fluctuations in demand are not speculative movements: with a few exceptions, they correspond to fluctuations in consumption. In comparison with market fluctuations, changes in consumers' stocks play a minor part, by reason not so much of lack of facilities for storing large tonnages of coal, as of the fact that hitherto whole consumer sectors have been to a great extent supplied direct, so that the burden and risk of holding stocks has fallen on the coal producers.

Since in the circumstances there is no possibility of eliminating or reducing the fluctuations in consumption, it may be wondered whether consumers and dealers might be induced to engage more in buffer stockpiling.

III.2. Flexibility of coal supply

129. With demand so variable, it is obvious that matching supply to it poses major problems. As we have seen, on past form the total tonnage on offer over a given three to five years must be adjustable upwards or downwards: it may have to be stepped up by 30-35 million tons or stepped down by 45-55 million (though with the contraction in the Community's coal consumption these amounts will become smaller).

Furthermore, as can be seen from Annex 36, movements on the supply side in adjustment to a given change in demand are greater than the change in demand (compare Annex 34, col. 12 with Annex 36, col. 5). This is because changes in producers' coal stocks, according as they are additions or withdrawals, shift from the demand to the supply side of the coal balance-sheet or vice versa. Hence the fact that Annex 34, col. 14 shows only the net balances of stock changes, and not, like Annex 36, col. 2, the stock changes themselves.

130. The means theoretically open to the coal producers for effecting short-term adjustments in the Common Market for coal are

varying the level of exports to non-Community countries;
varying the level of production;
varying the level of pithead stocks.

Governments and dealers can also vary the level of imports as a short-term regulatory measure.

Of these, tinkering with exports of Community coal abroad as a means of obtaining a more balanced market situation is ruled out from the start: for one thing the tonnages exported are not big enough (see Annex 34, col. 4), and for another it is quite out of the question to treat non-Community consumers of Community coal as buffers. This leaves, as the only possibilities for absorbing demand fluctuations, the varying of production, producers' and consumers' stocks, and imports.

131. Another possible step to help deal with particularly severe temporary scarcities would be to vary the power stations' coal input so that more was available for the coking plants. Since the power stations burn sizable quantities of cokable coal but are not in fact absolutely dependent on coal as the coking plants are, arrangements might be envisaged whereby in the event of short-term bottlenecks the coking plants would be treated as having to some extent a prior claim on supplies, while the power stations had to use other fuels.

III.2.1. Flexibility in Community coal production

132. As matters now stand, there is very little scope for adjusting to demand fluctuations by varying coal production.

For micro-economic reasons, such elasticity as there is in production does not come into play at all until everything possible has been done as regards changes in the level of pithead stocks, so that production levels move in response to demand fluctuations only with a long timelag. This is because of the employment problems involved and the differences between the costs of the two types of adjustment: it costs a good deal less to vary the size of stocks than to vary the rate of capacity utilization.

133. Like all declining industries, the coal industry has its special adjustment problems.

Matching production to the contracting demand for Community coal is difficult not only by reason of social considerations, but also because there is no knowing how much of the contraction is structural and how much is cyclical, so that it is impossible to determine exactly what amount of capacity should be scrapped.

The figures in Annex 34 indicate that, by and large, the first stage in the response to falling demand consists in adding to stocks, the second in introducing short time and so cutting back capacity utilization (see Annex 37), and the third in scrapping capacity outright, i.e. accelerating the rate of colliery closures.

The three to some extent overlap; moreover the rate of colliery closures is not directly related to the movements of demand but is dictated by poor economic performance and by social considerations, the process going forward more or less independently as sales outlets dwindle.

Any upturns in the demand for Community coal are cyclical and not structural; there is no prospect of a structural increase now or at any time. Matching production to a short-term rise in demand is not, therefore, a matter of installing new capacity. The response to such an expansion is the opposite of the response to contraction: first short-time working is discontinued, so that capacity utilization goes up, and then the accumulated stocks are put on the market.

Here again the stages overlap. It should be noted, however, that colliery closures still take place even when demand is picking up, as the Governments' closure schedules usually remain in force. The only response on the production side to upturns in demand is the making of smaller cutbacks than would otherwise have been the case (see Annex 34, col. 13).

The closure process thus goes on pretty well at its own pace in times of rising demand also. In no year since 1956 has Community coal production shown an increase in response to a cyclical rally in sales.

The basic circumstances are such that no short-term upward adjustment of production is really possible. Only in the matter of capacity utilization[1] is there some little scope for flexibility in this direction. A short-term increase in the labour force is not, on past experience, a practical proposition (see Annex 37), nor under present conditions does it seem feasible to increase the number of hours per shift or of shifts per man-year.

134. Not even by government aid could Community coal production be rendered less inelastic. For this reason the Governments do not give assistance for this purpose, and Decision No. 3/65 does not provide that they should. Only in Germany was "short-time assistance" furnished in 1968, to a total of 12.5 million u.a., and that was a social measure, since the money went not to the enterprises but to the workers, to offset loss of earnings.

III.2.2. Pithead stocks

135. It follows inescapably that Community coal producers have mainly to absorb demand fluctuations by increasing or decreasing pithead stocks.

The highest and lowest stock levels of recent years are as follows (at end of year or end of month):

	million tons	
1956	4.9	
1959	29.8	
1963	9.0	
1966	29.3	
1967 (June)	36.2	(all-time high)
1970 (March)	9.0	

[1] Assuming low utilization prior to the onset of the boom, and availability of the necessary manpower.

Stocks thus go up and down, in accordance with the movements of demand, in cycles of three to four years. The 1963 figure of nine million tons was just about the irreducible minimum, the coal in question consisting mainly of low-grade matter unlikely to sell at all.

The level of Community coal stocks, then, has latterly ranged between nine and 35 million tons, while the level of overall demand has fluctuated upwards by 30-35 million and downwards by 45-55 million tons. The margins by which the changes in demand exceed the changes in stocks are the amounts, as the case may be, of extra coal imported from outside or of capacity taken out of production.

136. There are not the facilities for holding stocks beyond a certain level, and stockholding involves running costs and ties up substantial amounts of money.

If we take it that 36 million tons is on technical grounds the practicable maximum,[1] this means that stock variation will not be enough to offset demand fluctuations if the flow of imported coal remains the same. In particular, should demand go up really markedly in consequence of a general business boom and adverse weather conditions, while at the same time colliery closures went ahead regardless in accordance with the Governments' schedules,[2] there would simply not be sufficient coal in stock to compensate for the decrease in production and cover the extra demand as well.

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[1] With capacity cut back as it has been since 1967, it will in fact not be possible in future ever to build up stocks to such a level again.

[2] See Annex 1.

137. Then there are the costs to consider. In the first year that the coal is stocked the costs with respect to placing in stock, deterioration in quality and financial overheads work out altogether at 3 u.a. per ton, and in each year thereafter the running costs are about 2 u.a. per ton.

This being so, and given the more general difficulties involved in adjusting supply, the idea suggests itself that prices might be marked up when demand is going up and down when it is going down. Flexible pricing of this kind could make for rather broader-based stockholding, spread among producers, dealers and consumers.

It may also be wondered whether adjustment might be made easier by state assistance. At present under Community law this is permissible only as a means of averting social and regional complications. The German Government did in 1968 make a grant of seven million u.a. for the movement of four million tons of coal to special depots in the vicinity of consumer centres, in order to prevent the creation of social problems by production cutbacks in the coalfields, where there were neither the space nor the technical facilities for holding any more stocks.

III.2.3. Flexibility in coal imports

138. The role of imported coal in the Common Market has changed completely between 1953 and 1970. Up to 1957, indigenous coal being adequately competitive, imports were unrestricted, and accordingly it was imports that took the main brunt (70-80%) of the fluctuations in demand. Then, between 1958 and 1961, restrictions began to be imposed in one Community country after another, and demand fluctuations were matched half by indigenous and half by imported coal. As a result of the protective measures in favour of the by now quite uncompetitive Community product, coupled with the development of shortages in the world market, the flow of imported coal became in subsequent years increasingly inelastic.

.../...

139. The ECSC Treaty leaves commercial policy vis-à-vis non-Community countries within the sovereignty of the Member States. Given their divergent interests, this has led to the present position whereby non-Community coal does not have free access to the markets of those Community countries which mine coal of their own. The degree of interference with flexibility differs from country to country.

140. In Germany import licences are granted only up to a statutory ceiling (the duty-free quota), fixed for 1970 at 7.2 million tons, exclusive of American coal imported direct for the American forces. This system, which has been in force, with slight variations in the size of the quota, since 1959, was last extended for a three-year period to expire at the end of 1970. The law is that tonnages in excess of the quota are liable to a specific duty of DM 14.00 per ton.[1]

France, Belgium and the Netherlands also impose quantitative restrictions on imports of non-Community coal, though the French official import agency, ATIC (Association Technique de l'Importation Charbonnière), may make short-term adjustments to the tonnages in accordance with the state of the market.

141. In assessing the flexibility of coal imports from the angle of availability in the world market, it is necessary to differentiate by grades.

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[1] The rate was originally DM 20 per ton, but is being scaled down, as agreed in the Kennedy Round, to DM 14 in 1970, DM 12 in 1971 and DM 10 in 1972.

.../...

142. It used always to be possible in very cold spells to make up the Community's supplies of house coal to the necessary level by temporarily augmenting the amounts brought in from outside. In recent years, however, American and British anthracite production capacity has decreased, so that in future it will be necessary to cope with sudden peaks in the demand for house coal by buying larger tonnages than previously from the Soviet Union, provided these are available for export.

143. The world coking-coal market is at present decidedly tight, with the result that prices are a less important consideration than tonnages and grades. Flexibility of supply in this market has diminished. With the growing interdependence of the national economies, the business cycles in the steel industry are tending more and more to take the same course at the same time in all countries (see Annex 38), lasting on average three or four years.

144. As regards the supply of coking coal, disposals from the world's main producer areas are going more and more exclusively to the coking plants and power stations (see Annex 39), and the further the pattern shifts in this direction the less well placed the exporter countries will be to furnish substantial extra tonnages on a short-term basis to other countries in the event of a boom.

145. What short-term procurements of coking coal, and also of steam coal, the Community will be able to obtain depends very largely on the supply flexibility of the American coal industry.

Fluctuations in coal consumption have hitherto been matched in the United States - in contrast to the Community - by changes in consumers' stocks and, above all, by varying production. This high flexibility of production has been achieved not merely

.../...

by stepping capacity utilization up or down, but by actually closing mines for a period and then reopening them (compare Annexes 40 and 41). Since around 1963 or 1964, however, the position has changed in this respect, and flexibility has lessened.

Variations in capacity utilization formerly reflected the changing number of working days per year, which moved roughly in line with the production trend. For some years now this number has stood at 219, and by reason both of social considerations and of the collective-bargaining agreements in force it is unlikely that short-term variation will be possible in future.

As to the future movement of production, the American industry is aiming at keeping its labour force about the same and achieve the necessary long-term expansion of production as far as possible by productivity increases.

Flexibility of production has been further impaired by the fact that a great many small mines have closed since 1964, and the rest will probably follow, in consequence of the tightening-up of the safety regulations. While their share of the American industry's total production was comparatively small - 12.7% in 1963 - these mines were able, thanks to their special operating conditions, to contribute quite materially to flexibility of supply.

In sum, it seems clear that the supply of American coal will not in the future be as flexible as it has been hitherto.

146. It does not look as if the Canadian and Australian coal industries will be in a position to do much, either, to meet short-term upturns in Community import demand, as at their present stage of development expansions in capacity are put in hand only where long-term supply contracts have been or are going to be concluded.

.../...

The supply of coal from state-trading countries does offer some measure of flexibility inasmuch as bilateral trade agreements with them allow their partners the option of taking certain extra tonnages provided the coal is available.

147. It must be emphasized that the foregoing remarks are concerned purely with the short-term aspects of demand fluctuations and the problems of adjusting the supply to them.

BREAKDOWN AND PROBABLE DEVELOPMENT OF COMMUNITY COAL PRODUCTION

(t / t)

Country/ coalfield	1968				1975			
	House coal	Coking coal	Steam coal	Total	House coal	Coking coal	Steam coal	Total[1]
	Gr. I + II	Gr. V+VI	GR. III,IV VII		Gr. I + II	Gr. V+VI	Gr. III,IV, VII	
	'000 tons				'000 000 tons			
Ruhr	7 222	87 102	1 329	95 653	..	..	..	..
Aachen	2 852	1 516	3 238	7 606	..	..	..	..
Lower Saxony	1 294	-	1 256	2 550	..	..	..	..
Saar	-	6 752	4 508	11 260	..	..	..	..
Federal Germany	11 368	95 370	10 331	117 069	10.6	88.8	9.6	109.0
Campine	-	7 036	1 449	8 485	-	4.6	0.9	5.5
Southern Belgium	4 909	221	1 194	6 324	2.7	0.1	0.7	3.5
Belgium	4 909	7 257	2 643	14 809	2.7	4.7	1.6	9.0
Nord/Pas-de-Calais	8 805	10 510	357	19 672	4.5	5.3	0.2	10.0
Lorraine	-	11 732	2 095	13 827	-	9.3	1.7	11.0
Centre/Midi	3 023	3 814	1 530	8 367	1.4	1.8	0.8	4.0
France	11 828	26 056	3 982	41 866	5.9	16.4	2.7	25.0
Italy	-	-	365	365	-	-	0.3	0.3
Netherlands	5 615	707	543	6 865	-	-	-	-
Community	33 720	129 390	17 864	180 974	19.2	109.9	14.2	143.3
Share	18.6%	71.5%	9.9%	100.0%	13.4%	76.7%	9.9%	100.0%

[1] Exclusive of small mines.

Annex 2

Community coke requirements
(excl. gas coke)

'000 000 tons

	1961	1968	1969[1]	1975[2]
Coking plants' own consumption	2.4	1.2	1.2	1.0
Iron and steel industry[3]	49.9	48.9	51.0	56.0[4]
Other industries	7.8	6.0	5.9	4.5
Household sector incl. free disposals to personnel	8.9	9.4	8.7	5.0
Miscellaneous	0.3	0.6	0.6	0.5
Total disposals within Community	69.3	66.1	67.4	67.0
minus imports	0.1	0.2	0.8	0.2
plus exports	3.7	2.7	2.2	2.0
Total	72.9	68.6	68.8	68.8
Stock changes and statistical differences	- 0.5	- 3.4	- 0.3	-
Coke production	73.4	65.2	68.5	68.8
Input of coal:				
imported coal	5.8	9.0	11.2	28.5
indigenous coal	91.9	77.0	79.9	63.0
Total	97.7	86.0	91.1	91.5

[1] Provisional.

[2] Estimated.

[3] Incl. sinter coke.

[4] Upper limit of estimated bracket of 52-56 million tons.

Supply of coking coal to Community coking plants, by provenance of coal

- 1968 -

'000 tons

	Federal Germany	Belgium	France	Italy	Netherlands	Community
A. Home-mined coal						
Mine-owned plants	42 804	139	8 727	-	330	52 000
Steelworks-owned plants	5 721	4 515	2 010	-	154	12 400
Independent plants	-	1 475	34	1	-	1 510
Total	48 525	6 129	10 771	1	484	65 910
B. Other Community-mined coal						
Mine-owned plants	-	-	1 407	-	948	2 355
Steelworks-owned plants	26	1 952	2 444	1 904	764	7 090
Independent plants	-	137	175	630	440	1 382
Total	26	2 089	4 026	2 534	2 152	10 827
C. - Imported coal						
Mine-owned plants	-	32	141	-	-	173
Steelworks-owned plants	147	487	1 089	3 056	610	5 389
Independent plants	-	626	24	2 292	454	3 396
Total	147	1 145	1 254	5 348	1 064	8 958
D. Coal, all sources						
Mine-owned plants	42 804	171	10 275	-	1 278	54 528
Steelworks-owned plants	5 894	6 954	5 543	4 960	1 528	24 879
Independent plants	-	2 238	233	2 923	894	6 288
Total	48 698	9 363	16 051	7 883	3 700	85 695

Annex 4

SUPPLY OF FUEL TO POWER STATIONS[1] (COMMUNITY)

Energy source	1966					1975			
	Gross electricity production '000 000 000 kWh			Fuel requirements '000 tons c.eq.		Gross electricity production '000 000 000 kWh			Fuel requirements '000 000 tons c.eq.
	Indigenous	Imported	Total	t/t	(lower calorific value)	Indigenous	Imported	Total	(lower calorific value)
1. Hydro power	115.3	-	115.3	-	-	130.0	-	130.0	-
2. Conventional thermal energy									
Hard coal	142.4	22.3	164.7	64 660	56 280	129.3	376.6	511.0	158.7
Petroleum products	5.1	96.9	102.0	22 990	32 250	5.1			
Old brown coal[2]	3.3	1.1	4.4	2 345	1 573	3.8	1.2	5.0	1.6
New brown coal	55.3	-	55.3	75 790[3]	20 136	75.0	-	75.0	25.1
Natural gas	22.5	-	22.5	52 880[3]	6 846	50.0	-	50.0	15.2
Manufactured gas	15.4	1.7	17.1	49 160[3]	6 867	21.6	2.4	24.0	8.8
Miscellaneous	4.1	-	4.1	9 700[3]	1 386	5.0	-	5.0	1.6
Total[2]	248.1	122,0	370.1	//	125 338	289.8	380.2	670.0	211.0
3. Nuclear energy	7.3	-	7.3	//	//	50.0	-	50.0	//
4. All sources	370.7	122.0	492.7	//////////		469.8	380.2	850.0	//
Share	75.2%	24.8%	100.0%	//////////		55.3%	44.7 %	100.0%	//

[1] All stations; breakdown between indigenous and imported had largely to be estimated.
[2] Incl. Czechoslovakian hard brown coal.
[3] In Tcal, upper calorific value.

DEVELOPMENT OF THE COMMUNITY'S COAL REQUIREMENTS AND AVAILABILITIES

'000 000 tons t/t

	1967			1968			1969[1]			1970[2]			1975[2]		
A. Requirements (disposals to consumers)	Indigenous	Imported	Total	Indigenous	Imported	Total	Indigenous	Imported	Total	Indigenous	Imported	Total	Indigenous	Imported	Total
Collieries' own consumption	5.5	-	5.5	5.0	-	5.0	4.4	-	4.4	4.3	-	4.3	3.0	-	3.0
Input for briquetting	9.4	0.6	10.0	9.4	0.5	9.9	9.2	0.5	9.7	8.7	0.5	9.2	6.5	0.5	7.0
Input for coking:															
at coking plants	75.1	9.9	85.0	77.0	9.0	86.0	79.9	11.2	91.1	77.9	13.3	91.2	63.0	28.5	91.5
at gasworks	2.5	1.7	4.2	2.1	1.4	3.5	1.8	1.2	3.0	1.8	1.3	3.1	-	-	-
Coking, total	77.6	11.6	89.2	79.1	10.4	89.5	81.7	12.4	94.1	79.7	14.6	94.3	63.0	28.5	91.5
Input for generation:															
at pithead power stations	20.1	-	20.1	18.7	-	18.7	..	..	..	..	..	..	47.1	..	..
at public power stations	37.3	7.0	37.2	38.7	7.3	38.3	..	..	..	..	..	..			
at other industrial power stations			7.1			7.7	..	..	..	..	..	..			
Generation, total	57.4	7.0	64.4	57.4	7.3	64.7	59.9	7.8	66.8	58.3	10.0	68.3	47.1	..	..
Steel industry	3.3	0.1	3.4	4.3	0.1	4.4	4.4	0.1	4.5	4.4	0.1	4.5	4.3	approx. 4.0 - 7.0	approx. 27.0 - 30.0
Other industries	11.7	0.7	12.4	10.3	0.6	10.9	9.8	0.6	10.4	8.9	0.6	9.5	6.0		
Transport	3.5	0.4	3.9	2.7	0.3	3.0	1.5	0.2	1.7	1.2	0.2	1.4	-		
Households, miners' coal	18.3	2.6	20.9	18.0	2.3	20.3	17.0	2.0	19.0	15.0	2.0	17.0	12.0		
Miscellaneous	0.6	1.2	1.8	0.4	1.1	1.5	0.4	1.1	1.5	0.4	1.1	1.5	0.4		
Total disposals within Community	187.3	24.2	211.5	186.6	22.6	209.2	187.2	24.7	212.1	180.9	29.1	210.0	142.3	..	..
Exports	2.3	-	2.3	2.9	-	2.9	2.1	-	2.1	1.8	-	1.8	-	-	-
Total disposals	189.6	24.2	213.8	189.5	22.6	212.1	189.5	24.7	214.2	182.7	29.1	211.8	142.3	..	..
Replenishment of pithead stocks	-	+0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL REQUIREMENTS	189.6	24.3	213.8	189.5	22.6	212.1	189.5	24.7	214.2	182.7	29.1	211.8	143.3	..	..
B. Availabilities	1967			1968			1969			1970			1975		
1) from pithead stocks	+ 0.5	-0.1	+ 0.4	+ 7.7	+ 0.6	+ 8.3	+12.5	+ 0.3	+12.8	+ 7.7	-	+ 7.7	-	-	-
2) from indigenous production and imports	Indigenous[3]	Imported		Indigenous[3]	Imported		Indigenous[3]	Imported		Indigenous[3]	Imported		Indigenous[3]	Imported	
	Aachen 7.3	USA 15.9		Aachen 7.6	USA 12.0		Aachen 7.0	USA 12.3		Aachen ..	USA 15.5		Aachen ..	USA ..	
	Ruhr 94.5	UK 1.5		Ruhr 95.7	UK 2.2		Ruhr 96.0	UK 3.1		Ruhr ..	UK 3.7		Ruhr ..	UK ..	
	Saar 12.4	Poland 2.8		Saar 11.3	Poland 4.1		Saar 11.1	Poland 4.9		Saar ..	Poland 5.6		Saar ..	Poland ..	
	L. Saxony 2.3	USSR 3.5		L. Saxony 2.6	USSR 3.2		L. Saxony 2.8	USSR 3.7		L. Saxony ..	USSR 3.9		L. Saxony ..	USSR ..	
	F. Germany 116.5	Elsewhere 0.6		F. Germany 117.2	Elsewhere 0.5		F. Germany 116.9	Elsewhere 0.4		F. Germany 119.6	Elsewhere 0.4		109.0	Elsewhere ..	
	Campine 8.8			Campine 8.5			Campine 8.0			Campine ..			Campine 5.5		
	S. Belgium 7.6			S. Belgium 6.3			S. Belgium 5.2			S. Belgium ..			S. Belgium 3.5		
	Belgium 16.4			Belgium 14.8			Belgium 13.2			Belgium 12.0			Belgium 9.0		
	N.PdC 23.4			N.PdC 19.7			N.PdC 18.9			N.PdC ..			N.PdC 10.0		
	Lorraine 15.0			Lorraine 13.8			Lorraine 13.9			Lorraine ..			Lorraine 11.0		
	C/Midi 9.1			Centre M. 8.4			Centre M. 7.8			Centre M. ..			Centre M. 4.0		
	France 47.5			France 41.9			France 40.6			France 38.2			France 25.0		
	Limburg 8.3			Limburg 6.9			Limburg 5.8			Limburg 4.8			Limburg [illegible]		
	Italy 0.2			Italy 0.4			Italy 0.3			Italy 0.4			Italy 0.3		
	Total 189.1	Total 24.3		Total 191.3	Total 22.9		Total 176.8	Total 24.4		Total 175.9	Total 29.1		Total 143.3	Total ..	
TOTAL AVAILABILITIES ($B_1 + B_2$)	189.6	24.2	213.8	189.9	22.6	211.5	189.3	24.7	214.0	182.7	29.1	211.8	143.3	..	..
C. Statistical differences	-	-	-	- 0.6	-	- 0.6	- 0.2	-	- 0.2	-	-	-	-	-	-

1 Provisional.
2 Estimated.
3 Excl. small mines.

Annex 6

Imports of coal from non-member countries and share thereof in member countries' and Community consumption, 1950-1968

	FEDERAL GERMANY[1]		BELGIUM		FRANCE		ITALY		LUXEMBOURG		NETHERLANDS		COMMUNITY[1]	
	'000 tons	%[2]	'000 tons	%[2]	'000 tons	%[2]	'000 tons	%[2]	'000 tons	%[2]	'000 tons	%[2]	'000 tons	%[2]
1950	718	0.7	294	1.1	2 914	3.5	3 357	34.1	-	-	825	4.9	7 208	3.3
1951	6 000	4.7	1 832	5.9	6 340	9.6	6 533	56.6	8	2.3	2 521	14.3	23 234	9.1
1952	7 879	5.8	1 173	4.1	5 361	8.4	5 077	50.7	67	17.9	2 707	15.4	22 264	8.6
1953	5 045	3.8	1 133	4.1	1 615	2.7	4 222	42.3	6	2.2	1 802	10.4	13 823	5.6
1954	3 881	2.9	852	3.0	2 215	3.6	4 842	46.4	5	1.7	2 129	11.7	13 924	5.5
1955	9 271	6.2	1 453	4.9	2 901	4.7	6 820	60.3	-	-	2 503	13.9	23 049	8.5
1956	13 682	8.8	2 322	8.9	8 804	12.4	7 581	63.3	37	10.4	5 120	25.7	38 046	13.1
1957	17 234	10.9	2 820	9.2	9 701	13.3	8 805	70.0	15	4.8	5 384	27.9	43 959	15.0
1958	12 926	8.9	2 352	9.0	4 888	7.3	7 744	78.7	-	-	3 935	22.9	31 845	12.0
1959	6 019	4.5	1 437	5.6	2 178	3.5	6 336	69.8	-	-	3 336	19.8	19 306	7.7
1960	5 597	3.9	934	3.6	1 882	3.0	6 166	60.2	-	-	3 304	18.6	17 883	6.9
1961	5 652	4.1	830	3.2	2 361	3.8	6 751	62.0	-	-	3 207	18.0	18 801	7.4
1962	7 059	5.0	1 320	4.8	2 984	4.6	8 090	71.4	-	-	4 152	22.4	23 605	9.0
1963	7 308	5.1	3 814	13.0	7 464	11.0	9 869	85.1	16	7.4	5 528	28.9	33 799	12.5
1964	7 455	5.4	3 197	12.1	5 844	8.8	9 400	91.7	4	2.7	5 151	28.8	31 051	12.0
1965	7 581	5.8	2 739	10.9	5 013	8.1	10 214	91.5	2	1.8	3 514	21.0	29 063	11.9
1966	7 040	6.0	2 103	9.1	4 569	7.9	9 980	83.9	-	-	2 502	16.4	26 194	11.6
1967	7 079	6.6	1 661	7.4	4 895	8.6	9 094	73.1	-	-	1 546	11.1	24 275	11.4
1968	5 878	4.4	1 566	7.0	4 206	7.7	8 342	68.9	-	-	1 966	15.7	21 957	10.4

[1] Incl. tonnages imported direct for the American forces in Germany.
[2] % of country's internal availabilities.

Imports of coal from non-member countries, by provenance and grade (Community, 1958-68)[1]

'000 tons

Provenance	Groups	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
USA[2]	I + II	699	158	178	374	799	2 201	823	125	50	0	0
	V + VI	22 705	13 161	11 682	10 748	12 545	16 344	17 314	18 147	16 300	13 700	10 000
	III,IV + VII	2 404	777	525	613	947	1 707	833	1 194	1 150	1 000	1 000
	Total	25 808	14 096	12 385	11 735	14 291	20 252	18 970	19 466	17 500	14 700	11 000
UK	I + II	1 175	805	913	1 347	1 957	2 838	2 412	1 388	980	681	859
	V + VI	345	366	770	1 082	981	2 555	1 614	1 111	970	745	1 315
	III,IV + VII	113	68	52	122	162	233	95	73	53	42	51
	Total	1 633	1 239	1 735	2 551	3 100	5 626	4 121	2 572	2 003	1 468	2 225
Poland	I + II	-	53	4	-	-	13	16	64	-	-	-
	V + VI	1 887	907	737	692	781	934	883	1 172	1 350	1 995	3 300
	III,IV + VII	687	989	961	1 087	1 059	811	709	518	708	806	795
	Total	2 574	1 949	1 702	1 779	1 840	1 758	1 608	1 754	2 058	2 801	4 095
USSR	I + II	1 052	1 112	1 233	1 324	1 527	3 063	2 764	2 241	2 011	1 894	1 610
	V + VI	103	211	122	559	834	849	809	711	1 022	1 639	1 633
	III,IV + VII	15	-	-	-	-	10	-	-	-	-	-
	Total	1 170	1 323	1 355	1 883	2 361	3 922	3 573	2 952	3 033	3 533	3 243
Elsewhere	I + II	458	402	248	321	614	1 101	1 035	550	348	309	202
	V + VI	127	134	238	261	263	189	126	169	150	170	70
	III,IV + VII	63	90	83	91	81	114	118	85	82	102	110
	Total	648	626	569	673	958	1 404	1 279	804	580	581	382
All sources	I + II	3 384	2 530	2 576	3 366	4 897	9 216	7 050	4 368	3 389	2 884	2 671
	V + VI	25 167	14 779	13 549	13 342	15 404	20 871	20 746	21 310	19 792	18 249	16 318
	III,IV + VII	3 282	1 924	1 621	1 913	2 249	2 875	1 755	1 870	1 993	1 950	1 956
	Total	31 833	19 233	17 746	18 621	22 550	32 962	29 551	27 548	25 174	23 083	20 945

[1] 1966-68: breakdown partly estimated.

[2] Excl. tonnages imported direct for the American forces in Germany.

Annex 8

Shares of supplier countries in Community's coal imports, by grades, 1958-68

%

Groups	Provenance	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
I + II	USA	20.7	6.2	6.9	11.1	16.3	23.9	11.7	2.9	1.5	0	0
	UK	34.7	31.8	35.4	40.0	40.0	30.8	34.2	33.8	28.9	23.6	32.1
	Poland	-	2.1	0.2	-	-	0.1	0.2	1.4	-	-	-
	USSR	31.1	44.0	47.9	39.3	31.2	33.2	39.2	51.3	59.3	65.7	60.3
	Elsewhere	13.5	15.9	9.6	9.6	12.5	12.0	14.7	12.6	10.3	10.7	7.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
V + VI	USA	90.2	89.1	86.2	80.6	81.4	78.3	83.5	85.2	82.3	75.1	61.3
	UK	1.4	2.4	5.7	8.1	6.4	12.2	7.8	5.2	4.9	4.1	8.1
	Poland	7.5	6.2	5.4	5.2	5.1	4.5	4.2	5.5	6.8	10.9	20.2
	USSR	0.4	1.4	0.9	4.2	5.4	4.1	3.9	3.3	5.2	9.0	10.0
	Elsewhere	0.5	0.9	1.8	1.9	1.7	0.9	0.6	0.8	0.8	0.9	0.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
III, IV + VII	USA	73.3	40.4	32.4	32.0	42.1	59.4	47.5	63.9	57.7	51.3	51,1
	UK	3.4	3.5	3.2	6.4	7.2	8.1	5.4	3.9	2.7	2.2	2,6
	Poland	20.9	51.4	59.3	56.8	47.1	28.2	40.4	27.7	35.5	41.3	40.7
	USSR	0.5	-	-	-	-	0.3	-	-	-	-	-
	Elsewhere	1.9	4.7	5.1	4.8	3.6	4.0	6.7	4.5	4.1	5.2	5.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
All grades	USA	81.1	73.3	69.8	63.0	63.4	61.4	64.2	70.7	69.5	63.7	52.5
	UK	5.1	6.4	9.8	13.7	13.7	17.1	14.0	9.3	8.0	6.4	10.6
	Poland	8.1	10.1	9.6	9.6	8.2	5.3	5.4	6.4	8.2	12.1	19.6
	USSR	3.7	6.9	7.6	10.1	10.5	11.9	12.1	10.7	12.0	15.3	15.5
	Elsewhere	2.0	3.3	3.2	3.6	4.2	4.3	4.3	2.9	2.3	2.5	1.8
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

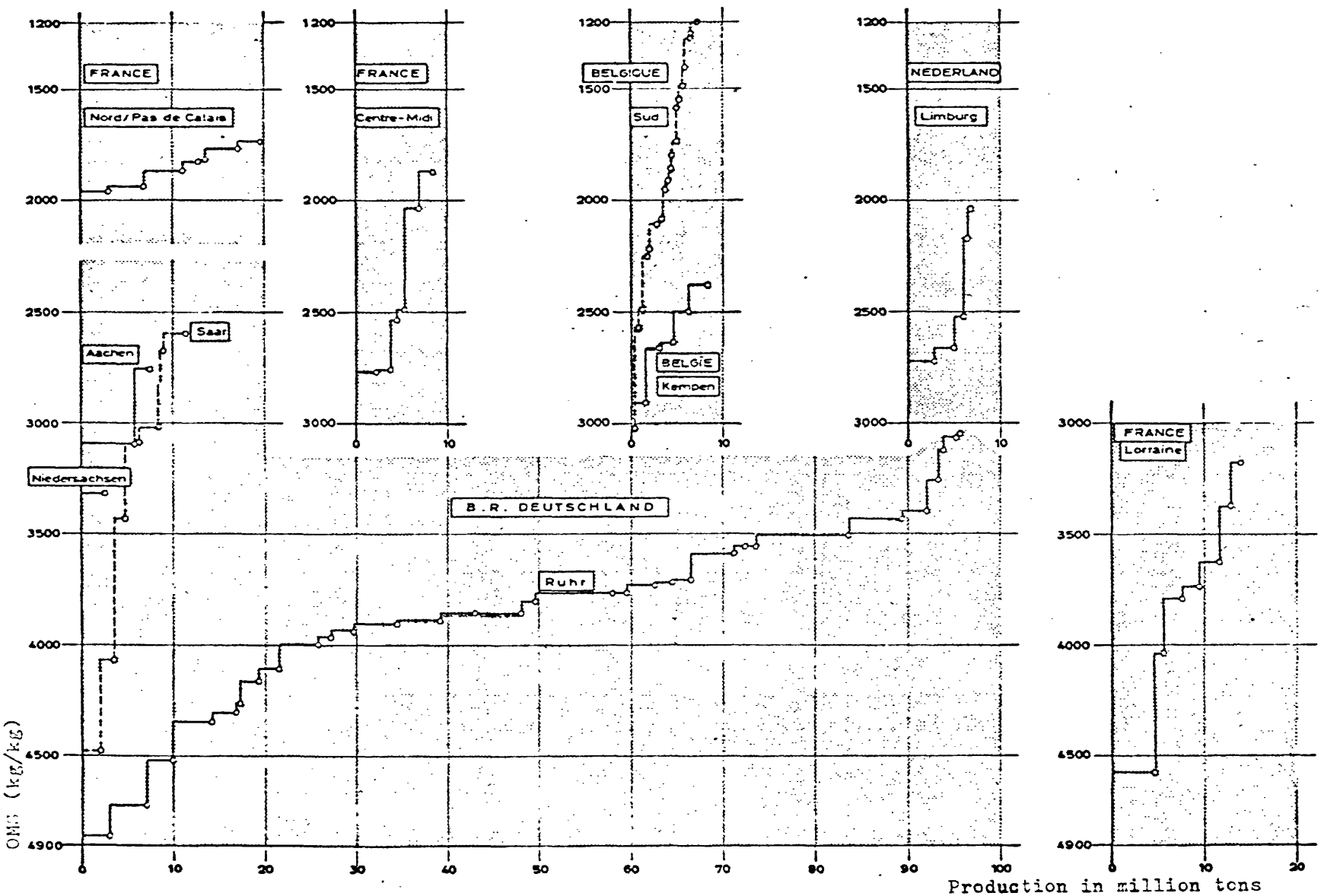
Underground OMS in the Community coal industry

kg/kg

Coalfield	1954	1958	1966	1967	1968	Percentage increase 1968-1975	1975
Aachen	1 261	1 439	2 300	2 587	3 031	..	..
Ruhr	1 576	1 730	3 152	3 520	3 828	..	..
Saar	1 753	1 797	2 960	3 198	3 214	..	..
Germany	1 575	1 708	3 050	3 393	3 685	+ 62.8	6 000
Campine	1 477	1 521	2 263	2 360	2 556	+ 40.0	3 580
Southern Belgium	1 107	1 147	1 796	1 864	1 908	+ 35.0	2 580
Belgium	1 198	1 261	1 996	2 102	2 232	+ 39.3	3 110
Nord/Pas-de-C	1 349	1 499	1 707	1 805	1 842	+ 25.0	2 300
Lorraine	2 214	2 285	3 453	3 703	3 888	+ 55.0	6 030
Centre/Midi	1 424	1 634	2 067	2 177	2 323	+ 30.0	3 020
France	1 510	1 680	2 104	2 241	2 347	+ 27.8	3 000
Dutch Limburg	1 532	1 572	2 305	2 428	2 574	+ 45.0	3 730

ENTERPRISES' PRODUCTION AND UNDERGROUND OUTPUT PER MANSHIFT
(1968)

Annex 10



Annex 11

Progress of mechanization in selected Community coalfields

(production from fully mechanized faces in % of total production)[1]

	1958	1960	1967	1968
Ruhr	20.8	36.1	78.0	82.3
Lorraine	82.7	80.1	95.1	96.0
Nord/Pas-de-Calais	24.4	40.9	62.9	63.7
Campine	46.1	57.2	97.5	97.5

[1] Figures are not comparable, as there is no standard definition of "full mechanization".

Annex 12

Movement of specific capital expenditure on Community collieries

A. Countries (u.a. per ton p.a.)

	1954	1958	1966	1967	1968
Federal Germany	0.74	1.02	0.86	0.78	0.67
Belgium	1.30	1.42	0.56	0.68	0.91
France	1.45	1.00	0.65	0.64	0.66
Netherlands	0.94	1.03	0.35	0.25	0,22

B. Selected coalfields

Ruhr	0.68	0.95	0.92	0.83	0.73
Saar	0,91	1.27	0.62	0.75	0.46
Lorraine	2.16	1.58	0.85	0.81	0.78
Nord/Pas-de-Calais	1.34	0.91	0.53	0.56	0.58
Campine	1.45	1.71	0.55	0.62	0.89

Annex 13

Breakdown of capital expenditure on Community collieries

'000 000 u.a.

	1954	1958	1966	1967	1968
Shafts and underground workings	43.5	67.0	25.8	20.0	19.1
Machinery below ground	49.0	62.9	51.4	50.5	46.0
Haulage and winding installations	22.6	20.6	15.4	15.2	13.4
Underground, total	115.1	150.5	92.6	85.7	78.5
Screening and washing plant	68.4	50.6	29.1	20.4	12.5
Other surface installations	31.4	33.0	21.8	19.3	18.3
Colliery buildings, etc.	26.9	34.3	19.3	14.5	14.3
Surface, total	126.7	117.9	70.2	54.2	45.1
GRAND TOTAL	241.8	268.4	162.8	139.9	123.6

Annex 14

EMPLOYMENT IN THE COMMUNITY COAL INDUSTRY

('000)

Coalfield/ country	Position at end 1961			Change 1961-1968			Position at end 1968			Change 1968-1975			Estimated position at end 1975		
	Underground workers	Other workers and white-collar staff	Total personnel	Underground workers	Other workers and white-collar staff	Total personnel	Underground workers	Other workers and white-collar staff	Total personnel	Underground workers	Other workers and white-collar staff	Total personnel	Underground workers	Other workers and white-collar staff	Total personnel
Aachen	19.2	10.6	29.8	- 8.0	- 2.5	- 10.5	11.2	8.1	19.3	..	..	..	..	..	..
Ruhr	224.2	154.1	378.3	-110.4	- 57.6	-168.0	113.8	96.5	210.3	..	..	..	..	..	..
Saar	30.5	18.9	49.4	- 13.7	- 6.6	- 20.3	16.8	12.3	29.1	..	..	..	..	..	..
Lower Saxony	4.9	2.6	7.5	- 1.5	- 0.7	- 2.2	3.4	1.9	5.3	..	..	..	..	..	..
Germany	278.8	186.2	465.0	-133.6	- 67.4	- 201.0	145.2	118.8	264.0	- 63.7	- 39.2	- 102.9	81.5	79.6	161.1
Campine	23.3	13.8	37.1	- 6.9	- 3.7	- 10.6	16.4	10.1	26.5	- 8.8	- 4.8	- 13.6	7.6	5.3	12.9
Southern Belgium	37.9	20.0	57.9	- 21.0	- 9.5	- 30.5	16.9	10.5	27.4	- 9.9	- 5.2	- 15.1	7.0	5.3	12.3
Belgium	61.2	33.8	95.0	- 27.9	- 13.2	- 41.1	33.3	20.6	53.9	- 18.7	- 10.0	- 28.7	14.6	10.6	25.2
N/Pas-de-C.	73.1	45.9	119.0	- 24.8	- 11.2	- 36.0	48.3	34.7	83.0	- 28.7	- 18.7	- 47.4	19.6	16.0	35.6
Lorraine	21.4	20.5	41.9	- 5.5	- 6.1	- 11.6	15.9	14.4	30.3	- 7.7	- 6.9	- 14.6	8.2	7.5	15.7
Centre/Midi	24.5	19.1	43.6	- 9.4	- 5.8	- 15.2	15.1	13.3	28.4	- 9.6	- 8.5	- 18.1	5.5	4.8	10.3
France	119.0	85.5	204.5	- 39.7	- 23.1	- 62.8	79.3	62.4	141.7	- 46.0	- 34.1	- 80.1	33.3	28.3	61.6
Netherlands	26.7	30.2	56.9	- 14.9	- 9.3	- 24.2	11.8	20.9	32.7	- 11.8	- 20.9	- 32.7	0.0	0.0	0.0
Community [1]	485.7	335.7	821.4	-216.1	-113.0	- 329.1	269.6	222.7	492.3	- 140.2	- 104.2	- 244.4	129.4	118.5	247.9

[1] Excl. Italy.

Selected elements in miners' pension schemes
(mines overall)

		Federal Germany		Belgium		France	
		1965	1969[2]	1965	1969	1965	1969[2]
A. Mines scheme							
Contributors	number	522 189	350 000	79 600	..	245 120	187 200
Annual contribution per head[1]	u.a.	498	729	204	..	..	..
Total proceeds of contributions	'000 000 u.a.	260.0	255.3	16.2	..	..	..
State subsidies	'000 000 u.a.	557.3	866.3	57.3	77.5	..	..
Total, contributions and subsidies	'000 000 u.a.	817.3	1 121.6	73.5	..	..	..
Pensioners	number	695 068	671 000	115 582	..	320 500	356 400
Annual pension per head	u.a.	1 389	2 016	664	..	733	951
B. General scheme							
Annual contribution per head	u.a.	304	446	182	..	121	217
Proceeds of contributions	'000 000 u.a.	5 625	8 287.3	293.3	..	..	..
State subsidies	'000 000 u.a.	1 531	2 280.0	22.3	..	..	..
Total, contributions and subsidies	'000 000 u.a.	7 156	10 567.3	315.6	..	..	..
Annual pension per head	u.a.	871	1 178	580	..	511	755

[1] Employers' and employees' contributions.

[2] Account not taken of the revaluation of the mark and devaluation of the French franc.

Production costs in the Community coal industry, in national currencies

3541/1/XVII/70-E
Annex 16

(1957=100)

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1969[4]
Aachen	104.6	105.5	105.4	110.0	110.9	112.4	118.0	118.7	122.4	110.4	103.9	111.8	118.1
Ruhr	103.9	99.5	97.0	99.9	99.2	99.6	102.2	109.0	107.5	103.5	98.3	102.6	109.5
Saar[1]	..	100.0	99.9	102.6	108.6	103.9	109.5	111.3	110.8	110.4	112.2	113.4	121.5
Campine	104.9	99.4	86.0	85.0	88.5	89.8	95.0	97.5	103.1	109.2	111.2	112.9	113.2
Southern Belgium	102.0	97.3	86.7	85.5	87.6	93.6	99.2	102.7	108.0	116.2	122.4	129.5	131.0
Nord/Pas-de-Calais	110.5	117.9	122.5	134.7	140.6	157.3[2]	150.0	160.2	162.9	171.6	194.5[2]	195.6	193.6
Lorraine	106.8	111.8	116.7	125.9	132.4	152.2[2]	140.6	147.6	150.0	154.9	168.3[2]	169.1	170.7
Centre/Midi	108.5	117.3	120.5	125.2	130.4	148.9[2]	142.8	152.0	161.5	167.5	180.5[2]	187.6	188.0
Netherlands	101.2	96.6	93.5	92.7	101.4	106.6	114.4	118.5	123.2	123.0	126.7	130.1[3]	..

[1] Figures in marks available only from 1959, when the Saar was reincorporated into Germany.

[2] Costs inflated by strikes.

[3] First three quarters.

[4] Fourth quarter.

Annex 17

Index of hourly wages and related charges in the Community coal industry
(underground and surface),
in national currencies

(1957=100)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1967 absolute figures in u.a.
Aachen	100.0	108.8	115.5	122.3	135.0	144.7	162.2	155.4	171.9	178.7	190.3	1.96
Ruhr	100.0	110.4	116.0	122.6	136.8	149.1	165.1	162.3	180.2	187.7	200.9	2.13
Saar	..	..	..	100.0	108.1	121.8	133.9	135.5	143.6	154.2	165.4	2.05
Campine	100.0	104.5	103.6	105.4	108.9	117.9	133.9	149.1	161.6	175.0	183.9	2.06
Southern Belgium	100.0	103.5	102.6	105.3	109.7	120.2	135.1	149.1	162.3	172.8	183.3	2.09
Nord/Pas-de-Calais	100.0	112.1	119.9	129.1	145.4	158.2	180.1	175.2	185.1	194.3	212.1	2.99
Lorraine	100.0	113.3	121.5	132.3	146.8	162.0	190.5	195.6	207.6	217.7	236.7	3.74
Centre/Midi	100.0	112.2	121.6	133.1	146.8	161.9	187.1	187.1	199.3	214.4	233.8	3.25
Netherlands	100.0	105.4	105.4	113.5	122.5	135.1	145.9	166.7	176.6	190.1	206.3	2.29

Annex 18

Index of underground OMS in the Community coal industry (kg/kg)

(1957=100)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Aachen	100.0	103.9	113.3	127.5	137.6	144.2	150.2	148.9	159.3	165.0	185.5	217.4	221.4
Ruhr	100.0	103.8	117.1	130.8	139.9	151.1	161.0	168.0	173.7	188.7	210.4	229.2	238.0
Saar	100.0	101.7	104.8	114.2	122.1	131.6	140.6	145.3	152.2	164.5	177.7	178.6	188.6
Campine	100.0	96.1	104.4	113.2	122.6	129.3	132.5	125.0	132.8	143.0	149.1	161.5	177.6
Southern Belgium	100.0	102.0	112.3	129.2	139.3	147.5	145.0	142.9	151.1	159.9	165.8	169.8	173.7
Nord/Pas-de-Calais	100.0	99.5	100.1	103.7	106.9	108.4	110.4	113.5	110.3	113.3	119.9	122.3	131.0
Lorraine	100.0	98.9	104.9	111.7	117.1	121.6	125.7	134.8	140.2	149.5	160.3	168.3	180.7
Centre/Midi	100.0	100.1	102.8	109.4	117.1	120.9	121.0	123.7	125.1	126.1	133.0	142.2	149.4
Netherlands	100.0	101.8	108.0	118.7	136.2	137.1	138.5	143.1	146.1	149.4	157.3	166.7	189.7

Underground OMS in the Community coal industry (kg/kg)--contd.

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Aachen	1 394	1 439	1 580	1 778	1 919	2 009	2 094	2 074	2 221	2 300	2 587	3 031	3 086
Ruhr	1 670	1 730	1 952	2 181	2 328	2 517	2 685	2 802	2 895	3 152	3 520	3 828	3 974
Saar	1 800	1 797	1 851	2 013	2 197	2 369	2 531	2 616	2 740	2 960	3 198	3 214	3 394
Campine	1 583	1 521	1 652	1 792	1 941	2 047	2 097	1 980	2 102	2 263	2 360	2 556	2 811
Southern Belgium	1 125	1 147	1 262	1 452	1 566	1 658	1 630	1 630	1 697	1 796	1 864	1 908	1 952
N/Pas-de-C.	1 506	1 499	1 507	1 562	1 610	1 633	1 663	1 709	1 662	1 707	1 805	1 842	1 973
Lorraine	2 310	2 285	2 424	2 580	2 704	2 808	2 903	3 113	3 239	3 453	3 703	3 888	4 174
Centre/Midi	1 634	1 634	1 680	1 789	1 912	1 975	1 977	2 024	2 044	2 067	2 177	2 323	2 441
Netherlands	1 544	1 572	1 668	1 833	2 103	2 117	2 137	2 208	2 253	2 305	2 428	2 574	2 929

Production costs in the Community coal industry, in units of account at ruling exchange rates

(1957 = 100)

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1969 [4]
Aachen	104.6	105.5	105.4	114.3	116.5	118.0	123.9	124.6	128.5	115.9	109.1	120.7	135.5
Ruhr	103.9	99.5	97.0	103.8	104.1	104.6	107.4	114.4	112.9	108.7	103.2	110.4	125.6
Saar [1]	..	100.0	99.9	106.6	113.9	109.0	115.0	116.8	116.3	115.8	117.8	122.0	139.4
Campine	104.9	99.4	86.0	85.0	88.5	89.8	95.0	97.5	103.1	109.2	111.2	112.9	113.2
Southern Belgium	102.0	97.3	86.7	85.5	87.6	93.6	99.2	102.7	108.0	116.2	122.4	129.5	131.0
N/Pas-de-C.	95.2	86.4	89.7	98.7	103.0	114.4 [2]	109.9	117.4	119.4	125.7	142.6 [2]	136.2	126.3
Lorraine	92.0	81.7	85.5	92.3	97.1	111.6 [2]	103.1	108.3	110.0	113.6	123.4 [2]	117.7	111.3
Centre/Midi	93.5	86.0	88.4	86.1	95.6	109.1 [2]	104.7	111.5	118.4	122.8	132.4 [2]	130.5	122.6
Netherlands	101.2	96.6	93.5	96.5	106.4	111.9	120.0	124.3	129.3	129.1	133.0	136.6 [3]	..

1 Figures in marks available only from 1959, when the Saar was reincorporated into Germany.
2 Costs inflated by strikes.
3 First three quarters.
4 Fourth quarter.

Cost scatter in the Community coal industry, at ruling exchange rates

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Annex 21

(Community average = 100)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1969 [2]
Aachen	95.9	99.9	107.6	109.9	112.5	111.7	109.5	113.0	107.8	110.0	99.3	93.7	101.5	107.8
Ruhr	88.5	91.6	93.7	93.2	94.3	92.2	89.6	90.4	91.3	89.2	86.0	81.8	85.6	92.1
Saar	..	100.2	93.6	95.5	96.3	100.3	92.8	96.2	92.7	91.4	91.1	92.8	94.1	101.7
Campine	118.3	123.6	125.1	110.6	103.2	104.7	102.8	106.9	104.1	108.9	115.4	117.8	117.1	111.1
Southern Belgium	138.7	140.9	143.6	130.7	121.8	121.6	125.6	130.9	128.6	133.8	144.1	152.1	157.5	150.7
N/Pas-de-C.	111.7	106.1	102.9	109.1	113.3	115.3	123.9	117.0	118.5	119.2	125.7	142.8	133.4	117.0
Lorraine	97.0	89.0	84.7	90.2	92.0	94.3	104.8	95.2	94.8	95.3	98.6	107.3	100.1	89.5
Centre/Midi	111.7	104.1	102.3	107.4	105.3	106.9	118.0	111.3	112.4	118.2	122.7	132.4	127.8	113.6
Netherlands	104.1	104.9	107.0	105.9	103.1	110.8	112.7	118.8	116.8	120.2	120.2	124.0	124.7 [1]	..
Community	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1] First three quarters.
[2] Fourth quarter.

Annex 22

Selected schedule prices ex mine, before tax, at ruling exchange rates

(as at 1 January of each year)

u.a. per ton

	1966	1967	1968	1969	1970	1.4.1970
Ruhr						
Coking fines, medium-volatile	16.68	16.68	16.50	16.50	20.22	20.22
Washed smalls, low- to medium-volatile	15.96	15.96	15.75	15.75	19.40	19.40
Anthracite singles	32.88	32.88	32.50	32.50	39.34	39.3[illegible]
Ovoids	22.20	22.20	21.95	21.95	26.64	26.6[illegible]
Crushed and screened coke 1	21.17	21.17	20.88	20.88	27.19	27.19
Saar						
Coking fines, medium-volatile	17.76	17.76	17.58	17.58	21.86	21.86
Crushed and screened coke 1	22.44	22.44	22.20	22.20	30.05	30.05
Belgium						
Coking fines, medium-volatile	14.60	15.60	15.60	15.60	18.20	18.20
Washed smalls, low- to medium-volatile	15.20	15.20	15.20	15.20	16.70	16.7[illegible]
Anthracite singles	43.00	37.50	37.50	37.50	40.00	40.0[illegible]
Ovoids	24.80	22.80	22.80	22.80	24.30	24.30
Crushed and screened coke 1	23.50	23.50	23.50	25.00	31.50	32.50
Nord/Pas-de-Calais						
Coking fines, medium-volatile	14.58	14.58	14.58	14.58	15.84	16.[illegible]
Washed smalls, low- to medium-volatile	14.58	13.98	13.98	13.98	-	-
Anthracite singles	31.60	29.98	29.98	30.89	31.32	31.[illegible]
Ovoids	21.88	21.88	21.88	21.88	19.98	21.[illegible]
Crushed and screened coke 1	20.25	20.25	20.25	20.25	22.50	24.[illegible]
Lorraine						
Coking fines, medium-volatile	14.79	14.79	14.79	14.79	15.21	15.[illegible]
Crushed and screened coke 1	21.37	21.37	21.37	21.37	23.85	26.[illegible]

Revenues in the Community coal industry, in national currencies

(1957 = 100)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969 [3]	1969 [3]
Aachen	100.0	104.6	103.7	104.3	103.6	106.1	110.1	111.1	113.8	115.0	112.6	105.3	108.6	116.9
Ruhr	100.0	104.3	100.7	99.4	97.9	98.9	102.8	104.4	107.8	106.1	104.9	102.4	105.8	115.2
Saar [1]	..	..	100.0	99.4	99.2	100.6	103.3	104.2	106.9	103.6	101.9	105.2	100.6	111.9
Campine	100.0	92.8	82.7	78.3	77.0	78.1	82.2	81.9	81.2	78.7	72.3	72.1	72.5	72.8
Southern Belgium	100.0	94.2	86.1	80.8	81.1	86.8	94.3	95.1	91.9	88.6	86.1	85.2	88.1	93.7
Nord/Pas-de-Calais	100.0	107.4	121.8	121.9	125.8	128.4	133.5	136.1	133.1	132.7	127.7	128.8	133.4	138.2
Lorraine	100.0	106.6	120.7	120.5	122.5	126.5	132.6	133.1	131.7	130.5	128.0	127.3	128.1	129.7
Centre/Midi	100.0	107.5	122.6	121.7	124.2	128.9	135.0	134.6	133.0	132.2	130.5	127.4	128.5	130.5
Netherlands	100.0	104.8	99.2	96.4	95.3	95.5	102.4	108.6	109.4	109.9	110.9	112.8	111.6 [2]	..

[1] Figures in marks available only from 1959, when the Saar was reincorporated into Germany.

[2] First three quarters.

[3] Fourth quarter.

Development of consumer and wholesale prices

(1957 = 100)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969
Federal Germany													
Consumer prices	100.0	102.0	103.1	104.1	107.1	110.2	113.3	116.3	120.4	124.5	125.5	127.7	
Wholesale prices	100.0	100.0	101.0	101.0	100.0	100.0	101.0	103.0	106.0	108.0	104.0	107.0	
Belgium													
Consumer prices	100.0	101.0	102.0	103.0	104.0	105.1	107.1	112.1	116.2	121.2	124.2	127.9	
Wholesale prices	100.0	95.2	95.2	96.2	96.2	96.2	99.0	103.8	104.8	106.7	105.7	105.7	
France													
Consumer prices	100.0	114.9	121.8	126.4	131.0	136.8	143.7	148.3	151.7	156.3	160.9	168.0	
Wholesale prices	100.0	111.1	116.7	118.9	122.2	125.6	130.0	132.2	133.3	136.7	135.6	137.8	
Netherlands													
Consumer prices	100.0	101.0	103.0	104.0	106.1	109.1	114.1	120.2	127.3	134.3	138.4	142.6	
Wholesale prices	100.0	98.0	99.0	97.1	96.1	97.1	99.0	105.9	108.8	114.7	114.7	115.7	

Revenues in the Community coal industry, in units of account at ruling exchange rates

(1957 = 100)

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1969[3]
Aachen	104.6	103.7	104.3	107.8	111.5	115.6	116.7	119.5	120.8	118.2	110.5	117.4	134.2
Ruhr	104.3	100.7	99.4	101.8	103.9	107.9	109.6	113.2	111.4	110.2	107.5	113.9	132.2
Saar[1]	..	100.0	99.4	103.1	105.7	108.4	109.5	112.2	108.9	107.0	110.5	108.3	128.4
Campine	92.8	82.7	78.3	77.0	78.1	82,2	81.9	81.2	78.7	72.3	72,1	72,5	72,7
Southern Belgium	94.2	86.1	80.8	81.1	86.8	94.3	95.1	91.9	88.6	86.1	85,2	88,1	93,7
Nord/Pas-de-Calais	92.6	89.3	89.4	92.2	94.1	97.8	99.8	97.6	97.3	93.6	94.4	92.8	90.1
Lorraine	91.8	88.5	88.3	89.9	92.7	97.2	97.5	96.6	95.6	93.9	93.3	89.2	84.6
Centre/Midi	92.7	89.9	89,2	91,1	94,5	99,1	98,8	97,6	96,9	95,7	93,4	89,4	85,1
Netherlands	104.8	99.2	96.4	99.3	100.2	107.4	114.0	114.9	115.4	116.4	118.5	117.1[2]	..

[1] Figures in marks available only from 1959, when the Saar was reincorporated into Germany.

[2] First three quarters.

[3] Fourth quarter.

Scatter of revenue in the Community coal industry, at ruling exchange rates

(Community average = 100)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1969[2]
Aachen	106.3	112.0	116.5	118.9	120.1	121.5	120.6	120.2	121.3	124.5	124.4	118.1	122.3	126.9
Ruhr	91.1	95.7	97.3	97.2	97.2	96.9	96.4	96.7	98.4	98.4	99.4	98.4	101.7	107.0
Saar	104.0	101.4	100.2	101.0	102.4	102.7	100.8	100.4	101.5	100.0	100.4	105.2	100.6	108.2
Campine	121.1	113.4	105.9	101.8	97.8	97.1	97.8	96.1	94.0	92.6	86.8	87.8	86.1	78.3
Southern Belgium	136.3	129.4	124.1	118.2	115.9	121.3	126.1	125.5	119.7	117.2	116.3	116.7	117.3	113.6
Nord/P.d.C.	105.5	98.4	99.6	101.2	102.0	101.8	101.3	102.0	98.3	99.5	97.8	100.1	95.9	84.5
Lorraine	93.5	86.6	87.6	88.7	88.2	89.0	89.3	88.4	86.4	86.8	87.1	87.8	81.8	70.3
Centre/Midi	97.9	91.5	93.0	93.7	93.5	94.9	95.1	93.6	91.2	92.0	92.8	91.9	85.8	74.0
Netherlands	105.7	111.5	110.8	109.2	109.9	108.5	111.3	116.6	115.9	118.2	121.8	125.8	121.3[1]	..
Community	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

1 First three quarters.
2 Fourth quarter.

Annex 27

Cost coverage in the Community coal industry (revenues in % of total production costs)

	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1969[3]
Aachen	99.0	99.0	97.3	97.9	93.3	94.8	97.0	93.3	95.0	93.0	101.0	100.3	96.2	98.0
Ruhr	92.0	92.3	93.1	94.3	90.1	91.7	94.8	93.9	91.0	90.7	93.2	95.8	94.9	96.8
Saar	85.0	89.4	96.2	95.8	93.0	89.2	95.6	91.6	92.5	90.0	88.3	90.3	85.4	88.6
Campine	91.5	81.0	76.1	83.3	82.9	80.8	83.8	78.9	76.3	69.9	60.6	59.3	58.7	58.7
Southern Belgium	87.8	81.1	77.7	81.8	83.2	87.0	88.4	84.2	78.6	72.0	65.0	61.1	59.7	62.8
Nord/Pas-de-Calais[1]	84.3	81.9	87.1	83.9	78.7	76.9	69.6	76.5	70.4	68.2	62.7	55.8	57.4	60.2
Lorraine[1]	86.1	86.0	93.0	88.9	83.8	82.3	75.1	81.5	76.9	74.9	71.2	65.1	65.2	65.4
Centre/Midi[1]	78.3	77.6	81.8	79.0	77.7	77.4	71.0	73.7	68.5	64.0	61.0	55.2	53.6	54.3
Netherlands	90.6	93.9	93.1	93.4	93.2	85.4	87.1	86.1	83.7	80.8	81.7	80.7	77.7[2]	..

[1] In % of costs reckoned inclusive of the higher social-security charges in France.

[2] First three quarters.

[3] Fourth quarter.

3541/1/XVII/70-E

Annex 28

State aid under Decision No. 3/65

'000 000 u.a.

	1965	1966	1967	1968	1969
A. Action under Article 2,2					
Federal Germany	529.4	568.1	642.5	683.6	691.2
Belgium	110.2	117.4	128.3	131.1	142.5
France	254.5	279.0	309.9	326.3	372.4
Netherlands	9.8	21.0	21.0	15.4	13.2
Total, Community	903.9	985.5	1 101.7	1 156.4	1 219.3
B. Direct assistance under Articles 3-5					
GERMANY					
Article 3	—	—	—	—	45.0
Article 4	12.9	17.6	37.7	29.3	46.8
Article 5	7.6	17.9	65.7	85.4	31.1
Total, Germany	20.5	35.5	103.4	114.7	122.9
BELGIUM					
Article 3	—	3.6	5.3	4.6	4.4
Article 4	—	—	—	—	0.4
Article 5	17.7	50.9	66.8	72.8	66.4
Total, Belgium	17.7	54.5	72.1	77.4	71.2
FRANCE					
Article 5	43.5	66.8	121.3	214.6	262.0
Total, France	43.5	66.8	121.3	214.6	262.0
NETHERLANDS					
Article 5	—	6.3	[illegible]	17.9	29.0
Total, Netherlands	—	6.3	[illegible]	17.9	29.0
COMMUNITY (Articles 3-5)					
Article 3	—	3.6	5.3	4.6	49.4
Article 4	12.9	17.6	37.7	29.3	47.2
Article 5	68.8	141.9	265.0	390.7	388.5
Total, Articles 3-5	81.7	163.1	308.0	424.6	485.1

State aid under Decision No. 3/65 (contd.)

u.a. per ton produced

	1965	1966	1967	1968	1969
A. Action under Article 2,2					
Federal Germany	3.77	4.33	5.52	5.84	5.98
Belgium	5.57	6.71	7.82	8.86	10.63
France	4.96	5.55	6.51	7.75	8.87
Netherlands	0.84	2.04	2.53	2.23	2.40
Total, Community	4.05	4.71	5.84	6.40	6.91
B. Direct assistance under Articles 3-5					
GERMANY					
Article 3	-	-	-	-	0.39
Article 4	0.09	0.13	0.32	0.25	0.41
Article 5	0.05	0.14	0.56	0.73	0.27
Total, Germany	0.14	0,27	0.88	0.98	1.07
BELGIUM					
Article 3	-	0.21	0.32	0.31	0.33
Article 4	-	-	-	-	0.03
Article 5	0.89	2.91	4.07	4.92	4.96
Total, Belgium	0.89	3.12	4.39	5.23	5.32
FRANCE					
Article 5	0.85	1.33	2.55	5.10	6.24
Total, France	0.85	1.33	2.55	5.10	6.24
NETHERLANDS					
Article 5	-	0.61	1.35	2.59	5.27
Total, Netherlands	-	0.61	1.35	2.59	5.27
COMMUNITY (Articles 3-5)					
Article 3	-	0.02	0.03	0.03	0.28
Article 4	0.06	0.08	0.20	0.16	0.27
Article 5	0.31	0.68	1.40	2.16	2.20
Total, Articles 3-5	0.37	0.78	1.63	2.35	2.75

Annex 30

Explanatory notes on the calculation of the figures in Annexes 31, 32 and 33

Material available to the Commission includes quarterly statements of each coalfield's average costs and average revenues, and OMS figures for each colliery. From these and certain other data, together with the very comprehensive appraisal of Ruhr costs and earnings prepared by Professors Schwantag and Dorstewitz for the High Authority of ECSC in 1958, we were able, by establishing a correlation between the OMS scatter and the cost average for the different coalfields, to work out the approximate cost scatter by collieries (coalfield cost averages corrected to allow for the cost-lowering subsidies shown in Annex 31). As regards revenues, since the figures per colliery deviate very much less from the coalfield averages, in the absence of fuller particulars each colliery was treated as having the average revenue of the coalfield concerned (corrected to allow for the revenue-augmenting measures shown in the same Annex). The difference between the costs and revenues so arrived at represents - purely arithmetically - the unsubsidized position.

Annex 32 groups the Community collieries by earning power in batches of round about 10 million tons, starting with the best performers. It does not indicate the cost scatter coalfield by coalfield: what it does is to range the collieries in order of earning power (also showing which coals each batch produces), and from this, taken in conjunction with the OMS scatter in Annex 10 - which can be interpreted as the cost scatter for the individual

.../...

coalfields - a rough idea can be obtained of the positions of the different coalfields in the overall cost scatter.

Methodological difficulties arose as to the breakdown of subsidies among the batches of pits in Annex 32. For convenience, therefore,

(a) the German collieries were treated as being subsidized at a uniform 1.5 u.a. per ton (direct and indirect subsidies in Annex 31 taken together);

(b) for the Belgian, French and Dutch collieries the subsidies were calculated on the basis of the ratio of aggregate subsidies to aggregate losses for all pits in the country concerned. The average extent per colliery to which the subsidy covered the operating loss worked out at 60% in Belgium, 75% in France and 80% in the Netherlands.

This theoretical general breakdown of subsidies by collieries certainly does not tally accurately with the actual position. It is offered nevertheless as giving some idea of the incidence of subsidization in the "good" and "bad" pits of the Community.

In reading Annexes 32 and 33 it must always be borne in mind that these are theoretical calculations only, intended to provide a rough picture of the financial situation of the European coal industry in 1968. It has not been possible to update the figures to 1970, as the necessary material was not available: to judge by the latest wage trends in the industry, the 1970 position will be appreciably worse.

Annex 31

State assistance and its impact on collieries' declared cost and revenue position

1968

'000 000 u.a.

Statistically classifiable assistance							Statistically unclassifiable assistance	
Cost-lowering aid		Revenue-augmenting aid		Loss-reducing aid		Total	Form	Amount
Form	Amount	Form	Amount	Form	Amount	amounts		
			A. FEDERAL GERMANY					
Part payment of cost of holding pithead stocks	6.3	Coking-coal subsidy	36.6	Rationalisierungs-verband	7.3	-	Payment of compensatory shifts	57.7
Shift bonus	21.5	Transport subsidy	14.3	Aktionsgemeinschaft	22.0	-	Social insurance subsidy	683.6
		Piped heating installations	3.4	Coking-coal subsidy	18.2	-	Integrated social insurance	..
		Power-station coal	52.5			-	Tax on fuel oil	..
							Coal import quota, duty	..
							Tax concessions	..
							Interest subsidies	..
							Research grants	..
							Occupational retraining	..
							Redevelopment	..
TOTAL	27.8	TOTAL	106.8	TOTAL	47.5	182.1	TOTAL	..
			B. BELGIUM					
				Investment assistance	4.6	-	Subsidies to local authorities	0.2
				Annual bonus	5.3	-	Railway tickets	0.8
				Depreciation assistance	2.9	-	Holiday fund	3.7
				Offsetting of losses	64.6	-	Social insurance subsidy	131.1
				Coking-coal subsidy	9.2	-	Integrated social insurance	..
							Coal import controls	..
							Tax concessions	..
							Interest subsidies	..
							Occupational retraining	..
							Redevelopment	..
TOTAL	-	TOTAL	-	TOTAL	86.6	86.6	TOTAL	..
			C. FRANCE					
Interest reduction	7.4			Offsetting of losses	214.6	-	Social insurance subsidy	326.3
Cerchar	2.6			Coking-coal subsidy	9.5	-	Special purchasing contracts Electricité de France Orcis	..
							Tax concessions	..
							Interest subsidies	..
							Tax on fuel oil	..
							Integrated social insurance	..
							Occupational retraining	..
							Redevelopment	..
TOTAL	10.0	TOTAL	-	TOTAL	224.1	234.1	TOTAL	..
			D. NETHERLANDS					
				Offsetting of losses	17.9	-	Offsetting of losses (State Mines)	..
				Coking-coal subsidy	1.2	-	Social insurance subsidy	15.4
							Tax concessions	..
							Interest subsidies	..
							Occupational retraining	..
							Redevelopment	..
TOTAL	-	TOTAL	-	TOTAL	19.1	19.1	TOTAL	..
				GRAND TOTAL		521.9		

Annex 32

Coal production by batches of pits grouped in order of earning capacity, with some calculations as to approximate scatter of costs, revenues, operating results and quantifiable subsidies (Community). 1968

Batch	No. of pits	Production by grades[1] '000 tons t/t			t/t.	Costs and revenues excl. assistance[1] u.a. per ton			Costs and revenues excl. assistance[1] '000 000 tons			Subsidies[1] Total '000 000 u.a.[1]	Subsidies[1] u.a. per ton	Overall result with assistance '000 000 u.a.	Mine-owned coking-plants '000 tons	
		V + VI	III,IV,VII	I + II	Total	Costs	Revenues	Result (-/+)	Costs	Revenues	Overall result				Coal input	Coke output
1	10	5 282	2 151	3 506	10 939	11.31	13.08	+ 1.77	123.77	143.09	+ 19.32	15.95	1.46	+ 35.27	2 214	1 619
2	5	4 818	3 595	283	8 696	12.84	13.30	+ 0.46	111.62	115.69	+ 4.07	13.53	1.56	+ 17.60	865	671
3	7	9 743	10	-	9 753	13.04	12.60	- 0.44	127.20	122.93	- 4.27	14.69	1.51	+ 10.42	2 905	2 120
4	7	8 460	1 328	119	9 907	13.76	12.98	- 0.78	136.35	128.61	- 7.74	15.14	1.53	+ 7.40	515	387
5	7	9 650	14	689	10 353	14.09	12.78	- 1.31	145.89	132.33	- 13.56	16.11	1.56	+ 2.55	2 714	1 999
6	6	12 053	-	-	12 053	14.55	12.54	- 2.01	175.41	151.08	- 24.33	19.12	1.59	- 5.21	9 504	7 040
7	7	8 757	81	2 047	10 885	16.54	14.24	- 2.30	180.07	155.01	- 25.06	17.52	1.61	- 7.54	5 157	3 916
8	6	9 030	757	1 880	11 667	15.77	13.22	- 2.55	183.95	154.20	- 29.75	18.15	1.56	- 11.60	3 311	2 485
9	6	8 878	-	992	9 870	15.68	12.60	- 3.08	154.75	124.36	- 30.39	15.36	1.56	- 15.03	3 410	2 508
10	6	9 183	870	-	10 053	16.12	12.62	- 3.50	162.07	126.85	- 35.22	16.20	1.61	- 19.02	5 821	4 395
11	11	5 940	973	3 238	10 151	18.23	14.08	- 4.15	185.03	142.90	- 42.13	21.96	2.16	- 20.17	3 676	2 696
12	10	8 661	538	575	9 774	17.93	12.92	- 5.01	175.30	126.28	- 49.02	25.92	2.65	- 23.10	2 766	2 112
13	12	6 995	1 136	1 684	9 815	18.62	12.79	- 5.83	182.78	125.49	- 57.29	36.68	3.74	- 20.61	1 815	1 355
14	11	4 062	1 203	4 319	9 584	20.21	13.31	- 6.90	193.71	127.56	- 66.15	35.33	3.69	- 30.82	-	-
15	14	4 541	1 662	3 313	9 516	21.43	13.59	- 7.84	203.90	129.29	- 74.61	46.66	4.90	- 27.95	2 773	2 156
16	14	6 116	985	1 891	8 992	22.90	13.45	- 9.45	205.94	120.96	- 84.98	51.44	5.72	- 33.54	2 040	1 589
17	12	5 120	400	4 138	9 658	24.58	13.54	- 11.04	237.40	130.77	- 106.63	74.70	7.73	- 31.93	1 335	1 043
18	24	1 814	358	3 752	5 924	29.70	14.20	- 15.50	175.95	84.13	- 91.82	63.45	10.71	- 28.37	755	583
	175	129 103	16 061	32 426	177 590	17.24	13.19	- 4.05	3 061.09	2 341.53	- 719.56[2]	517.91	2.94	- 201.65	51 576	38 674

[1] Excl. Lower Saxony, Sulcis and small mines. For comparability with other fields in the Community, French collieries' declared costs have been reduced 2.0 u.a. per ton.

[2] Balance from operating losses of 743 million and profits of 23 million u.a.

Annex 33

Approximate estimates, for different production levels, of rates of subsidy per ton, assuming long-term retention of certain capacity (based on 1968 situation)

Production level '000 000 tons t/t		Subsidies[1]			Rates of subsidy overall per ton produced	
		paid by 1968	further payable	total	for tonnage eliminated	for tonnage remaining
		'000 000 u.a.			u.a.	
Initial position	177.6	517.9	274.8	792.7	-	4.46
Change	- 5.9	- 63.5	- 28.4	- 91.9	15.58	-
Remainder	171.7	454.4	246.4	700.8	-	4.08
Change	- 9.7	- 74.7	- 31.9	- 106.6	10.99	-
Remainder	162.0	379.7	214.5	594.2	-	3.67
Change	- 9.0	- 51.4	- 33.5	- 84.9	9.43	-
Remainder	153.0	328.3	181.0	509.3	-	3.33
Change	- 9.5	- 46.6	- 28.0	- 74.6	7.85	-
Remainder	143.5	281.7	153.0	434.7	-	3.03
Change	- 9.6	- 35.3	- 30.8	- 66.1	6.89	-
Remainder	133.9	246.4	122.2	368.6	-	2.75
Change	- 9.8	- 36.7	- 20.6	- 57.3	5.85	-
Remainder	124.1	209.7	101.6	311.3	-	2.51
Change	- 9.8	- 25.9	- 23.1	- 49.0	5.00	-
Remainder	114.3	183.8	78.5	262.3	-	2.29
Change	- 10.2	- 22.0	- 20.2	- 42.2	4.14	-
Remainder	104.1	161.8	58.3	220.1	-	2.11

[1] See Annex II/27.

COAL SUPPLY AND DEMAND

(Community)

000 000 tons

Year	DEVELOPMENT OF SUPPLY AND DEMAND									YEAR-TO-YEAR CHANGES						
	COMMUNITY-MINED COAL					NON-COMMUNITY-MINED COAL			Total Community demand for coal (3+8)	DEMAND			SUPPLY			
	Production	Stocks[1] (5-1)	Community demand (1+2-4)	Non-Community demand	Total demand for Community-mined coal (3+4)	Imports	Stocks[1]	Community demand (6+7)		Community (9)	Non-Community (4)	Total (10+11)	Production (1)	Stocks[2]	Imports (6)	Total (13+14+15)
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1950	220.9	- 0.4	213.9	6.6	220.5	7.2	+ 0.1	7.3	221.2	-	-	-	-	-	-	-
1951	236.4	+ 2.2	233.1	5.5	238.6	23.2	- 0.5	22.7	255.8	+ 34.6	- 1.1	+ 33.5	+ 15.5	+ 2.0	+ 16.0	+ 33.5
1952	244.4	- 4.6	235.4	4.4	239.8	22.3	+ 0.1	22.4	257.8	+ 2.0	- 1.1	+ 0.9	+ 8.0	- 6.2	- 0.9	+ 0.9
1953	242.3	- 3.2	233.2	5.9	239.1	13.8	+ 0.1	13.9	247.1	- 10.7	+ 1.5	- 9.2	- 2.1	+ 1.4	- 8.5	- 9.2
1954	247.4	- 2.0	237.5	7.9	245.4	13.9	+ 0.1	14.0	251.5	+ 4.4	+ 2.0	+ 6.4	+ 5.1	+ 1.2	+ 0.1	+ 6.4
1955	252.5	+ 5.0	247.4	10.1	257.5	23.0	- 0.1	22.9	270.3	+ 18.8	+ 2.2	+ 21.0	+ 5.1	+ 6.8	+ 9.1	+ 21.0
1956	255.4	+ 1.7	251.4	5.7	257.1	38.0	- 0.1	37.9	289.3	+ 19.0	- 4.4	+ 14.6	+ 2.9	- 3.3	+ 15.0	+ 14.6
1957	254.3	- 1.5	247.7	5.1	252.8	44.0	- 1.1	42.9	290.6	+ 1.3	- 0.6	+ 0.7	- 1.1	- 4.2	+ 6.0	+ 0.7
1958	250.3	- 17.4	231.0	3.9	234.9	31.8	- 0.3	31.5	262.5	- 28.1	- 1.2	- 29.3	- 2.0	- 15.1	- 12.2	- 29.3
1959	240.6	- 6.6	229.9	4.1	234.0	19.3	- 1.3	18.0	247.9	- 14.6	+ 0.2	- 14.4	- 11.7	+ 9.8	- 12.5	- 14.4
1960	240.0	+ 3.6	240.0	3.6	243.6	17.9	- 0.8	17.1	257.1	+ 9.2	- 0.5	+ 8.7	- 0.6	+ 10.7	- 1.4	+ 8.7
1961	235.8	+ 2.8	235.0	3.6	238.6	18.8	- 1.1	17.7	252.7	- 4.4	0	- 4.4	- 4.2	- 1.1	+ 0.9	- 4.4
1962	233.2	+ 8.7	237.2	4.7	241.9	23.6	- 0.4	23.2	260.4	+ 7.7	+ 1.1	+ 8.8	- 2.6	+ 6.6	+ 4.8	+ 8.8
1963	229.8[3]	+ 5.9	232.3	3.4	235.7	34.0	+ 2.7	36.7	269.0	+ 8.6	- 1.3	+ 7.3	- 3.4[3]	+ 0.3	+ 10.4	+ 7.3
1964	235.0[4]	- 6.1	226.1	2.8	228.9	31.1	- 0.2	30.9	257.0	- 12.0	- 0.6	- 12.6	+ 5.2[4]	- 14.9	- 2.9	- 12.6
1965	224.2	- 9.4	212.6	2.2	214.8	29.1	+ 0.2	29.3	241.9	- 15.1	- 0.6	- 15.7	- 10.8	- 2.9	- 2.0	- 15.7
1966	210.2	- 9.0	198.9	2.3	201.2	26.2	- 0.2	26.0	224.9	- 17.0	- 0.1	- 16.9	- 14.0	-	- 2.9	- 16.9
1967	189.1	+ 0.5	187.3	2.3	189.6	24.3	- 0.1	24.2	211.5	- 13.4	0	- 13.4	- 21.1	+ 19.6	- 1.9	- 13.4
1968	181.2	+ 7.7	186.0	2.9	188.9	22.0	+ 0.6	22.6	208.6	- 2.9	+ 0.6	- 2.3	- 7.9	+ 7.9	- 2.3	- 2.3
1969	176.8	+ 12.5	187.2	2.1	189.3	24.4	+ 0.3	24.7	211.9	+ 3.3	- 0.8	+ 2.5	- 4.4	+ 4.5	+ 2.4	+ 2.5

1 - = additions to stocks; + = withdrawals from stocks.

2 Not actual stock changes, but net movements of producers' and importers' stocks.

3 Production loss due mainly to the strike in France.

4 Catch-up on previous year's production loss caused by strikes in France.

Annex 35

MOVEMENTS OF DEMAND FOR COAL IN SOME CONSUMER SECTORS

(Community)

'000 000 tons

	Coke disposals to iron and steel industry			Coal disposals to power-stations[2]		Disposals to households incl. free disposals to personnel								Overall changes in terms of coal
						COKE			BRIQUETTES		COAL		Total changes in terms of coal	
	Disposals	Year-to-year changes	Changes in terms of coal[1]	Disposals	Year-to-year changes	Disposals[3]	Year-to-year changes	Changes in terms of coal[1]	Disposals[4]	Year-to-year changes	Disposals[4]	Year-to-year changes		
1950	25.9	-	-	31.9	-	6.3	-	-	11.6	-	24.4	-	-	-
1951	32.2	+ 6.3	+ 8.4	36.1	+ 4.2	7.9	+ 1.6	+ 2.1	12.3	+ 0.7	28.7	+ 4.3	+ 7.1	+ 19.7
1952	37.3	+ 5.1	+ 6.8	35.9	- 0.2	8.0	+ 0.1	+ 0.1	12.8	+ 0.5	28.9	+ 0.2	+ 0.8	+ 7.4
1953	32.9	- 4.4	- 5.9	35.6	- 0.3	8.9	+ 0.9	+ 1.2	11.9	- 0.9	27.4	- 1.5	- 1.2	- 7.4
1954	33.4	+ 0.5	+ 0.7	37.6	+ 2.0	9.8	+ 0.9	+ 1.2	12.6	+ 0.7	30.4	+ 3.0	+ 4.9	+ 7.6
1955	41.5	+ 8.1	+ 10.8	40.0	+ 2.4	10.3	+ 0.5	+ 0.7	13.6	+ 1.0	31.0	+ 0.6	+ 2.3	+ 15.5
1956	44.5	+ 3.0	+ 4.0	45.3	+ 5.3	11.4	+ 1.1	+ 1.5	16.3	+ 2.7	33.8	+ 2.8	+ 7.0	+ 16.3
1957	46.6	+ 2.1	+ 2.8	49.2	+ 3.9	11.6	+ 0.2	+ 0.3	17.0	+ 0.7	32.0	- 1.8	- 0.8	+ 5.9
1958	44.3	- 2.3	- 3.1	45.0	- 4.2	9.7	- 1.9	- 2.5	13.5	- 3.5	27.4	- 4.6	- 10.6	- 17.9
1959	44.6	+ 0.3	+ 0.4	43.3	- 1.7	8.9	- 0.8	- 1.1	12.0	- 1.5	25.7	- 1.7	- 4.3	- 5.6
1960	50.2	+ 5.6	+ 7.4	45.5	+ 2.2	9.5	+ 0.6	+ 0.8	12.9	+ 0.9	26.6	+ 0.9	+ 2.6	+ 12.2
1961	49.9	- 0.3	- 0.4	47.4	+ 1.9	8.9	- 0.6	- 0.8	12.6	- 0.3	26.8	+ 0.2	- 0.9	+ 0.6
1962	47.1	- 2.8	- 3.7	53.6	+ 6.2	10.8	+ 1.9	+ 2.5	15.1	+ 2.5	28.9	+ 2.1	+ 7.1	+ 9.6
1963	45.0	- 2.1	- 2.8	56.9	+ 3.3	14.1	+ 3.3	+ 4.4	17.8	+ 2.7	33.3	+ 4.4	+ 11.5	+ 12.0
1964	49.5	+ 4.5	+ 6.0	59.4	+ 2.5	10.6	- 3.5	- 4.7	14.2	- 3.6	27.7	- 5.6	- 13.9	- 5.4
1965	49.2	- 0.3	- 0.4	56.6	- 2.8	10.9	+ 0.3	+ 0.4	12.3	- 1.9	24.9	- 2.8	- 4.3	- 7.5
1966	45.4	- 3.8	- 5.1	54.8	- 1.8	10.0	- 0.9	- 1.2	10.8	- 1.5	21.8	- 3.1	- 5.8	- 12.7
1967	46.4	+ 1.0	+ 1.3	57.3	+ 2.5	9.2	- 0.8	- 1.1	10.1	- 0.7	20.9	- 0.9	- 2.7	+ 1.1
1968	48.9	+ 2.5	+ 3.3	57.0	- 0.3	9.4	+ 0.2	+ 0.3	10.0	- 0.1	20.3	- 0.6	- 0.4	+ 2.6
1969[5]	51.0	+ 2.1	+ 2.8	58.8	+ 1.8	8.7	- 0.7	- 0.9	9.8	- 0.2	19.0	- 1.3	- 2.4	+ 2.2

[1] Conversion of coke to coal on ratio 100:133.

[2] Pithead and publicly-owned power stations only.

[3] 1950-54 estimated.

[4] 1950-53 partly estimated.

[5] Provisional.

Annex 36

Actual movements of coal production, stocks and imports

(year-to-year)

'000 000 t/t

	Production	Producers' stocks [1]	Total (1+2)	Imports (incl. stock changes)	Total (3+4)
	1	2	3	4	5
1951	+ 15.5	- 2.2	+ 17.7	+ 15.5	+ 33.2
1952	+ 8.0	+ 4.6	+ 3.4	- 0.8	+ 2.6
1953	- 2.1	+ 3.2	- 5.3	- 8.4	- 13.7
1954	+ 5.1	+ 2.0	+ 3.1	+ 0.2	+ 3.3
1955	+ 5.1	- 5.0	+ 10.1	+ 9.0	+ 19.1
1956	+ 2.9	- 1.7	+ 4.6	+ 14.9	+ 19.5
1957	- 1.1	+ 1.5	- 2.6	+ 4.9	+ 2.3
1958	- 2.0	+ 17.4	- 19.4	- 12.5	- 31.9
1959	- 11.7	+ 6.6	- 18.3	- 13.8	- 32.1
1960	- 0.6	- 3.6	+ 3.0	- 2.2	+ 0.8
1961	- 4.2	- 2.8	- 1.4	- 0.2	- 1.6
1962	- 2.6	- 8.7	+ 6.1	+ 4.4	+ 10.5
1963	- 3.4	- 5.9	+ 2.5	+ 13.1	+ 15.6
1964	+ 5.2	+ 6.1	- 0.9	- 3.1	- 4.0
1965	- 10.8	+ 9.4	- 20.2	- 1.8	- 22.0
1966	- 14.8	+ 9.0	- 23.0	- 3.1	- 26.1
1967	- 20.7	- 0.5	- 20.2	- 2.0	- 22.2
1968	- 7.9	- 7.7	- 0.2	- 1.7	- 1.9
1969	- 4.4	- 12.5	+ 8.1	+ 2.7	+ 10.8

[1] Withdrawals from stocks = -.
Additions to stocks = +.

Development of personnel levels, capacity utilization and production forgone by short time in the Community coal industry

Year	Capacity utilization			Personnel employed at end year			Production forgone by short time for market reasons
	Production[1]	Capacity	Capacity utilization	Underground workers	Surface workers and white-collar staff	Total personnel	
	'000 000 tons		%	'000			'000 000 tons
1954	..	..	..	645.4	401.0	1 046.4	..
1955	245.1	258.3	94.9	649.4	403.7	1 053.1	..
1956	247.8	262.0	94.6	649.9	404.7	1 054.6	..
1957	246.4	259.8	94.8	669.0	407.0	1 076.0	..
1958	245.1	258.4	94.8	637.3	398.5	1 035.8	6.4
1959	233.7	262.5	89.0	578.1	375.4	953.5	12.3
1960	232.9	251.5	92.6	523.6	351.3	874.9	5.8
1961	228.9	246.8	92.7	487.8	337.3	825.1	1.2
1962	226.3	246.0	92.0	460.6	324.4	785.0	0.2
1963	222.9	243.2	91.7	442.3	313.0	755.3	-
1964	228.0	242.5	94.0	431.0	305.1	736.1	0.0
1965	217.0	238.1	91.1	401.1	294.7	695.8	2.2
1966	204.1	229.6	88.9	350.5	272.6	623.1	4.6
1967	184.3	210.5	87.6	303.3	244.7	548.0	8.3
1968	175.9	195.2	90.1	270.4	223.6	494.0	1.7
1969	171.2	192.9	88.8	248.2 [2]	213.1 [2]	461.3 [2]	0.0

[1] National series, to ensure comparability with capacity figures.

[2] End September 1969.

Annex 38

Movement of crude-steel production in some producer areas and in the world

	'000 tons											Year-to-year percentage changes										
	Federal Germany	Community	UK	Austria	Sweden	U.S.A.	Canada	Japan	Australia	USSR	World [1]	Federal Germany	Community	UK	Austria	Sweden	U.S.A.	Canada	Japan	Australia	USSR	World
1950	13 980	31 710	16 550	950	1 440	87 850	3 070	4 839	1 263	27 329												
1951	16 090	37 690	15 890	1 030	1 500	95 380	3 240	6 502	1 497	31 350		+ 15.1	+ 18.9	- 4.0	+ 8.4	+ 4.2	+ 8.6	+ 5.5	+34.4	+ 18.5	+ 14.7	
1952	18 629	41 996	16 681	1 057	1 670	87 766	3 370	6 988	1 652	34 492	213 800	+ 15.8	+ 11.4	+ 5.0	+ 2.6	+ 11.3	- 8.0	+ 4.0	+ 7.5	+ 10,4	+ 10.0	
1953	18 104	39 961	17 891	1 282	1 760	104 108	3 730	7 662	2 076	38 128	236.000	- 2.8	- 4.8	+ 7.3	+ 21.4	+ 5.4	+ 18.6	+ 10.7	+ 9.6	+ 25.7	+ 10.5	+ 10.3
1954	20 240	43 961	18 817	1 653	1 860	82 140	2 900	7 750	2 246	41 434	224 000	+ 11.8	+ 10.0	+ 5.2	+ 28.8	+ 5.7	- 21.1	- 22,3	+ 1.1	+ 8.2	+ 8.7	- 5.1
1955	24 500	52 777	20 107	1 823	2 150	108 647	4 110	9 408	2 236	45 271	270.000	+ 21.0	+ 20.0	+ 6.9	+ 10.3	+ 15.6	+ 32.3	+ 41.7	+21.4	- 0.4	+ 9.3	+ 20.5
1956	26 563	56 961	20 987	2 078	2 430	107 575	4 810	11 106	2 580	48 698	282 500	+ 8.4	+ 7.9	+ 4.4	+ 14.0	+ 13.0	- 1.0	+ 17,0	+18.0	+ 15.4	+ 7.6	+ 4.6
1957	27 973	59 995	22 047	2 509	2 510	105 148	4 570	12 570	3 064	51 176	290 650	+ 5.3	+ 5.3	+ 5.1	+ 20.7	+ 3.3	- 2.3	- 5,0	+13.2	+ 18.8	+ 5.1	+ 2.9
1958	26 270	58 175	19 873	2 393	2 110	79 114	3 940	12 118	3 183	54 920	265.200	- 6.1	- 3.0	- 9.9	- 4.6	- 4.0	- 24.8	- 13.8	- 3,6	+ 3.9	+ 7.3	- 8.8
1959	29 435	63 362	20 509	2 522	2 960	87.066	5 370	16 629	3 450	59 950	295.050	+ 12.1	+ 8.9	+ 3.2	+ 5.4	+ 18.7	+ 10.1	+ 36,3	+37,2	+ 8.4	+ 9.2	+ 11.3
1960	34 100	73 776	24 694	3 163	3 218	91 920	5 270	22 138	3 753	65 292	330 500	+ 15.8	+ 15.3	+ 20.4	+ 25.4	+ 12.5	+ 5,6	- 1.9	+33.1	+ 8.9	+ 8.9	+ 12.0
1961	33 458	73 511	22 439	3 103	3 560	90 453	5 886	28 268	3 947	70 700	343 500	- 1.9	+ 0.6	- 9,1	- 1.9	+ 10.6	- 1.6	+ 11,7	+27.7	+ 5.1	+ 8,3	+ 3.9
1962	32 563	73 011	20 819	2 969	3 614	91 171	6 507	27 546	4 238	76 306	352 500	- 2.7	- 0.7	- 7.2	- 4.3	+ 1.5	+ 0.8	+ 10,6	- 2.6	+ 7.4	+ 7.9	+ 2.6
1963	31 597	73 218	22 880	2 947	3 999	101 477	7 427	31 501	4 653	80 226	378 000	- 3.0	+ 0.3	+ 9.9	- 0.7	+ 7.9	+ 11.3	+ 14.1	+14.4	+ 9.8	+ 5.1	+ 7.2
1964	37 339	82 856	26 650	3 194	4 144	117 993	8 281	39 799	5 047	85 034	426 700	+ 18.2	+ 13.2	+ 16.5	+ 8.4	+ 14.0	+ 16.3	+ 11.5	+26.3	+ 8.5	+ 6.0	+ 12.9
1965	36 821	85 991	27 438	3 220	4 127	122 000	9 134	41 161	5 459	91 000	446 000	- 1.4	+ 3.4	+ 3.0	+ 0,8	+ 6.4	+ 3.4	+ 10.3	+ 3.4	+ 8.2	+ 7.0	+ 4.5
1966	35 316	85 105	24 704	3 193	4 162	124 700	9 074	47 784	5 890	96 891	462 000	- 4.1	- 1.0	- 10.0	- 0.8	+ 0.7	+ 2.2	- 0.7	+16.1	+ 7.9	+ 6,5	+ 3.6
1967	36 744	89 885	24 277	3 023	4 768	118 020	8 794	62 154	6 288	102 200	484 000	+ 4.4	+ 5.6	- 1.7	- 5.3	+ 0.1	- 5.4	- 3.1	+30.0	+ 6,8	+ 5.5	+ 4.8
1968	41 149	98 634	26 276	3 467	5 095	121 900	10 205	66 893	6 596	106 200	515 600	+ 12.0	+ 9.7	+ 8.2	+ 14,7	+ 6.9	+ 3.3	+ 16.0	+ 7.6	+ 4.5	+ 3.9	+ 6.5
1969	45 300	107 300	26 900	3 926		131 500		82 100		110 600	560 000	+ 10.0	+ 8.8	+ 2.0	+ 13.2		+ 7.9		+22.7		+ 4.1	+ 8.6

[1] Estimated, excl. mainland China.

Annex 39

Coal disposals, by sectors

		'000 000 tons						%					
		1950	1955	1957	1960	1965	1968	1950	1955	1957	1960	1965	1968
Community[1]	Coking plants	61.4	91.7	102.0	98.2	97.7	86.0	27.0	32.7	34.5	37.7	40.0	40.6
	Power stations	31.9	40.0	49.2	45.5	56.6	57.0	14.0	14.3	16.6	17.4	23.2	27.0
	Other sectors	127.9	138.6	139.4	113.4	87.6	65.6	56.1	49.4	47.2	43.5	35.9	31.0
	Exports	6.6	10.1	5.1	3.6	2.2	2.9	2.9	3.6	1.7	1.4	0.9	1.4
	Total	227.8	280.4	295.7	260.7	244.1	211.5	100.0	100.0	100.0	100.0	100.0	100.0
UK	Coking plants	23.0	27.4	31.2	29.0	26.1	10.7	10.4	11.6	13.9	14.2	13.7	6.3
	Power stations	33.5	43.6	47.1	51.9	70.4	73.7	15.2	18.5	20.9	25.4	36.9	43.4
	Other sectors	148.2	149.6	136.9	115.4	87.6	82.7	67.1	63.5	60.8	56.4	46.0	48.7
	Exports	16.0	14.9	9.9	8.2	6.5	2.7	7.3	6.4	4.4	4.0	3.4	1.6
	Total	220.7	235.5	225.1	204.5	190.6	169.8	100.0	100.0	100.0	100.0	100.0	100.0
Poland	Coking plants			13.0	14.7	17.6	19.3			13.8	13.9	14.7	14.7
	Power stations			14.1	17.5	19.5	22.9			15.0	16.6	16.3	17.5
	Other sectors			53.8	55.8	61.4	62.8			57.1	52.9	51.3	47.9
	Exports	26.5	24.2	13.3	17.5	21.1	26.0			14.1	16.6	17.7	19.9
	Total			94.2	105.5	119.6	131.0			100.0	100.0	100.0	100.0
USA	Coking plants	94.2	97.4	98.0	73.5	86.0	82.0	21.7	22.6	22.0	19.4	18.6	16.5
	Power stations	80.1	127.5	142.8	157.7	220.2	267.4	18.4	29.6	32.1	41.7	47.7	53.6
	Other sectors	237.8	159.2	134.5	113.9	110.4	103.1	54.6	37.0	30.3	30.1	23.9	20.7
	Exports	23.1	46.5	69.4	33.2	45.5	45.9	5.3	10.8	15.6	8.8	9.8	9.2
	Total	435.2	430.6	444.7	378.3	462.1	498.4	100.0	100.0	100.0	100.0	100.0	100.0
Australia	Coking plants				5.4	6.7	8.1				24.7	21.7	20.7
	Power stations				7.0	10.6	12.1				32.0	34.3	31.0
	Other sectors				7.6	5.6	4.5				34.7	18.1	11.5
	Exports	0.1	0.2	0.8	1.9	8.0	14.4				8.6	25.9	36.8
	Total				21.9	30.9	39.1				100.0	100.0	100.0

[1] Ton for ton; publicly-owned and pithead power stations.

[2] Publicly-owned power stations.

[3] Excl. industrial power stations from 1965.

Coal supply and demand in the United States

'000 000 tons

	Development of supply and demand								Year-to-year changes						
									Demand			Supply			
	Production	Imports	Stocks[2]			Demand			Home consumption	Exports	Total	Imports	Stocks[3]	Production	Total
			Consumers'	Producers'[1]	Total	Home consumption	Exports	Total							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1950	468.4	0.3	- 24.9	- 8.6	- 33.5	412.1	23.1	435.2							
1951	484.1	0.3	- 3.7	- 3.8	- 7.5	425.4	51.5	476.9	+ 13.3	+ 28.4	+ 41.7	-	+ 26.0	+ 15.7	+ 41.7
1952	423.5	0.2	- 0.1	- 0.5	- 0.6	379.9	43.2	423.1	- 45.5	- 8.3	- 53.8	- 0.1	+ 6.9	- 60.6	- 53.8
1953	414.8	0.2	- 3.5	+ 6.3	+ 2.8	387.2	30.6	417.8	+ 7.3	- 12.6	- 5.3	-	+ 3.4	- 8.7	- 5.3
1954	355.4	0.2	+ 10.4	- 8.4	+ 2.0	329.4	28.2	357.6	- 57.8	- 2.4	- 60.2	-	- 0.8	- 59.4	- 60.2
1955	421.5	0.3	+ 0.7	+ 8.1	+ 8.8	384.1	46.5	430.6	+ 54.7	+ 18.3	+ 73.0	+ 0.1	+ 6.8	+ 66.1	+ 73.0
1956	454.4	0.3	- 8.7	+ 8.9	+ 0.2	392.7	62.2	454.9	+ 8.6	+ 15.7	+ 24.3	-	- 8.6	+ 32.9	+ 24.3
1957	447.0	0.3	- 2.5	- 0.1	- 2.6	375.3	69.4	444.7	- 17.4	+ 7.2	- 10.2	-	- 2.8	- 7.4	- 10.2
1958	372.4	0.3	+ 4.1	+ 1.5	+ 5.6	332.7	45.6	378.3	- 42.6	- 23.8	- 66.4	-	+ 8.2	- 74.6	- 66.4
1959	373.8	0.3	+ 0.1	- 8.1	- 8.0	332.3	33.8	366.1	- 0.4	- 11.8	- 12.2	-	- 13.6	+ 1.4	- 12.2
1960	376.9	0.2	+ 2.7	- 1.5	+ 1.2	345.1	33.2	378.3	+ 12.8	- 0.6	+ 12.2	- 0.1	+ 9.2	+ 3.1	+ 12.2
1961	365.6	0.1	+ 1.7	+ 4.0	+ 5.7	339.7	31.7	371.4	- 5.4	- 1.5	- 6.9	- 0.1	+ 4.5	- 11.3	- 6.9
1962	383.0	0.2	+ 1.6	+ 1.8	+ 3.4	351.8	34.8	386.6	+ 12.1	+ 3.1	+ 15.2	+ 0.1	- 2.3	+ 17.4	+ 15.2
1963	416.3	0.2	- 0.4	- 2.2	- 2.6	371.2	42.7	413.9	+ 19.4	+ 7.9	+ 27.3	-	- 6.0	+ 33.3	+ 27.3
1964	442.0	0.3	- 4.8	- 2.9	- 7.7	391.1	43.5	434.6	+ 19.9	+ 0.8	+ 20.7	+ 0.1	- 5.1	+ 25.7	+ 20.7
1965	464.6	0.2	- 1.9	- 0.8	- 2.7	416.6	45.5	462.1	+ 25.5	+ 2.0	+ 27.5	- 0.1	+ 5.0	+ 22.6	+ 27.5
1966	484.3	0.2	+ 2.7	- 1.4	+ 1.3	441.1	44.7	485.8	+ 24.5	- 0.8	+ 23.7	-	+ 4.0	+ 19.7	+ 23.7
1967	501.3	0.2	- 16.9	- 3.9	- 20.8	435.8	44.9	480.7	- 5.3	+ 0.2	- 5.1	-	- 22.1	+ 17.0	- 5.1
1968	494.6	0.2	+ 6.9	- 3.3	+ 3.6	452.5	45.9	498.4	+ 16.7	+ 1.0	+ 17.7	-	+ 24.4	- 6.7	+ 17.7

[1] Incl. statistical differences; (4)= (8) - (1) - (2) - (3).

[2] + = additions to stocks; - = withdrawals from stocks.

[3] Not actual stock changes, but net movements of stocks.

Factors in supply flexibility of the American coal industry

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Personnel employed ('000)	415.6	372.9	335.2	293.1	227.4	225.1	228.2	228.6	197.4	179.6	163.4	150.5	143,8	141.6	128.7	133.7	121.8	131.5	
Working days per year	183	203	186	191	182	210	214	203	184	188	191	193	199	205	225	219	219	219	
Production capacity for 280 working days ('000 000 tons)	717	668	638	608	547	562	594	617	567	557	552	531	539	569	550	594	620	641	
Production ('000 000 tons)	468.4	484.1	423.5	414.8	355.4	421.5	454.4	447.0	372.4	373.8	376.9	365.6	383.0	416.3	442.0	464.6	484.3	501.3	494.6
Capacity utilization (%)	65.3	72.5	66.4	68.2	65.0	75.0	76.5	72.4	65.7	67.1	68.3	68.9	71.1	73.2	80.4	78.2	78.2	78.2	
Pits in production	9 429	8 009	7 275	6 671	6 130	7 856	8 520	8 539	8 264	7 719	7.865	7 648	7 740	7 940	7 630	7 228	6 749	5 873	5 327
Average yearly production per pit ('000 tons)	49.2	60.4	58.2	62.2	58.0	53.7	53.3	52,3	45.1	48.4	47.9	47.8	49.5	52.4	57.9	64.2	71.8	85.4	92.8
							Indices, 1950=100												
Personnel employed ('000)	100	89.7	80.7	70.5	54.7	54.2	54.9	55.0	47.5	43.2	40.8	36.2	34.6	34.1	31.0	32.2	31.7	31.6	
Working days per year	100	110.9	101.6	104.4	99.5	114.8	116.9	110.9	100.5	102.7	104.4	105.5	108.7	112.0	123.0	119.7	119.7	119.7	
Production capacity for 280 working days ('000 000 tons)	100	93.2	89.0	84.8	76.3	78.4	82.8	86.1	79.1	77.7	77.0	74.1	75.2	79.4	76.7	82.8	86.5	89.4	
Production ('000 000 tons)	100	103.4	90.4	88.6	75.9	90.0	97.0	95.4	79.5	79.8	80.5	78.1	81.8	88.9	94.4	99.2	103.4	107.0	105.6
Capacity utilization (%)	100	111.0	101.7	104.4	99.5	114.9	117.2	110.9	100.6	102.8	104.6	105.5	108.9	112.1	123.1	119.8	119.8	119.8	
Pits in production	100	84.9	77.2	70.7	65.0	83.3	90,4	90.6	87.6	81.9	83.4	81.1	82.1	84.2	80.9	76.7	71.6	62.3	56.5
Average yearly production per pit ('000 tons)	100	122.8	118.3	126.4	117.9	109,1	108.3	106.3	91.7	98.4	97.4	97.2	100.6	106.5	117.7	130.5	145.9	173.6	188.6