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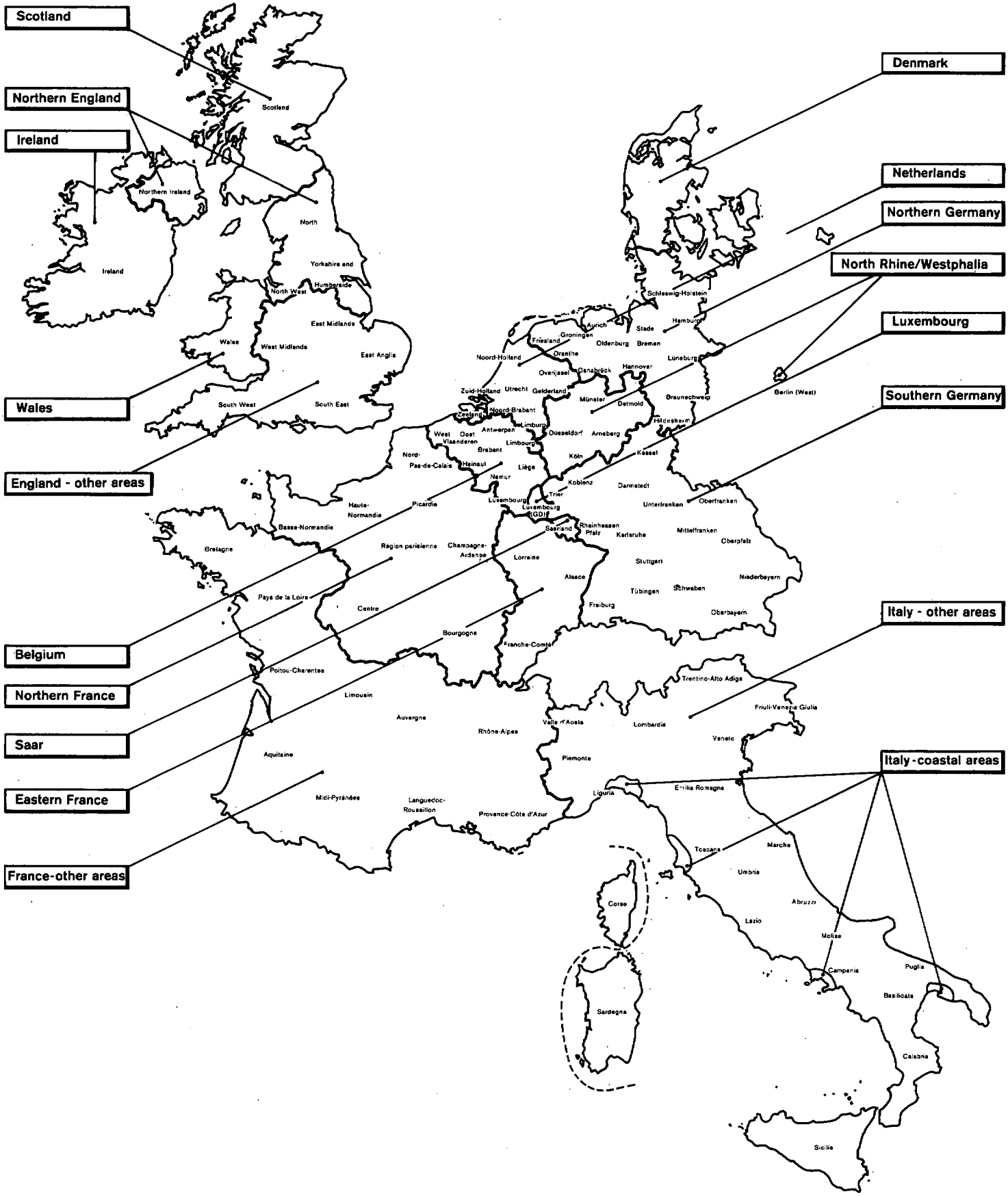
Iron and Steel regions in the Community



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ANNEXES

EUROPEAN UNIT OF ACCOUNT

The unit of account used in this report is the European unit of account.[1]

The average values of the European unit of account (EUA) used for conversion of figures for the years 1976 to 1979 are given in the table below. Figures for 1979 and after are converted at the value of the European unit of account in national currency as at 2 January 1979, also shown in the table below.

Country	Currency	1976	1977	1978	1979 and after
FR Germany	DM	2,81545	2,64832	2,55608	2,50803
Belgium/Luxembourg	BFR/LFR	43,1654	40,8826	40,0611	39,6538
France	FF	5,34486	5,60608	5,73983	5,74751
Italy	LIT	930,150	1 006,790	1 080,220	1 142,10
Netherlands	HFL	2,95515	2,80011	2,75409	2,70928
United Kingdom	UKL	0,621578	0,653701	0,663911	0,677446
Denmark	DKR	6,76176	6,85568	7,01946	6,97723
Ireland	IRL	0,621578	0,653701	0,663888	0,677446

[1] Cf. Article 2 (2) of Council Decision 75/250/EEC of 21 April 1975 and Article 2 (2) of Commission Decision No 3289/75/ECSC of 18 December 1975.

Note: For technical reasons the Continental practice of using a comma instead of a decimal point has been adopted in this publication.

INTRODUCTORY NOTE

This report presents the results of the European Commission's 1979 survey of past and future investment by coal and steel enterprises in the European Coal and Steel Community (ECSC) and of the impact of such investment on production potential.

A full breakdown of the results of the survey by product and plant categories and by region is given in the statistical annex.

The standard ECSC definitions of capital expenditure and production potential which have been used in the survey are given in an annex to this report.

I — SUMMARY AND CONCLUSIONS

The present survey on the **coal** industry shows that capital expenditure on coalmining in the Community increased from EUA 744 million in 1977 to EUA 978 million in 1978, and is expected to increase to over EUA 1 000 million in 1979.

EUA 1 005 million are earmarked for projects in progress and already approved in 1979, an amount which is again higher than the actual capital expenditure for 1978. If, as in 1978, the planned capital expenditure for 1980 of EUA 1 158 million, i.e. including expenditure on projects which are planned but not yet approved, were actually implemented, total capital expenditure—probably not in real but in nominal terms—would again exceed that for 1978. The high levels of investment of the past three years are therefore expected to be maintained.

Continuing the trend of past years, coal extraction potential in 1978 fell from 255,9 million tonnes to 251,7 million tonnes compared with the previous year. According to the projects approved or in progress, extraction potential should decline further to 237,2 million tonnes by 1982. However, if all planned projects, including those not yet approved, were to be carried out, extraction capacity would amount to approximately 246,1 million tonnes in 1982. The number of the planned projects actually carried out will depend largely on forecasts of sales trends (pig-iron production, construction of coal-fired power stations) and the availability of finance.

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Nominal investment expenditure for **coking plants** in the Community, which stood at EUA 167,5 million in 1978, was approximately 32% lower than the figure for 1977. This falling trend is expected to continue in 1979.

Taking account of projects adopted and in progress, coking capacity is expected to decrease from 79,2 million tonnes in 1978 to 78,8 million tonnes in 1981. In the last survey, the figure was still expected to be as high as 81,2 million tonnes in 1981. However, the protracted difficulties in the steel industry led to a readiness to close down obsolete coking plants more rapidly than originally planned.

According to the estimates of the revised general objectives, pig-iron production should reach approximately 96 to 101 million tonnes in 1985. Total coke requirements in the Community should therefore be in the region of 68 to 70 million tonnes. Coking capacity for 1982 is forecast by the industry at 77,6 million tonnes. However, the degree to which capacity will be able to meet requirements from 1985 onwards will depend primarily on the state of the steel market, the export market for coke and the

closure of obsolete coking plants. In the absence of substantial new investment by 1985 these obsolete plants are expected to reach a considerable proportion of Community coking capacity.

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In the **iron-ore** sector, investment expenditure—16,1 million EUA—as well as production potential—53,3 million tonnes—have substantially decreased during 1978.

For 1979 investments of 17,1 million EUA are foreseen while production potential should decrease to 47,7 million tonnes, reaching 44,3 million tonnes in 1982.

So the question of the survival of the Community coal-fields is raised, because, following the decrease in production, the fixed charges weigh on the cost of production to such a point that the competition of these industries is questionable.

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Capital expenditure in the **iron and steel industry** continued its decline in 1978 reaching a level of only 2 100 million EUA at current prices, compared with 2 400 million EUA in 1977 and 3 300 million EUA in 1976. In terms of constant prices of 1970, capital expenditure declined in 1978 to only 1 000 million EUA compared with 1 200 million EUA in 1977 and 1 800 million EUA in 1976. According to the new survey, expenditure in 1979 is expected to decline to just over 900 million EUA. It seems clear that despite the recognized need for increased investment to improve competitiveness, most steel enterprises were under severe pressure to reduce their capital expenditure budgets, owing to lack of available funds. The slight improvement in trading conditions during the year does not appear to have made a significant contribution to internal cash flows and the additional contribution that was made to operating results was removed by the increased burden of debt service from borrowings made to finance previous investments. Most enterprises were also faced with a balance-sheet structure which had become already highly geared by increased long-term debt. In these circumstances, funds for investment were only available through increases in equity and publicly arranged borrowings. The lack of availability of investment funds therefore remains as important a brake on capital spending as the limited steel market prospects.

The rate of investment at constant prices of 1970 per tonne of crude steel capacity was only 4,7 EUA in 1978 and is expected to be approximately the same in 1979, compared with 11,1 EUA in 1974. This persistently low level of capital expenditure must inevitably have its effect on the size and competitiveness of the Community steel industry. As an indication of required investment levels, experience in Belgium during the recent moratorium on major steel projects has shown that an expenditure of more than 2 EUA at constant prices of 1970 per tonne of capacity was necessary for maintaining plant in running order. Moreover, reports from a number of enterprises show that no investment is being made at some individual works. In the past this has given a reliable indication of closures additional to those announced in the survey and on this basis it appears that works closures are likely to be well in excess of the estimates of the present survey. Pointers to future closures are the reductions in the workforce made at many works in order to adjust manpower to current production.

Returns to the new survey of production potential show that Community crude steel production should decrease slightly between now and 1982—from 202,1 million tonnes to 201,7 million tonnes. Compared with last year's estimates of 210,5 million tonnes for 1981, this revised figure shows a considerable adjustment from the standpoint of the general objectives which require a drastic reduction of 27 million tonnes by the mid-1980s in order to ensure a balance between supply and foreseeable demand.

Moreover, the survey reflects for the first time the efforts made towards a major restructuring, involving closures without replacement on a number of sites. This is the first ECSC survey to report an expected decrease at least with respect to crude steel. It therefore indicates a turning-point for the industry. Rationalization plans in at least some of the Member States seem to be far more defined than appeared in last year's survey, although far more extensive measures will be required if the general objectives are to be achieved.

The slight decrease in capacity is due principally to the abandonment of a number of expansion and replacement projects. Approximately 5 million tonnes of obsolete steel capacity was withdrawn from service between 1978 and 1979 and a further reduction of 16 million tonnes is expected by 1982. At the same time replacement projects will add 18 million tonnes in new plant while schemes to increase productivity[1] should add a further 2,7 millions tonnes. By 1982 steelworks based on oxygen convertors[2] and electric furnaces should account for nearly 96% of total production potential. Closure of the remaining 4% (or 8 million tonnes) based on obsolete processes[3] will therefore be in no way sufficient to achieve the reduction required in the general objectives. The additional closures will necessarily have to include an increased proportion of oxygen and electric steelworks. The rhythm of closures will also have to accelerate if the industry is to become significantly more modern.

The rapid expansion of continuous casting, announced by the survey, should allow 37% of crude-steel production potential in 1982 to be matched by continuous casting capacity compared with only 27% in 1978. This increase should lead to a considerable improvement in the competitiveness of the steel industry through savings in metal, energy and labour costs. However the better yield from liquid steel to finished products also means that, despite the expected decrease in steel-production potential, there will be sufficient steel capacity in 1982 to service expanded finished product capacities. This result is shown in the table below. It follows necessarily that no effective readjustment of supply to demand can occur until finished-product capacities as well as crude-steel capacities are considerably reduced.

TABLE I

Impact of continuous casting on the relationship of crude steel to finished product production potential

	1974	1978	1982
Crude steel production potential (million tonnes)	178,9	202,1	201,7
Continuous casting production potential (million tonnes)	22,9	54,9	74,9
— of which % of crude steel production potential	13%	27%	37%
Finished product[1] production potential (millions tonnes)	143,1	167,1	169,3
Ratio of crude steel to finished product production potential	1,25	1,21	1,19

[1] Including coils – finished products.

The new survey shows, on the contrary, that finished-product potential—including coils finished products—will increase from 167,1 million tonnes in 1978 to 169,3 million tonnes in 1982—a figure only slightly lower than the capacity of 170,4 million tonnes announced by last year's survey for 1981.

[1] It is often difficult to classify schemes as increasing productivity or expanding capacity. The introduction of water-cooled panels and oxy-fuel injection, for example, can lead to considerable increase in output without any expansion in number of production units.
[2] Excluding Basic Bessemer converters converted to the OBM/LWS process.
[3] Open-hearth, Basic Bessemer and OBM/LWS converted from Basic Bessemer.

TABLE II

Development of production potential of rolled products (incl. coils finished products) in the recent surveys

million tonnes

Dates of surveys	Declared production potential					
	1977	1978	1979	1980	1981	1982
1976	168,0	172,0	173,9			
1977	165,3	170,1	173,0	174,6		
1978	163,9	166,1	168,4	169,9	170,4	
1979		167,1	166,8	167,2	168,1	169,3

While considerable restructuring in bar and light sections capacities is in progress, production potential for coils, cold-rolled sheet and wire rod is expected to increase. The most striking increase is certainly in hot wide strip mills capacity, which should already have increased by over 4 million tonnes by 1982 and is expected to expand even further after that date, primarily as the result of four new expansion projects. While it is in the nature of technical progress that the productivity of the most modern plant should increase, there are as yet no plans for the compensating closure of any hot wide strip mill in the Community. In the present situation such developments must bring with them at the level of the enterprise, group, region, Member State, or Community, corresponding decisions to close less competitive installations with due regard to the related social consequences.

These remarks apply equally to other finished products, in particular plate, where no closure has been announced in the survey despite four successive years of utilization of capacity at levels around 50%.

These new developments for finished products further illustrate the need emphasized in last year's report for continued coordination on restructuring between enterprises, Member States and the Commission. This coordination must aim to restore competitiveness of the industry by the elimination of surplus capacity and the concentration of production on the most efficient plants.

II — COALMINING INDUSTRY

1. Capital expenditure

1.1. Total capital expenditure in 1978

The 1978 figure of 978,0 million EUA for investments notified was 31,5% up on the previous year. Although a substantial part of the increase is attributable to price rises (the increase in investment from 1977 to 1978 amounted to some 13,3% in real terms) the figures none the less reflect the industry's willingness to invest which, after the high rates of growth seen from 1974 to 1976, is continuing at a high level even when adjusted for inflation.

TABLE III

Actual and estimated capital expenditure in the coalmining industry 1976-1980

million EUA

	Actual expenditure			Estimated expenditure			
				1979		1980	
	1976	1977	1978	Projects approved and in progress (cat. A+B)	All planned projects (cat. A+B+C)	Projects approved and in progress (cat. A+B)	All planned projects (cat. A+B+C)
Capital expenditure:							
— At current prices	712,1	743,6	978,0	1 005,4	1 104,0	880,7	1 158,5
— At constant prices of 1970	379,8	354,4	435,6[1]	414,6[1]	455,3[1]	336,3[1]	442,3[1]

[1] Estimated.

The decisive factor in the growth of overall investment within the Community was the increase in capital expenditure in the United Kingdom where a considerable rise was reported in all areas, but particularly in Yorkshire, the Midlands and Kent. In France a high level of investment was more or less

maintained. The same could not be achieved in the FR of Germany: although in the Saar there was a marked increase in investment, which is likely to rise further in future years, direct capital investment in the Ruhr was no longer up to the relatively high levels of 1976 and 1977. The need for short-time working in the first half of 1978 and the particular sensitivity to the situation in the steel industry appear to have prejudiced completion of investments in the short term, although there are large-scale long-term investment plans.

In addition to direct capital expenditure, mention should also be made here of investment in development workings to maintain production in the long term, which are only partly included in the statistics. These mainly relate to the Ruhr area where they have been of increasing importance in recent years, amounting to some 352 million EUA in 1978 against approximately 341 million EUA in 1977 and 309 million EUA in 1976.

1.2. **Comparison between actual and planned investment**

Since the oil crisis, actual capital investment for the Community as a whole has generally exceeded the investment decided upon or begun at the beginning of the year in question. In 1978, in addition to the investment planned at the beginning of the year, expenditure not decided upon at that stage was also fully implemented.

In 1978, the increase in actual investment over that planned at the beginning of the year was particularly marked in the United Kingdom, whereas in Belgium and France actual investment was more or less in line with estimates. In Germany, implementation of the investments planned appear to have been delayed by the market factors mentioned above.

1.3. **Plans for 1979 and 1980**

The capital expenditure plans submitted for 1979 and 1980 are also extraordinarily high compared to previous years (1976, 1977), and this applies to both projects planned and those awaiting approval. With the exception of France where, due to mining conditions among other factors, a fairly constant level of investment, at around 40 million EUA is expected, this is valid for virtually all coalfields in the Community, with particularly marked growth in Germany, in the Saar and Ruhr areas. Plans for the Ruhr include implementation of measures planned for 1977 and 1978 but not carried out owing to the unfavourable market conditions.

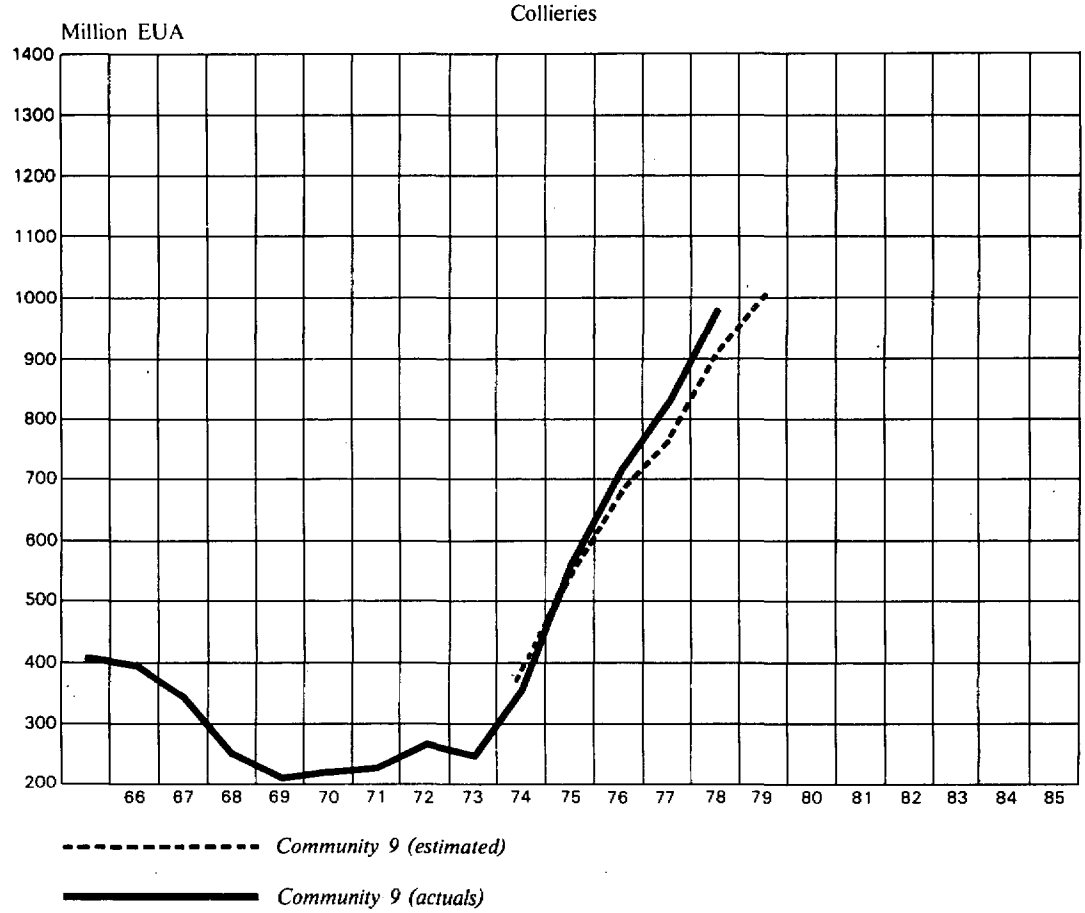
1.4. **Investment per tonne of coal produced**

Investment per tonne of coal produced for the Community as a whole was 4,19 EUA in 1978 as against 3,11 EUA in the previous year. Even when account is taken of the many factors which may distort this ratio, such as declining output, inflation, varying rate of production increase in new mines, which make it difficult to compare investment per tonne across areas and periods, the general increase since the beginning of the energy crisis is none the less significant.

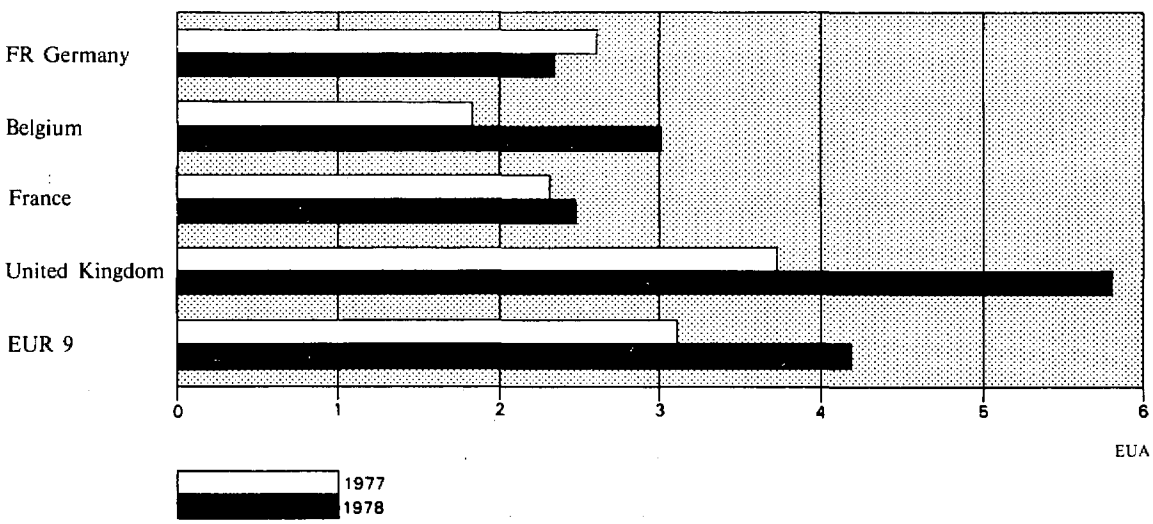
As was generally the case in previous years, investment per tonne of coal produced in the United Kingdom was significantly higher than the Community average. At 2,34 EUA, investment per tonne in Germany fell to the lowest in the Community although at least part of the expenditure on development workings mentioned above must be added to this figure; in the Ruhr such investment amounts to approximately 4,84 EUA per tonne, thus significantly increasing the figure of 2,34 EUA quoted above.

FIGURE 1

Comparison of actual capital expenditure and estimated capital expenditure as at the beginning of each year



Capital expenditure per tonne of coal produced in 1977 and 1978



1.5. Breakdown of actual and forecast investment by type of installation

As in previous years, investment in underground machinery accounted for the major part of total investment in 1978.

TABLE IV

Breakdown of actual and planned capital expenditure on coal mines in Community by type of installation 1976-1980

million EUA

Type of installation	Actual expenditure			Estimated expenditure (on projects decided or in progress)	
	1976	1977	1978	1979	1980
Shafts and underground	80,7	125,4	180,2	217,9	199,1
Underground machinery	302,0	284,1	391,0	391,1	343,6
Haulage and winding equipment	60,4	52,7	48,3	53,0	45,5
Screening and washing	134,5	136,1	153,6	115,8	80,0
Other surface installations	121,1	145,3	204,9	227,8	212,6
Total	**698,7**[1]	**743,6**	**978,0**	**1 005,4**	**880,7**

[1] Not including opencast mining in the UK.

The high level of investment in shafts and underground workings continued and a further considerable increase is planned for 1979. The fact that producers have announced further increases in this category of expenditure for future years shows the companies' long-term efforts to open up new coalfields. This seems to be particularly important for this group of investments which have a long gestation period, while the reduction in investment in underground machinery shown from 1981 onwards is mainly due to the fact that planned projects in the United Kingdom are decided on a shorter term basis.

2. Extraction and extraction potential

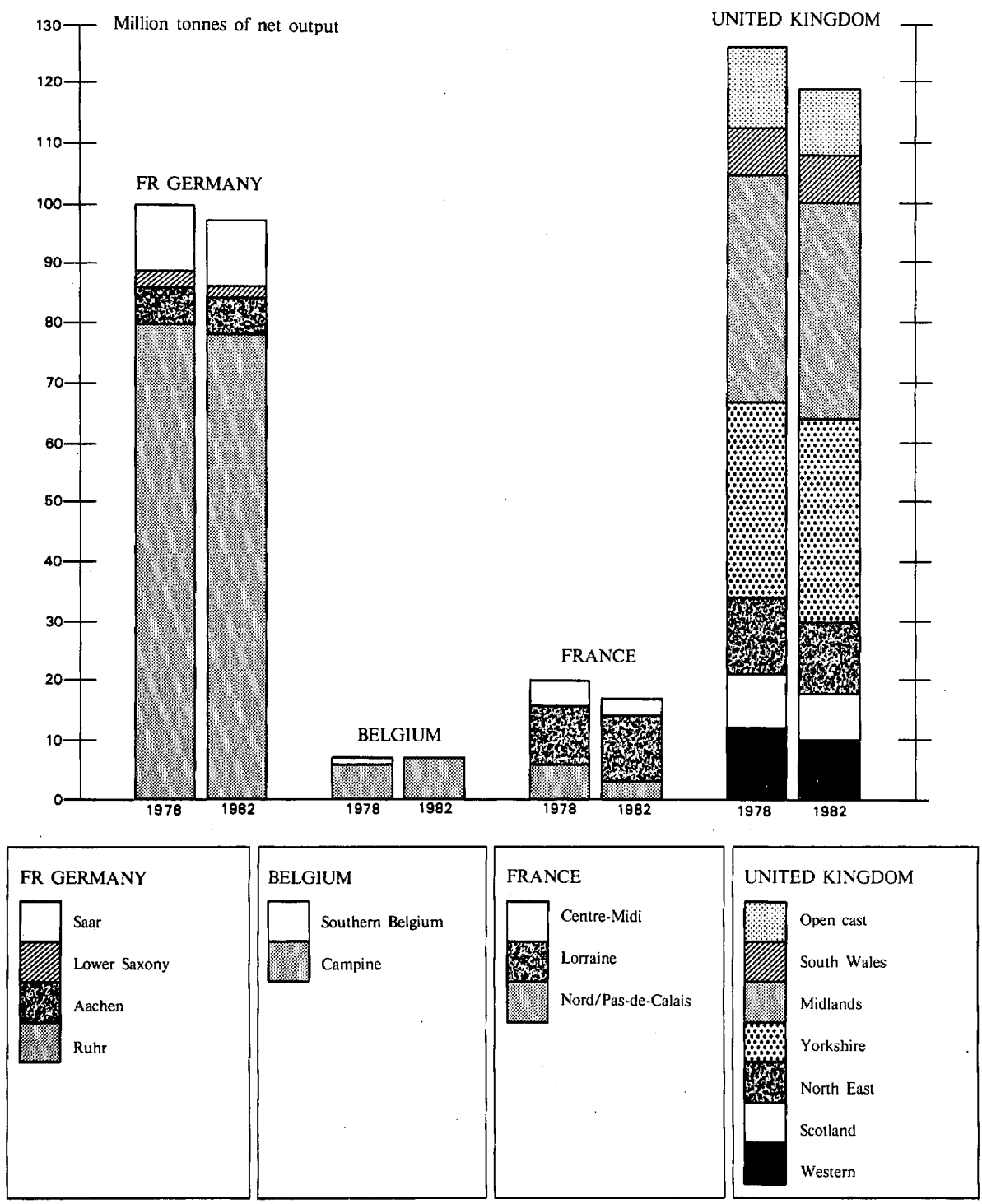
2.1. Extraction in 1978

In 1978, production in the European Community was slightly down on 1977 (by approximately 1,3%) from 239,5 million to 236,4 million tonnes (Table V).

In Germany, coal consumption rose by some 6,6 million tonnes, but high levels of pithead stocks and the continued recession in the steel industry meant that the need for short-term working persisted in the first half of 1978 and prevented any increase in production. In the United Kingdom, despite an overall stagnation in the demand for energy, the use of coal in power stations was maintained at a high level, accounting for 70% of electricity production; however, the fall-off in demand from the steel industry and industrial users resulted in the building-up of pithead stocks and prevented any significant increase in production.

FIGURE 2

Actual coal extraction potential in 1978 and forecast extraction potential for 1982



The Community's production potential in 1978 fell compared to the previous year which means that there has been a reduction of 15,6 million tonnes (approximately 5,8%) in extraction capacity since 1974. As in the previous year, utilization of capacity averaged approximately 94% for the Community, the lowest rate being recorded by Germany (91%), whereas utilization in France was the highest in the Community due to declining capacity and constant production.

2.2. Estimated extraction potential between 1979 and 1982

Estimates on the long-term development of extraction capacity have again been revised downwards and, despite changes in the general economic context, will reach their lowest levels ever at 239,8 million tonnes in 1981 and 237,2 million tonnes in 1982 (approved or ongoing projects).

TABLE V

Movement of coal extraction potential [1]

million tonnes

Community	Extraction		Extraction potential					
			Actual		Estimates based on projects approved or in progress			
	1977	1978	1977	1978	1979	1980	1981	1982
Tonnes (t = t)	239,5	236,4	255,9	251,7	244,7	242,1	239,8	237,2
					Estimates based on all planned projects			
Tonnes (t = t)					244,9	245,3	245,7	246,1

[1] Without small mines and 'licensed mines'.

Given the relatively stable development in Belgium, France, the Saar and the smaller German coalfields, these figures mainly reflect the recent cut in previous extraction potential estimates, by 8,5 million tonnes in the United Kingdom and some 2 million tonnes in the Ruhr. A slight reduction in extraction potential is forecast in all areas of the United Kingdom but the effect will be most marked in the Midlands and Kent.

As observed in previous surveys, additional projects which are planned but are subject to final approval could increase production capacity by some 9 million tonnes to 246,1 million tonnes by 1982. However, even if such projects were implemented, production capacity would still be below its 1978 level of 251,7 million tonnes.

The limited development of production potential despite the generally optimistic long-term prospects for coal can be put down to the uncertainty of producers—at the time of the survey—as to developments in the steel demand for energy up to 1985. Given the uncertainty as to the medium-term coal market situation, the availability of public finance for long-term projects which are needed to increase coal-mining capacity in the long term, is an important factor, as the producers emphasize.

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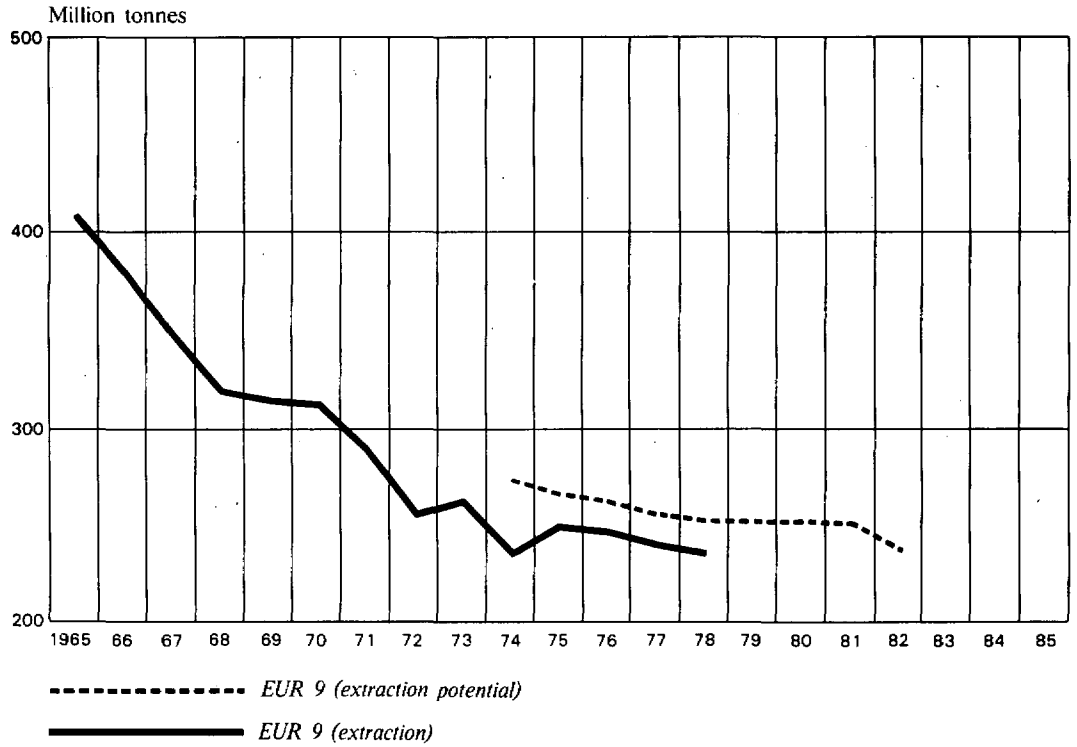
FIGURE 3

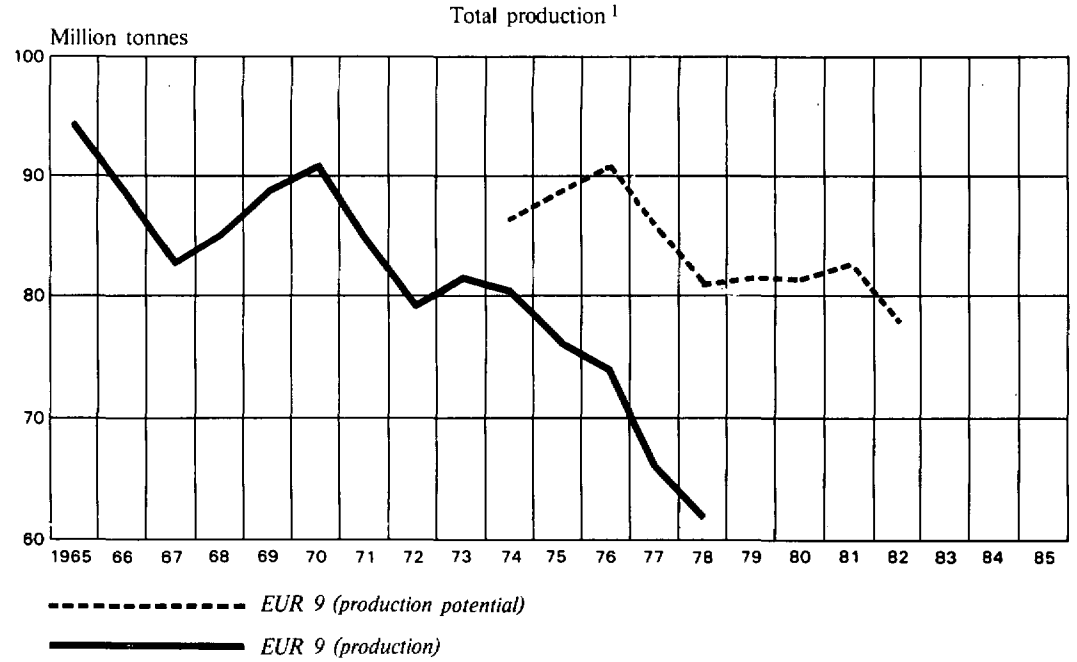
Extraction and extraction potential

Coalmining industry



Production and production potential of coking plants

Total production [1]



[1] Mine-owned, steelworks-owned and independent coking plants.

In recent years capital expenditure, particularly when development expenditure for the long-term maintenance of production in the Ruhr is included, has considerably exceeded the investment target of 500 million EUA per annum (at 1973 prices) laid down for the period 1975-1985 in the 'Medium-term Guidelines for Coal'.[1]

On the basis of data on the development of capacity provided by producers for the present survey, it can be anticipated that capacity will reach approximately 237 million tonnes in 1982. As a rule, some discrepancies emerge in data provided by companies on the development of production capacity when even short-term comparisons are made of forecasts and actual developments, owing to time lags in closures and the opening-up of coalfields. In a few cases it is also possible in a strong market situation to develop additional reserve capacity in the medium term by the use of installations to full capacity and the elimination of bottlenecks. This is regarded as a possibility particularly in the Ruhr area but to a lesser extent in the United Kingdom.

The medium-term development of production potential will also depend on the financial support measures taken by governments in the future. In Germany in particular further positive effects are to be anticipated from the aid programme for coal investment and research projects for the period 1978 to 1981 totalling DM 1 700 million, whereas in France and the United Kingdom—where the 'Plan for Coal' is being continued—no change in financial measures is foreseeable at present. In this connection, reference is again made to the proposals published by the Commission on the financing of pithead stocks, the use of coal in power stations, coking coal and intra-Community trade in power-station coal.

In sum, it is clear from the 1978 production development data so far submitted that the industry is even further from the production objective of some 250 million tonnes tce (approximately 270 million t = t) laid down in the 'Medium-term Guidelines for Coal', a target whose importance has been reaffirmed by the latest developments on the energy market.

[1] Medium-term Guidelines for Coal 1975 to 1985', OJ C 22 of 30.1.1975.

III — COKING PLANTS

1. Capital expenditure

At 167,5 million EUA in 1978, investment at current prices for coking plants in the Community was some 32,1% down on 1977 (246,7 million EUA). Only about 77% of the total investment forecast at the beginning of 1978 was actually carried out although these plans were already appreciably lower than actual investment in 1977. This difference between anticipated and actual investment applies to all types of coking plant and all countries of the European Community.

Investment for mine-owned coking plants was approximately 29,7 million EUA or 38,6% below that in the previous year mainly due to the postponement of investments in Lorraine and the Ruhr. In the case of steelworks coking plants, investment fell by some 27% compared to 1977. This reduction affected all countries in the European Community although it was particularly marked in the United Kingdom.

Whereas for steelworks coking plants this is a continuation of the downward trend in investment seen in recent years, it is the first cutback in mine-owned coking plant investment since 1975 and seems to be attributed primarily to the continuing high level of pithead stocks of coke.

For 1979 producers also report a lower level of investments planned and in progress than in 1978 at 144,1 million EUA. Although broadly speaking investment in steelworks coking plants is continuing to fall, data on mine-owned coking plants point to a slight overall increase in investment, with greater

TABLE VI

Breakdown of actual capital spending at mine-owned independent and steelworks coking plants 1976-1980

million EUA

Sector	Actual expenditure			Estimated expenditure (cat. A+B)	
	1976	1977	1978	1979	1980
Mine-owned	59,3	76,9	47,2	48,4	27,4
Independent	12,9	12,1	4,9	6,0	0,8
Steelworks-owned	104,6	157,7	115,4	89,7	34,7
Total	**236,8**	**246,7**	**167,5**	**144,1**	**62,9**

variations from area to area: the position being virtually unchanged in Germany, whereas a marked decline is anticipated in France and an increase in investment in the United Kingdom. Table VI gives a breakdown of actual and estimated expenditure by category of coking plant and type of installation.

2. Production potential

In 1978, coke production in the European Community declined by some 3,9 million tonnes (approximately 5,6%) to 62,6 million tonnes. Although demand for coke from the steel industry rose, this only had the effect of decreasing excess stocks. The major part of the decline in production occurred in mine-owned coking plants. In steelworks coking plants there was a fall of some 0,4 million tonnes in production for the Community as a whole, the greatest reduction being in the United Kingdom.

Even more marked than the decline in production was the reduction in coking capacity which, compared with 1977, fell by 7,0 million tonnes to 79,2 million tonnes. Here too the mine-owned coking plants were most severely affected throughout the Community (approximately 4,6 million tonnes) as were steelworks coking plants in the United Kingdom (approximately 1,1 million tonnes).

TABLE VII

Development of production potential of coking plant

million tonnes

Coking plant	Production			Production potential					
				Actual		Forecast			
	1960	1977	1978	1977	1978	1979	1980	1981	1982
Mine-owned	56,9	29,3	25,9	37,1	32,5	32,0	31,8	31,3	31,3
Independent	6,0	2,4	2,5	4,0	3,7	3,7	3,7	3,7	3,7
Iron- and steelworks	32,3	34,6	34,2	45,1	43,0	43,0	44,3	43,8	42,6
Total	**95,2**	**66,3**	**62,6**	**86,2**	**79,2**	**78,7**	**79,8**	**78,8**	**77,6**

Coking capacity within the European Community has experienced a net reduction of 7,1 million tonnes since 1974. The decline has amounted to about 7,5 million tonnes for mine-owned coking plants and 0,4 million tonnes for independent coking plants. The net result for steelworks coking plants has been an increase in capacity: closures in the United Kingdom and Belgium being offset by expansion of capacity following the large-scale investment in Germany, France and Italy, discussed in recent reports.

Use of capacity improved slightly in 1978 compared to the previous year owing to the closure of obsolete coking facilities, but at approximately 78,8% it was still lower than in 1975 and 1976.

As in previous surveys, producers anticipate a further cutback in coking capacity in the future. By 1982, capacity will be reduced to 77,6 million tonnes, that is some 8,6 million below the 1974 level. Based on the data submitted, the capacity of mine-owned coking plants in the United Kingdom will continue to fall whereas in the rest of the Community capacity is likely to be maintained at its present levels. In the case of steelworks coking plants, a further reduction in capacity can be expected especially in Belgium, in contrast to a slight increase in the United Kingdom.

* * *

As in the past, it is difficult to forecast the trend in crude steel production which is a decisive factor in determining demand for coke. Estimates in the revised 'General Objectives for Steel' suggest a crude steel production in 1985 of about 154,1 million tonnes in favourable conditions and 144,8 million tonnes in average conditions. The corresponding pig-iron production should, taking into account the increased proportion of electric steel in total production and the decrease of open-hearth production, be between 96 and 101 million tonnes (including foundry iron) for which about 48-50 million tonnes of coke would be needed. Total coke requirements in the Community should reach a level of 68-70 million tonnes in 1985 coke for sintering, industrial consumers and exports (about 20 million tonnes in 1978). Requirements should therefore be very near to existing capacities. However, from 1985 onwards capacities could become insufficient if investments in coke-oven replacement are not undertaken on a considerable scale between now and 1985—about 20 million tonnes of installed capacity is at present over 25 years old. Capacity could also be inadequate in the event of a stronger upturn in steel demand or of an increased level of exports.

IV — BRIQUETTING PLANTS

1. Coal briquetting plants

Investment in coal briquetting plants amounted to 0,95 million EUA in 1978 and expenditure of 1,8 million EUA is planned for 1979. This investment is not intended to expand capacity, but merely to replace older equipment and make some improvements to quality.

Data from producers indicate that production potential in Germany and the north of France will be frozen at their present levels; in the United Kingdom, Centre-Midi and the independent French briquetting plants capacity is expected to fall by some 1,3 million tonnes.

2. Lignite briquetting plants

In 1977 6,9 million EUA were invested in lignite briquetting plants and 10,3 million EUA are to be invested in 1978. In spite of higher investment compared with the coal briquetting plants, a reduction in production potential is also expected, from 3,9 million tonnes in 1978 to 3,2 million tonnes in 1982.

V — IRON-ORE MINES

According to the new survey, capital expenditure on iron-ore mines in the Community fell from 20,7 million EUA in 1977 to 16,1 million EUA in 1978. Expenditure per tonne of crude ore extracted also fell from 0,45 EUA to 0,40 EUA.

Undertakings in France, which produce four-fifths of the ore extracted in the Community, continued to account for the largest part of total spending in 1978 (10,9 million EUA). Nevertheless, their spending per tonne of crude ore extracted was at a very low level: 0,33 EUA. This spending reflects no more than the replacement of worn-out plant and machinery and any higher output which continues to be recorded is largely attributable to the closure of some of the less productive mines.

Mines in the Federal Republic of Germany, which accounted for the next largest total of investment, spent 3,6 million EUA — equivalent to 1,7 EUA per tonne of crude ore extracted. The operations in question form part of current schemes designed to maintain extraction levels.

The slight increase in overall capital expenditure planned for 1979—17,1 million EUA—is mainly because a new mine in the United Kingdom is under development. Iron-ore production in the Community is in fact decreasing steadily—from 45,6 million tonnes in 1977 to 40,6 million tonnes in 1978, the rate of capacity utilization is low and the financial situation of most of the ore-extracting enterprises is continuing to deteriorate. Against this background the future production potential estimated by the survey—44 million tonnes in 1982 as against 53 million tonnes in 1978—should be seen as very approximate. These potential production figures are based mainly on technical capacities which, in the wake of the rationalization programmes implemented over the last few years, have to bear the financial burden of fixed expenses not related to ore production (expenses carried forward, dewatering, etc.) and so cannot be competitive without relief measures; however, no such measures have been taken to date.

The replies to the survey have doubtless not taken account of the consequences of the deteriorating financial situation of undertakings. In the current economic climate the increasing burden of fixed expenses, mounting deficits and resulting financial burdens, in conjunction with delays in investments threaten to bring about a much sharper drop in extraction potential than that considered in this survey—approximately 20% over four years. The fact that last year's survey still forecasts for 1979 an overall extraction potential of 54,6 million tonnes per year, while the survey for 1979 quotes 47,7 million tonnes for the same year, is an indication of the gap between forecasts drawn up on the basis of technical data and those based on actual trends.

The current price for overseas iron-ore too is so low that it offers no hope that the profitability of the undertakings in question will improve. In view of the shortage of funds available to the iron and steel undertakings concerned it would seem that unless appropriate measures are taken by the authorities

— such as temporary assuming of expenses not related to ore production — most of the mines will be obliged to close down sooner or later and that their reopening at a later date will pose considerable technical and economic problems.

Such prospects will in the case of some steelworks seriously increase their supply costs and in the regions affected it will cause further social problems, while for the Community it means complete dependence on overseas ore. The present feeling among the majority of experts is that from the mid-eighties onwards the cost of imports will inevitably rise as a result of the need to open new mines, if for no other reason.

VI — IRON AND STEEL INDUSTRY

1. Capital expenditure

1.1. Capital expenditure in 1978

Between 1977 and 1978, capital expenditure in the Community steel industry decreased at current prices from 2 400 EUA to 2 100 EUA. The level of investment in 1978 was some 10% lower than forecast by the enterprises at the beginning of 1978 and represents, at current prices, an expenditure per tonne of crude steel produced of only 15,5 EUA compared with 18,9 EUA in 1977 and 23,5 EUA in 1976.

TABLE VIII

Capital expenditure in the iron and steel industry

EUA

	1972	1973	1974	1975	1976	1977	1978
Total expenditure – at ruling prices (million)	2 639,2	3 028,4	2 989,5	3 316,8	3 293,3	2 359,5	2 055,3
Total expenditure – at constant 1970 prices (million)	2 397,1	2 502,8	2 126,2	2 044,9	1 800,6	1 174,5	956,0
Expenditure per tonne of crude steel produced – at constant 1970 prices	21,1	16,7	13,7	16,3	13,4	9,4	7,2
Expenditure per tonne of crude steel production potential – at constant 1970 prices	17,1	14,3	11,9	10,8	9,1	5,9	4,7

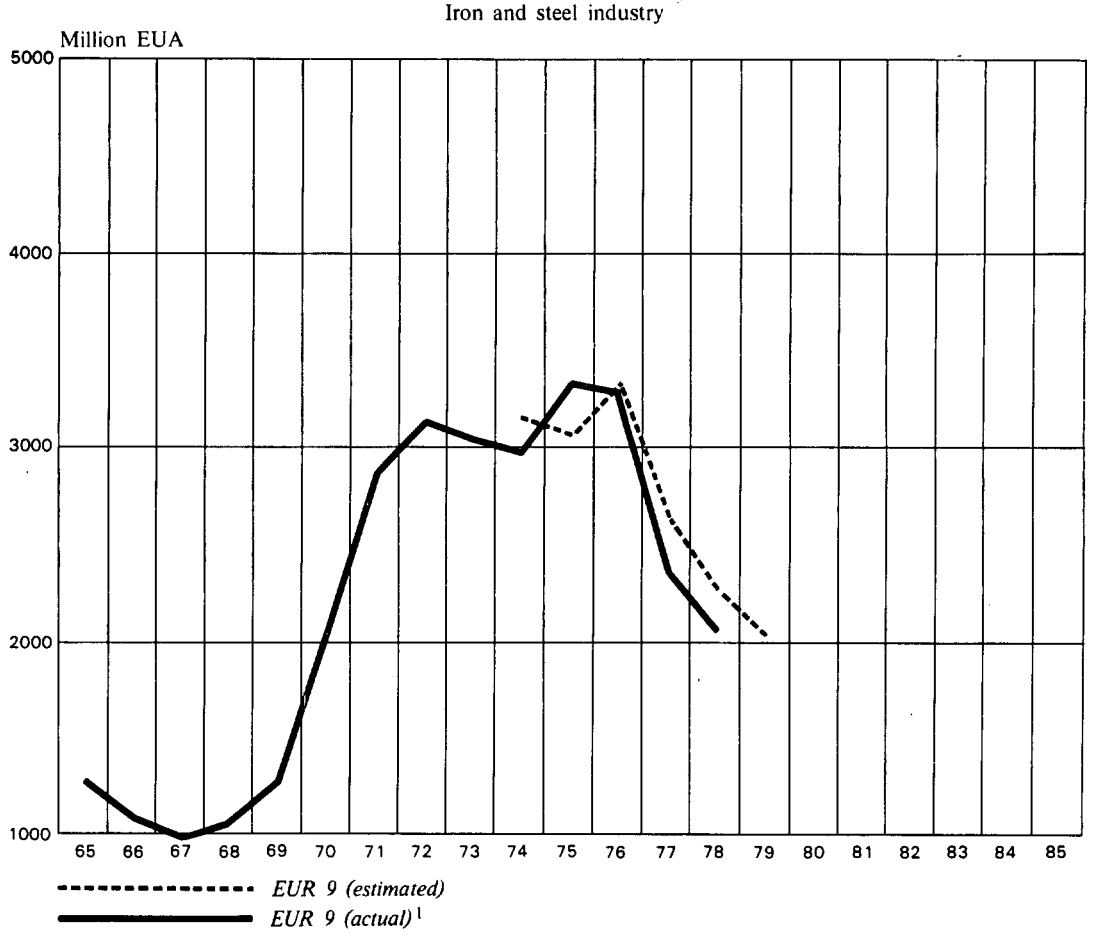
Measured in terms of constant prices of 1970, capital expenditure in 1978 continued to decline to a level of only 1 000 million EUA compared with 1 200 million EUA in 1977 and 1 800 million EUA in 1976.

For the fourth successive year enterprises in the United Kingdom accounted—with an investment of over 500 million EUA—for the largest part of Community capital expenditure at current prices. Enterprises in Germany, Italy and France accounted in each country for expenditure in excess of 400 million EUA. Expenditure in most Member States decreased between 1977 and 1978.

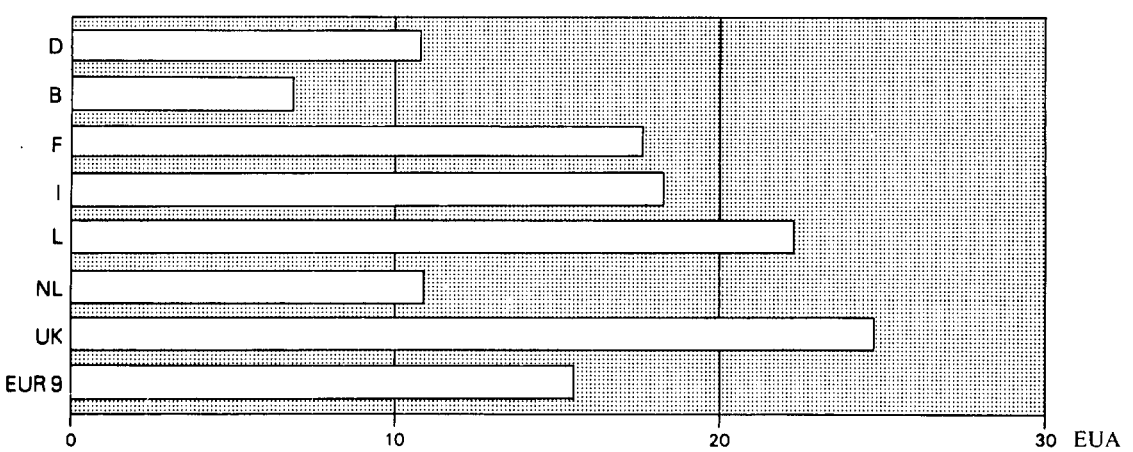
FIGURE 4

Comparison of actual capital expenditure and estimated capital expenditure as at the beginning of each year

Iron and steel industry



Capital expenditure per tonne of crude steel produced in 1978



[1] Capital expenditure included for the United Kingdom before 1973 is not strictly comparable to that declared for the other member countries since it includes expenditure on activities outside the ECSC, in particular on steel foundries, steel tubeworks and miscellaneous cold-working plants.

However there were some increases:

— in eastern France due to three programmes to replace out-of-date steelworks by modern installations;

— in Luxembourg, where a large new blast-furnace was being constructed in place of several smaller units;

— in the Netherlands, where a project for continuous casting for slabs is in progress.

Enterprises in Germany, Luxembourg and the United Kingdom invested considerably less than they had forecast at the beginning of the year—respectively 27%, 19% and 13% less. In Ireland work started in 1979 after some delay on an extensive modernization programme at the Irish Steel Holdings works. In Belgium capital expenditure was particularly low as a result of a moratorium on major investments pending the results of the McKinsey restructuring study which has now been completed.

In addition to the survey, the Commission has other sources of information on investment trends, principally the notifications of investment which undertakings are required to submit in accordance with Article 54 of the Treaty establishing the ECSC.

The notifications of investment, which are submitted not later than three months before the commencement of work, provide only estimated data on large projects. Although the decisions taken by undertakings are often amended during implementation, or even postponed, they have nevertheless a certain significance.

TABLE IX

Value of investment projects in the steel industry notified to the Commission between 1970 and 1978 in accordance with Article 54 of ECSC Treaty

million EUA at current prices

	Germany (FR)	Belgium	France	Italy	Luxembourg	Netherlands	United Kingdom	Community
1970	411	152	1 965	1 307	35	177	*	*
1971	274	25	201	132	29	8	*	*
1972	448	109	61	186	2	—	*	*
1973	122	221	76	216	20	38	*	*
1974	482	247	287	771	24	129	345	2 284
1975	416	301	389	314	9	—	750	2 179
1976	571	7	267	85	28	—	491	1 448
1977	284	—	278	261	113	89	309	1 380
1978	259	35	62	39	62	—	165	622

* Not available.

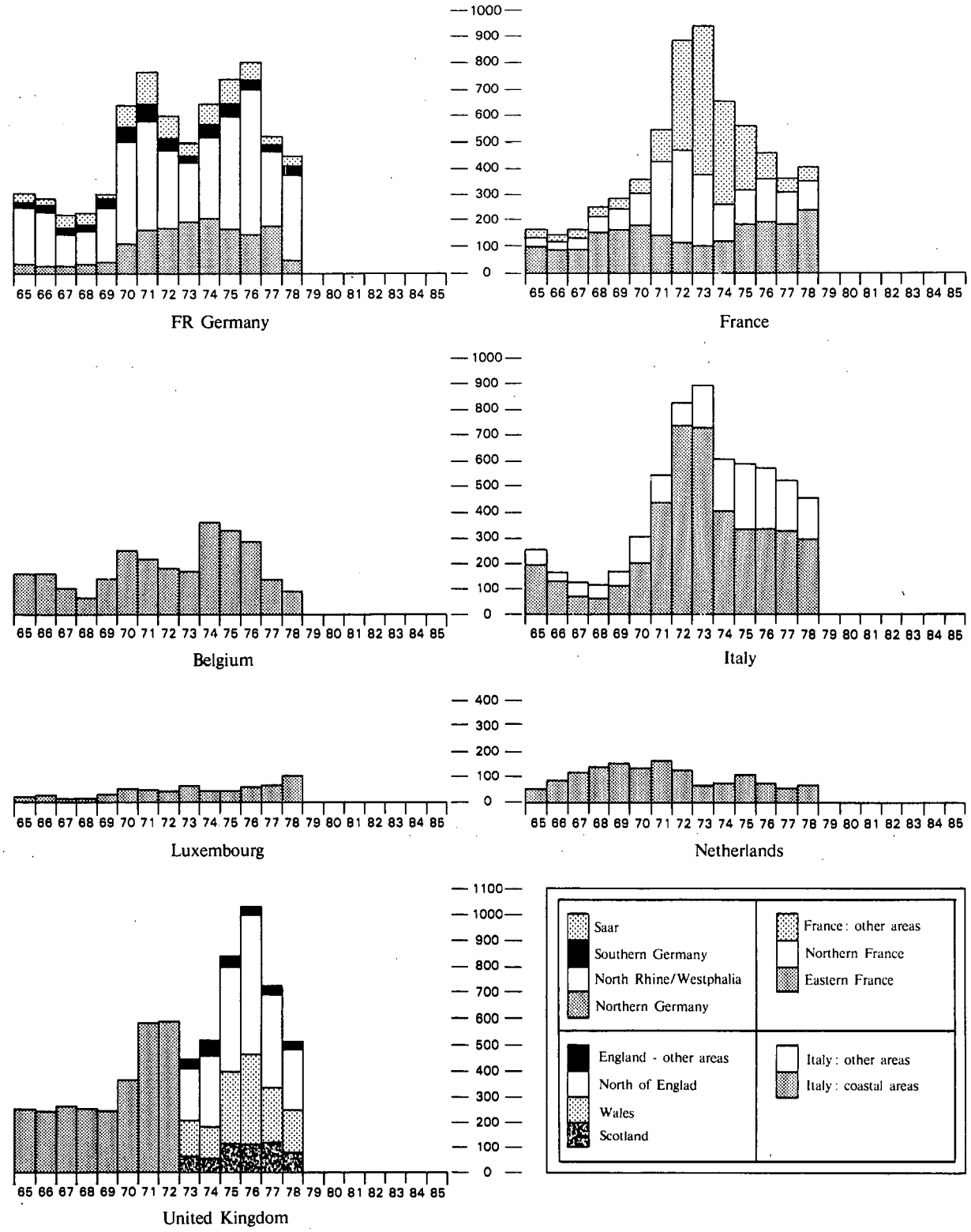
1.2. **Capital expenditure in 1979**

According to the new survey capital expenditure in the steel industry in 1979 should be maintained at its 1978 level of 2 000 million EUA at current prices. Although enterprises in all the major

FIGURE 5

Capital expenditure in the iron and seel industry

Million EUA



steel-producing Member States forecast a decline in expenditure, enterprises in the Benelux countries, Denmark and Ireland each forecast some increase.

The principal trends within forecast expenditure for 1979 appear to be:

— a continued sharp increase in expenditure on *continuous casting* from 190 million EUA in 1978 to 281 million EUA in 1979;

— a considerable increase in expenditure on *hot wide strip mills* from 53 million EUA in 1978 to 82 million EUA in 1979 with the prospect of considerably higher expenditure in 1980 and 1981 due to new investment decisions taken since the date of the survey;

— maintenance of the 1978 level of expenditure on section mills, particularly light and medium section mills, with an expected total expenditure of 195 million EUA in 1979 compared with 202 million EUA in 1978;

— a considerable decrease in expenditure on **blast-furnaces** with an expected total of 176 million EUA in 1979 compared with 261 million EUA in 1978 and 316 million EUA in 1977. In 1978 expenditure in some regions fell to levels well below that normally necessary to maintain existing capacity in an operating condition.

2. Production and production potential

2.1. Sponge-iron, sinter and pellets

Production of **sponge-iron** in the Community reached a level of only 0,3 million tonnes in 1978. Average utilization of sponge-iron production potential in 1978 was only 52,1%. However, production potential is likely, according to the new survey, to reach a level of 2,9 million tonnes in 1982 compared with only 0,7 million tonnes in 1978.

The direct reduction plant which has already been built in Scotland is expected to be commissioned during the period. A project for another new direct reduction plant in northern Germany is now at the construction stage while work on two other projects in coastal Italy should be started on shortly.

Between 1978 and 1982, production potential for **sinter and pellets** should decrease from 176,2 million tonnes to only 174,2 million tonnes.

Principally as a result of the closure of iron and steelmaking facilities on the same sites, over 14 million tonnes of sinter capacity is expected to be withdrawn from service over this period. There will be extensive closures in eastern and northern France, northern England, Luxembourg and the Saar. Partially offsetting these closures are new plant which will increase capacity by over 12 million tonnes. New sinter capacity totalling 4,7 million tonnes is being constructed in North Rhine/Westphalia. In addition the British Steel Corporation is expected to start up production at new sinter and pellet facilities on the north coast of England, as well as a new sinter strand in South Wales, which will increase capacity by 5,7 million tonnes.

2.2. Pig-iron

Between 1978 and 1982 total pig-iron production potential is expected to decrease from 141,1 million tonnes to 137,5 million tonnes. In parallel with measures to be taken on steelmaking capacity major blast-furnace closures have been decided on in eastern and northern France, the Saar and the English Midlands. Some capacity reductions are also to be carried out in North Rhine/Westphalia, southern Germany, southern Belgium and inland Italy.

In the United Kingdom, a net 3,5 million tonne increase in pig-iron production potential is expected between now and 1982. This increase is due to the commissioning of the large new blast-furnace recently installed in northern England as well as to the completion of improvements to blast-furnaces in Scotland and Wales which have yet to realize their full production potential.

Production of pig-iron in 1978 was 90,2 million tonnes compared with a production potential of 141,1 million tonnes. The rate of utilization of blast-furnace production potential which directly reflected the level of steelmaking activity was—at 63,9%—slightly higher than its 1977 level of 61,5%. Utilization of capacity appears from the survey to be highest in the United Kingdom (69,8%) and Luxembourg (68,8%) and lowest in the Federal Republic of Germany (58,1%).

2.3. **Crude steel**

2.3.1. *Crude-steel production potential*

The new survey indicates that there has been a significant reduction in the enterprises estimates of crude-steel production potential for the early 1980s. Last year crude-steel production potential was forecast to reach levels of 210,5 million tonnes in 1981. According to the new survey, a level of only 201,7 million tonnes in 1982 will be reached (see Annex Table 41).

TABLE X

Development of crude steel production potential 1978-1982
Analysis of increase

million tonnes

	Increases in production potential			Decreases in production potential			Net change
	New plant	Productivity increase	Total	Steel-works closures	Other causes	Total	
FR Germany	3,3	0,5	3,8	4,6	1,1	5,7	−1,9
Belgium	—	0,3	0,3	1,2	—	1,2	−0,9
France	4,3	0,4	4,7	8,0	—	8,0	−3,3
Italy	3,6	0,7	4,3	2,9	—	2,9	+1,4
Netherlands	—	0,3	0,3	—	—	—	+0,3
Luxembourg	0,6	0,1	0,7	0,7	—	0,7	0,0
United Kingdom	6,1	0,3	6,4	1,6	0,8	2,4	+4,0
Denmark and Ireland	0,5	—	0,5	0,6	—	0,6	−0,1
Community	**18,3**	**2,7**	**21,0**	**19,6**	**1,9**	**21,4**	**−0,4**

Table X shows that over the period 1978-82 a total of 18,3 million tonnes of new capacity will be commissioned of which 17 million tonnes is being installed principally to replace obsolete plant. A further 2,7 million tonnes increase is included in the total expected production potential in 1982 of 201,7 million tonnes arising from the effect of schemes for the replacement of slabbing mills by continuous casting.

Offsetting these capacity increases, 19,6 million tonnes of crude steel production potential is expected to be withdrawn from service. There will also be a further 1,9 million tonnes decrease in production potential due to rationalization of pig-iron production facilities.

TABLE XI

Impact of closures of steelworks between 1978 and 1979 on crude steel production potential

million tonnes

	LD/Kaldo	OBM/LWS	Electric	Open-hearth	Basic Bessemer and others	Total
FR Germany	−0,4	—	—	−0,0	—	−0,4
Belgium	—	—	−0,0	—	—	−0,0
France	−0,7	−1,0	−0,0	−0,1	−0,8	−2,6
Italy	—	—	−0,3	−0,0	—	−0,3
Netherlands	—	—	—	—	—	—
Luxembourg	—	—	−0,0	—	—	−0,0
United Kingdom	−0,2	—	−0,1	−1,4	—	−1,7
Denmark and Ireland	—	—	—	—	—	—
Community	**−1,3**	**−1,0**	**−0,4**	**−1,5**	**−0,8**	**−5,0**

Comparison of the analysis of forecast capacity development over the periods covered by the 1978 and 1979 surveys indicates that there has been a considerable reduction in the estimate of production potential which it was proposed to install—28,3 million tonnes p.a.—in the 1978 survey, compared with 18,3 million tonnes this year. At the same time there has been some increase in proposed closures—19,6 million tonnes in the period covered by the 1979 survey as against 18,3 million tonnes in the period covered by the 1978 survey. Out of the 19,6 million tonnes of closures forecast in the latest survey for the period 1978-82, 5 million tonnes of steel production capacity was already closed during the course of 1978, representing about 2,5% of total production potential (see Table XI). This reduction was broadly distributed across the production processes, although major steelworks closures were in general confined to integrated works. On the basis of an index of 1974 = 100, Community crude-steel production potential is at a level of 113 in 1978 and should be slightly below this level in

TABLE XII

Rates of utilization of Community production potential for pig-iron, crude steel and finished products 1974-1978

%

	1974	1975	1976	1977	1978
Pig-iron	87	65	67	62	64
Crude steel	87	66	68	63	66
Finished products	79	58	61	58	59

N.B. — Further details of rates of utilization are contained in Table 71 in the Annex to this report.

1982. Production of crude steel in 1978 was 132,6 million tonnes against a potential of 202,1 million tonnes. The average rate of utilization of crude-steel production potential in the Community was 66% in 1978 compared with 63% in 1977 and 87% in 1974 (see Table XII).

2.3.2. *Crude steel by country and by region*

The slight decrease in total crude steel production potential forecast by the survey over the period 1978-82 is the net result of a considerable number of movements in capacities of individual works. Of the 285 works in the Community which declare crude-steel production potential, 66 expect their production potential to increase over the period, 35 expect it to be reduced and 184 for it to remain unchanged.

TABLE XIII

Direction of change of production potential for pig-iron, crude steel and finished products at ECSC works 1978-1982

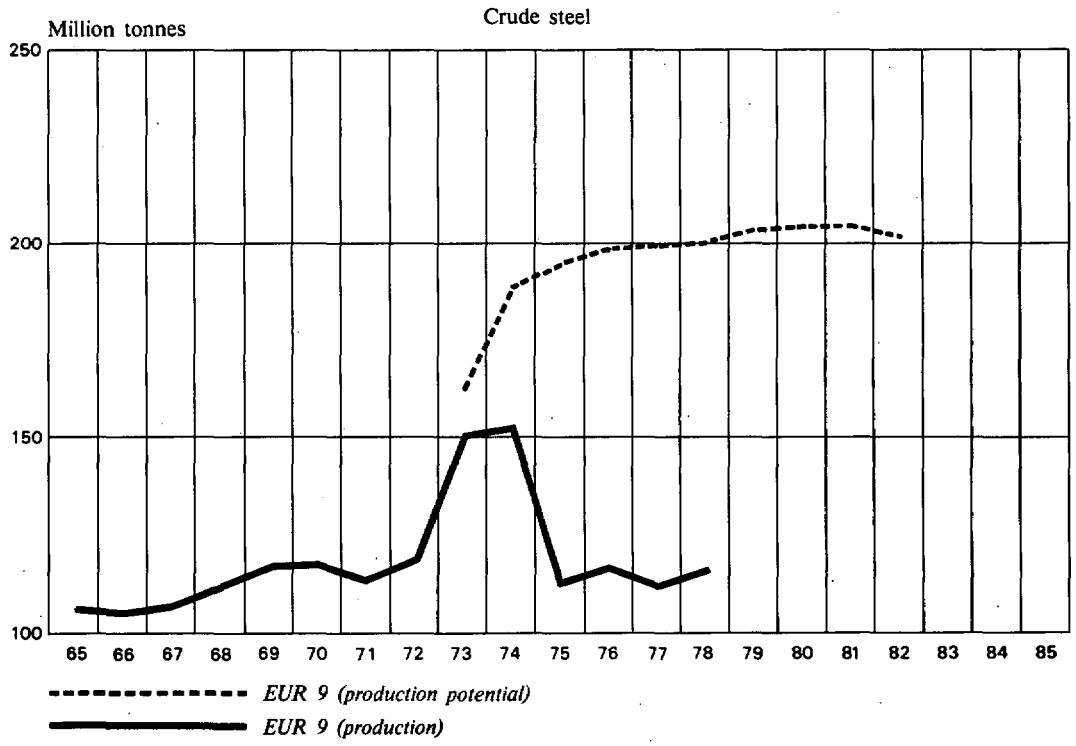
	Number and change in production potential of works						
	Decreasing capacity		Constant capacity	Increasing capacity		Total	
	No of works	Production potential million tonnes	No of works	No of works	Production potential million tonnes	No of works	Production potential million tonnes
Pig-iron	27	−13,2	37	19	+ 9,6	83	− 3,6
Crude steel	35	−11,9	184	66	+11,5	285	− 0,4
Continuous casting	4	− 0,4	77	55	+20,2	136	+19,7
Hot wide strip	1	− 0,0	21	12	+ 4,5	34	+ 4,5
Heavy sections (incl. rounds and squares for tubes)	14	− 0,9	45	22	+ 2,0	81	+ 1,1
Light sections	39	− 3,1	169	53	+ 1,6	261	− 1,5
Wire rod	15	− 2,3	46	26	+ 2,5	87	+ 0,2
Narrow strip	8	− 0,8	47	7	+ 0,3	62	− 0,5
Plates	7	− 0,2	66	8	+ 0,1	81	− 0,1
Hot-rolled sheet	4	− 0,0	28	4	+ 0,3	36	+ 0,3
Cold-rolled sheet	2	− 0,2	43	20	+ 1,7	65	+ 1,5

There is a large variation in the expected movement of crude steel production potential across the various Member States and regions: Enterprises in the United Kingdom, Italy, the Netherlands and Ireland expect to see a net increase in their production potential while net decreases are forecast for France, Germany, Belgium and Denmark.

In the **United Kingdom,** capacity is expected, according to the survey, to increase by a net 4 million tonnes between 1978 and 1982 from 27,9 million tonnes to 32,0 million tonnes at an average annual

FIGURE 6

Actual production and production potential of the iron and steel industry



rate of 3,5%. Over the period an additional 6,1 million tonnes of production potential from new plant will enter service.

This substantial increase has in fact been predicted by successive surveys since the inception in 1973 of British Steel Corporation's Ten Year Development Strategy involving the concentration of integrated iron and steelmaking on five major coastal centres. However, due to technical delays in commissioning, industrial disputes associated with closures of obsolete plant and the unfavourable trading climate, capacity increases which were forecast for previous surveys will not now be fully realized until 1982.

In order to offset the expected increases in capacity at the five major coastal centres, a series of closures of open-hearth steelworks has been carried out which led by the end of 1978 to a net reduction in the capacity of the British Steel Corporation of over 2 million tonnes p.a. compared with 1974. However, a similar increase in electric steelmaking capacity in the UK private sector has offset this reduction.

In the public sector, further plant closures have been decided on for the period 1979-82, representing 0,8 million tonnes of production potential. This figure could be higher as a result of the closure of two large integrated works. Between 1978 and 1982, the principal net increase in production potential in the United Kingdom will occur at integrated coastal works in North East England, South Wales and Scotland.

On the basis of the index of 1974 = 100, UK production potential in 1982 could reach an index value of 115 compared with 100 in 1978. This result does not take into account the further closures which are now being envisaged.

In **Italy**, in contrast to the situation in other Member States, the number of expected changes at individual works is smaller than in recent surveys. Production potential in Italy is expected to increase at an annual average rate of 1% by a net 1,4 million tonnes to 37,1 million tonnes in 1982 compared with 35,7 million tonnes in 1978.

Between 1978 and 1982, some 3,6 million tonnes of new capacity will be added, of which a substantial part is as a result of the entry into service of a new bottom-blown oxygen steelworks which is to replace an open-hearth steelworks. In addition to the closure of this open-hearth steelworks, several obsolete electric steelworks and a small LD steelworks will also be withdrawn from service. The remaining part of the expected increase in potential is due to upward revisions of the production potential of a number of electric steelworks, as well as to some extensions.

Using the index of 1974 = 100, crude steel production potential in Italy should reach a level of 128 in 1982 compared with 124 in 1978.

In the **Netherlands,** the major project to introduce continuous casting at an integrated coastal works will be principally responsible for increasing the crude-steel production potential there from 8,3 million tonnes in 1978 to 8,6 million tonnes in 1982.

On the basis of the index of 1974 = 100, steel capacity in the Netherlands will be at an index level of 141 in 1982 compared to 136 in 1978.

In **Ireland** the project for modernization of the steelworks there will result in capacity being more than doubled.

In **France** an unprecedented 3,3 million tonnes net reduction in production potential is expected to occur as a result of restructuring programmes. As Tables X and XI show by 1982 about 8 million tonnes of obsolete steelmaking plant should have been withdrawn from service, of which 2,6 million tonnes was already closed by the end of 1978. Three new oxygen steelworks which are being commissioned in eastern France will add over 4 million tonnes of additional capacity by 1982 although their entry into service will only partially offset the major closures in progress.

On the basis of the index of 1974 = 100, French crude-steel production potential will decline to an index value of 95 compared to 106 in 1978.

In the **FR of Germany** there are also expected to be extensive closures over the period (4,6 million tonnes) although the proportion of obsolete plant which is to be replaced is considerable (3,3 million tonnes). New plant to be installed includes a new oxygen steelworks in the Saar, and also several electric steelworks in North Rhine/Westphalia which are to replace open-hearth furnaces.

Using the index 1974 = 100 production potential in Germany should decrease to a level of 111 in 1982 compared with 114 in 1978.

In **Belgium,** as a result of the closure of two steelworks, crude-steel production potential should decrease by a net 0,9 million tonnes from 20,0 million tonnes in 1978 to 19,1 million tonnes in 1982, while in **Luxembourg,** total crude-steel production potential in 1982 is expected to remain at a level of about 7,5 million tonnes. The closure of obsolete steelworks in the country so far almost exactly offsets capacity expansion of LD/AC steelworks. However further rationalization schemes under study could lead to additional capacity reductions.

Using the index of 1974 = 100, crude steel production potential in Belgium should decrease to a level of 107 in 1982 compared with 112 in 1978.

In **Denmark,** a project is in progress to increase the output of existing electric furnaces in order to permit the closure of an open-hearth melting shop. This project will lead to a net reduction of 0,3 million tonnes in production potential.

2.3.3. *Crude steel by production process*

According to the new survey, 73% of crude steel production potential in 1982 will be accounted for by oxygen steel, 23% by electric steel, 3% by open-hearth steel.

TABLE XIV

Share of each steelmaking process in total crude-steel production potential in 1974, 1978 and 1982

Crude steel	1974		1978		1982	
	million tonnes	%	million tonnes	%	million tonnes	%
Basic Bessemer and others	12,3	7	1,9	1	0,1	1
Open-hearth	26,5	15	13,7	7	7,1	3
Electric	29,4	16	42,0	21	46,3	23
Oxygen-blown	110,7	62	144,5	71	148,2	73
of which: OBM converted from Basic Bessemer	(4,0)	(2)	(6,8)	(3)	(1,1)	(1)
Total crude steel	**178,9**	**100**	**202,1**	**100**	**201,7**	**100**

Plans for closure of almost all the remaining 8,3 million tonnes of capacity for **Basic Bessemer, OBM ex-Basic Bessemer** and **open-hearth** steelworks are now under consideration. However, on the basis of the new survey it seems unlikely that these obsolete capacities will be completely eliminated until the mid-1980s.

FIGURE 7

Expected production potential according to the survey

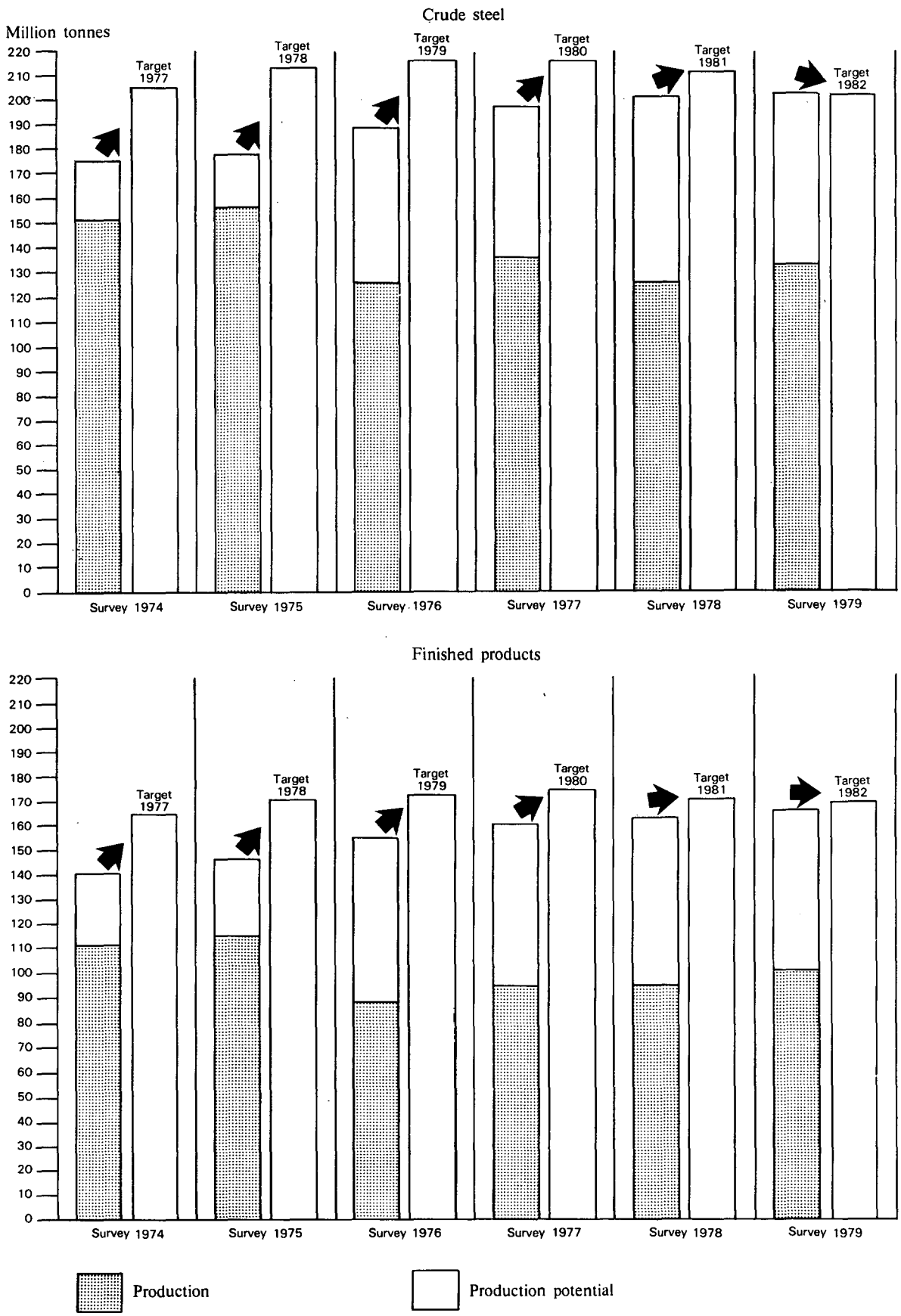


Table XIV analyses the expected development of production potential by production process between 1978 and 1982. There is expected to be a 3,5 million tonne net increase in annual production potential for LD steel over the period from a level of 130,9 million tonnes to 134,4 million tonnes. Due to the completion of modernization schemes in north-east England, North Rhine/Westphalia, Scotland and Wales, production potential in modern LD steelworks will be increased by about 7,9 million tonnes. At the same time several minor schemes to improve productivity will add a further 1,8 million tonnes.

Several closures partially offset these increases: notably the closure of sizeable LD steelworks in northern France, the shutdown of an OBM ex-Basic Bessemer and a LD/Kaldo steelworks in Belgium, of a Kaldo steelworks in eastern France as well as a number of LD steelworks based on small convertors in several Community regions. The production of two steelworks—respectively in northern England and the Saar—will also be reduced as a result of blast-furnace closures.

Production potential for **OBM and LWS** steel should show a very slight increase over the period: from 13,6 million tonnes in 1978 to 13,9 million tonnes in 1982. While 6,4 million tonnes of new OBM and LWS capacity will be added, a total of 6,1 million tonnes of existing capacity is being closed. This closure figure is accounted for, for the most part, by old Basic Bessemer steelworks converted to the OBM/LWS process, although it also includes withdrawal from service of some new OBM convertors.

Production potential for **electric** steel is expected to show the largest absolute tonnage increase—a net 4,3 million tonnes from 42,0 million tonnes in 1978 to 46,3 million tonnes in 1982. 4 million tonnes of new electric-furnace capacity is being installed, principally to replace open-hearth furnaces and in some cases obsolete electric steelworks of which 600 000 tonnes of capacity are to be closed over the period. However, some element of a capacity expansion is also evident in the survey returns. In addition to the installation of new furnaces a significant number of relatively modest investment projects designed to boost the capacity of existing furnaces are expected to add a further 0,8 million tonnes p.a. to electric steel production potential.

2.4. **Continuous casting**

The new survey shows there is an unprecedented increase in the number and scale of projects to install continuous casting. Continuous casting production potential is now expected to reach 74,9 million tonnes in 1982 compared with 54,9 million tonnes in 1978. Last year's survey had forecast a production potential of under 70 million tonnes for 1982.

North Rhine/Westphalia continues to be the region in which the greatest absolute increase in production potential is expected (5,3 million tonnes) due to the installation of new casters for slabs and billets.

Eastern France and coastal Italy should show significant increases in capacity over the period (3,1 million tonnes and 2,3 million tonnes respectively) as a result of the entry into service of slab casters.

In the United Kingdom, capacity will be increased by a total of 3 million tonnes as a result of the commissioning of new installations at a large coastal works in northern England as well as of other facilities in Wales and Scotland for slabs and in the Sheffield area for billets and rounds.

By 1982, continuous casting plant will be in service for the first time in the Netherlands for slab production, in Luxembourg for bloom and billet production and in Ireland for billets.

However, taking the Community as a whole, only a minority of works expect to be operating continuous casting installations by 1982. In 1978 out of a total of 284 works with steelmaking capacity, 120 operated at least one continuous casting installation and not more than a further 15 works will be installing continuous casting for the first time by 1982.

In 1982 37% of steel production should be capable of being continuously cast compared with 27% in 1978. After Ireland and Denmark, where all production will be continuously cast by 1982, Italy is expected to have the highest percentage of continuous casting capability (50%) with Germany (41,4%) and France (38,5%) the next highest.

TABLE XV

Ratio of continuous casting production potential to crude steel production potential in 1978 and 1982

%

Country	1978	1982
FR Germany	31,3	41,4
Belgium	21,0	23,6
France	23,5	38,5
Italy	42,9	50,1
Luxembourg	—	17,3
Netherlands	—	17,4
United Kingdom	20,1	26,9
Denmark	58,3	88,8
Ireland	—	100,0
Community	**27,2**	**37,0**

2.5. Coils

Between 1978 and 1982 production potential of hot wide strip mills should increase from a level of 67,7 million tonnes to 72,2 million tonnes. In North Rhine/Westphalia projects to increase the production potential are in progress, adding 0,6 million tonnes to capacity. In Italy production potential is expected to increase by a net 0,7 million tonnes, primarily as a result of the decision to install a new hot wide strip mill at an integrated coastal works. A further increase in capacity resulting from the full entry into service of this mill is announced for 1983.

TABLE XVI

Share of integrated coastal works [1] in total Community production potential for 1978 and 1982

	1978	1982
Crude steel	29	32
Continuous casting	27	28
Coils	52	52

[1] Bremen, IJmuiden, Sidmar, Dunkirk, Mondeville, Fos, Corniliagno, Piombino, Bagnoli, Taranto, Port Talbot, Llanwern, Scunthorpe, Redcar, Teesside, Ravenscraig.
N.B. : This list includes works which, although not located on the coast, nevertheless may share some of the transport costs and other location advantages of strictly coastal works.

Since the date of the survey, decisions have been taken to increase the capacity of existing mills—notably in Belgium where 1,3 million tonnes of new capacity will be added over the period. A further increase is expected by 1983.

In the United Kingdom the British Steel Corporation expects increases of production potential—totalling over 1 million tonnes—at integrated coastal works in Scotland and Wales; such increases had been predicted earlier but had been postponed because of delays in commissioning of new plant upstream from hot wide strip mills.

2.6. **Heavy and medium sections (incl. rounds and squares for tubes)**

Community production potential for finished heavy and medium sections (rounds and squares for tubes, rails, beams, angles, channels and other sections $\geqslant 80$ mm) is forecast to increase at an annual average rate of 1,4% to 19,8 million tonnes in 1982 from a level of 18,9 million tonnes in 1978. Before taking into account plant closures the expected gross increase in production potential would be 1,9 million tonnes. More than 1 million tonnes of this increase will be brought about by entry into service of four new mills—two in Italy, one in Luxembourg and one in Ireland. Two of the four mills will specialize in beams, while the other two will produce a wider range of profiles. In other regions, production potential of some existing mills is being extended, notably in Italy. The combined effect of projects in Italy will be to increase heavy and medium sections production potential there to 2,9 million tonnes in 1982—a capacity sufficient to produce almost double the country's output of these products in 1978.

Four mill closures relating to a combined annual capacity of about 0,4 million tonnes were carried out by the end of 1978. A further 0,4 million tonnes of capacity is expected to be withdrawn from service between 1979 and 1982.

The average rate of utilization of heavy and medium sections production potential in the Community in 1978 was 59,5%. Mills with a total production potential of nearly 6 million tonnes were utilized to less than 40% of their capacity.

2.7. **Light sections <80 mm and merchant bars**

In contrast to the results for heavy and medium sections, the survey indicates that Community production potential for light sections and merchant bars should decrease from 31,8 million tonnes in 1978 to 30,3 million tonnes in 1982. A gross capacity decrease of 2,7 million tonnes is expected over the period: out of this total approximately 1,5 million tonnes is accounted for by closures already carried out by the end of 1978, the most significant being in North Rhine/Westphalia. The remaining 1,2 million tonnes reduction should be made by 1982, as a result of additional closures in North Rhine/Westphalia, coastal Italy, Belgium and the United Kingdom. The gross 2,7 million tonnes capacity decrease is partially offset by 1,2 million tonnes of capacity increase at a number of works in inland Italy, northern France, the United Kingdom and Ireland. These relate to investment schemes as well as to improvements, and in some cases rationalization of long product production leading to closures in the wire-rod sector.

The average rate of utilization of mills producing light sections and bars in 1978 was 60,4%. Mills accounting for over 6 million tonnes of total production potential were utilized to under 40%.

2.8. **Wire rod**

Between 1978 and 1982 production potential for wire rod is expected to remain constant at a level of approximately 18,5 million tonnes. A considerable decrease in production potential is expected in North

Rhine/Westphalia and to a lesser extent northern France. Of the 86 works in the Community declaring production, 10 have announced full closure of their wire-rod production facilities while a further two works have decided to reduce their capacity. The total of reductions in production potential over the period should therefore amount to 1,9 million tonnes.

However this reduction is expected to be offset partly by the commissioning of three new rod mills—two in Belgium and the third in Italy—which would add 1,2 million tonnes to production potential, and partly by improvements to the productivity of existing mills which would increase production potential by a total of approximately 0,7 million tonnes.

In 1978 average utilization of Community wire rod production potential was 60,3%. Mills with a total production potential of over 5,5 million tonnes were utilized to under 50%.

2.9. **Medium and narrow strip**

Total Community production potential for narrow strip is expected to decrease from 12,4 million tonnes in 1978 to 12,1 million tonnes in 1982.

With respect to **medium and narrow strip mills** production potential should decrease by 0,4 million tonnes from 8,7 million tonnes in 1978 to 8,3 million tonnes in 1982. Three mills with a total production potential of 0,6 million tonnes are to be closed over the period—in eastern France, the Saar and in Belgium. These closures will be offset to a limited extent by increased productivity of other mills in eastern France and Luxembourg.

TABLE XVII

Production of medium and narrow strip from coils and on quarto mills 1973-1978

million tonnes

	1973	1974	1975	1976	1977	1978
Ex-coils	1,6	1,5	0,9	1,7	1,4	1,4
Quarto mills	7,0	6,9	4,6	5,4	5,0	5,2

Narrow strip mills appear to be more and more affected by competition from output of strip slit from hot wide strip (see Table XVII of the trend of output of narrow strip from specialized mills and ex-coils). Of the forty-three mills covered by the survey 45% have a production potential of less than 100 000 tonnes while only five mills have an average technical capacity per hour of 90 tonnes or more—roughly equivalent to just over 500 000 tonnes of production potential. The rate of utilization of narrow strip mills amounted to only 53,4% in 1978. Nearly 4 million tonnes of narrow strip mill capacity was used to under 50% in 1978.

Production potential for **medium and narrow strip ex-coils** is expected to increase slightly from 3,7 million tonnes in 1978 to 3,8 million tonnes in 1982, owing to the impact of a project for tube strip production in Italy.

2.10. **Heavy and medium plate**

Combined production potential for plate from quarto and hot wide strip mills is expected to remain constant at 26,1 million tonnes.

With respect to plate from **quarto mills** production potential should show a small decrease between 1978 and 1982 from 19,9 million tonnes to 19,7 million tonnes. Capacities will remain unchanged in all regions except in the Saar where a small mill was closed during 1978 and in non-coastal Italy where another small mill is to close and its production replaced by plate cut from coils. Rationalization plans are under study in the United Kingdom but no decisions have yet been taken up to the date of the survey. The average rate of utilization of quarto mills in 1978 was 50%—the lowest rate for any finished product category. The four largest and most modern plate mills accounting for nearly 8 million tonnes of total capacity were utilized to an average 39% during the year.

As a result principally of the project to switch production in Italy, production potential for **plate ex-coils** is forecast to increase slightly from 6,2 million tonnes to 6,4 million tonnes between 1978 and 1982.

2.11. **Hot-rolled sheet <3 mm**

Between 1978 and 1982 production potential for hot-rolled sheet should increase from 1,3 million tonnes to 1,6 million tonnes as a result of a planned increase of output of ex-coil products from works in France and the Netherlands.

2.12. **Cold-rolled sheet**

Cold-rolled sheet production potential which reached a level of 43,0 million tonnes in 1978 is expected to rise to 44,5 million tonnes in 1982, an annual average increase of 0,6%. According to the survey, only one cold rolling-mill—in northern France—is to be closed over the period. In coastal Italy a new cold rolling-mill is being commissioned in 1980 while in inland Italy an extension project and a modernization project are in progress. Together these schemes will add 0,8 million tonnes to capacity. As a result of recent production experience the production potential of mills in Wales was revised downwards from 5,1 million tonnes to 4,7 million tonnes between 1977 and 1978. However, due to modernization schemes already in progress, the original capacity of 5,1 million tonnes will be reattained in 1982.

Since the date of the survey a decision has been taken to expand capacity in Belgium while in Luxembourg a replacement scheme is under study. These new schemes could increase the survey figure of production potential in 1982 by a further 0,7 million tonnes.

Scope and definitions

Statistical tables

IMPORTANT NOTE

Because of rounding, some columns of figures in the tables do not agree with the totals in the decimal place.

CONTENTS

B — Production potential

SCOPE AND DEFINITIONS

I — Scope of survey

The survey is based on figures supplied by ECSC enterprises which in 1978 accounted for 99% of total coal production, 99% of crude-steel production and 99% of finished products designated by the Treaty establishing the ECSC.

II — Definitions

1. Classification of investment projects

In their replies to the survey, the enterprises are asked to distinguish the effects on capital expenditure and production potential of the following three categories of investment project:

— Projects completed or in progress before 1 January 1979 (Category A);

— Projects approved but not yet in progress on 1 January 1979 (Category B);

— Other projects planned to be started between 1 January 1979 and 31 December 1982 (Category C).

2. Capital expenditure

Capital expenditure means all expenditure shown or to be shown on the credit side of the balance-sheet as fixed assets in the year under review at the prices ruling in that year, but excluding the financing of workers' housing schemes, outside shareholdings and all interests not directly connected with ECSC Treaty products.

3. Coal - Extraction potential

The figures shown represent the net maximum output technically achievable, allowing for the potential of the different installations at the collieries (underground, surface, washeries), and assuming that it is not impeded by difficulties in distribution, by strikes or by manpower shortages. The extraction is expressed for all countries in tonne = tonne.

A number of mines with a low output, including the German 'small mines' and the 'licensed mines' in the United Kingdom, have not been included in the survey. They accounted for an extraction in 1977 of 1,3 million tonnes.

4. Coke - Production potential

The figures shown represent the maximum annual coke production achievable with the plant in operation at a given date, taking into account the minimum coking time technically allowable for the normal composition of the coking blend, with due regard to the state of the ovens and the potential of the ancillary and auxiliary installations. It is assumed that a ready market and unlimited raw material supplies are assured.

5. Iron-ore - Extraction potential

The figures shown represent the maximum continuous output which can be achieved by each mine, allowing for the potential of the different installations, for example, underground or surface ore-preparation plant where the ore is sold only after treatment.

6. Sinter, pig-iron, crude steel and finished steel products

Sinter, pig-iron, crude steel and rolled products production potential means the maximum production which can effectively be achieved by all the different sections of the plant together allowing for possible bottlenecks in one section holding up all the others. This maximum possible production is defined as follows:

'Maximum possible production is the maximum production which it is possible to attain during the year under normal working conditions, with due regard for repairs, maintenance and normal holidays, employing the plant available at the beginning of the year but also taking into account both additional production from any new plant installed and any existing plant to be finally taken off production in the course of the year. Production estimates must be based on the probable composition of the charge in each plant concerned, on the assumption that the raw materials will be available.'

Estimates of the maximum production potential of blast-furnaces and steelworks accounts for deliveries of pig-iron to all steelworks, not only those, for example, on the same site as the blast-furnaces.

Estimates of the production potential of rolling-mills take into account all normal supplies of semi-products to the mills, not only those from adjacent steelworks. The production potential of rolling-mills is also governed by the shape, quality and width of the material fed ito the mill and the products to be obtained. Where enterprises have not been able to forecast future demand conditions, they have been asked to assume that the mix of inputs and outputs, on any one mill and across the different types of mill, will be broadly the same as that in 1978.

III — Capital goods prices indices

The enterprises declare their capital expenditure at the ruling prices for the year concerned, the figures being converted into units of account at the rates shown at the beginning of this report. In order to gain some idea of how investments have changed from year to year on a constant price basis, two capital goods price indices have been prepared—one for the iron and steel industry and the other for the coal industry. For the period before 1970 this has been done by taking the national indices for prices of all capital goods and by weighting these indices in accordance with the share of each country in total Community investment in each of the industries concerned. For the years since 1970, the price indices used relate only to metal products and machinery.

The table below shows the indices calculated according to these methods. These indices have been applied to the main series of expenditure figures in the report.

Community index 1970 = 100	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Iron and steel industry ...	81,8	83,9	85,3	87,4	91,8	100	107,2	110,1	121,0	140,6	162,2	182,9	200,9	215,0[1]
Coal industry	82,6	85,0	85,7	87,8	92,0	100	107,9	113,4	123,9	142,3	166,5	187,5	209,8	224,5[1]

[1] Estimated.

IV — Interpretation of capital expenditure figures for 1977 and 1978

It should be borne in mind that even at current prices the figures given in this report for capital expenditure in 1977 and 1978 may differ from those in the 1978 report. There are three main reasons for this:

— first, for 1977, enterprises may revise their figures in the light of the completion of their final annual accounts;

— secondly, for 1978, actual spending by the enterprises may often depart from the expenditure estimates submitted at 1 January of that year;

— thirdly, again for 1978, the actual rates of exchange between the national currencies and the unit of account may differ from those used in the estimates of capital expenditure for the year ahead.

V — Breakdown of production potential and capital expenditure by region

In the tables, the producer regions in the original six countries other than those mentioned by name are:

Northern Germany:	*Länder* Schleswig-Holstein, Lower Saxony, Hamburg, Bremen;
Southern Germany:	*Länder* Hesse, Rhineland-Palatinate, Baden-Württemberg, Bavaria;
Eastern France:	Meurthe-et-Moselle, Meuse, Moselle, Bas-Rhin, Doubs;
Northern France:	Seine-et-Marne, Yvelines, Hauts-de-Seine, Seine-Saint-Denis, Ardennes, Aube, Marne, Haute-Marne, Oise, Eure, Calvados, Côte-d'Or, Nièvre, Saône-et-Loire, Nord, Pas-de-Calais;
Northern England:	(steel-producing regions only): North-West, Yorkshire and Humberside;
England — other regions:	(steel-producing regions only): West Midlands, East Midlands, East Anglia, South-West, South-East.

The National Coal Board Areas included in the coal-producing regions of the United Kingdom are as follows:

Scotland:	Scottish North, Scottish South;
Northumberland:	Northumberland, North Durham, South Durham;
Yorkshire:	North Yorkshire, South Yorkshire, Barnsley, Doncaster;
Western:	North-Western, Staffordshire;

Midlands: North Nottingham, North Derbyshire, South Midlands;
Wales: East Wales, West Wales.

Opencast mining has been considered as a separate category irrespective of regional locations.

For statistical purposes only, the production potential and capital expenditure of steel-producing enterprises in Berlin have been included in the totals for the regions of North-Rhine/Westphalia.

TABLE 1

Capital expenditure by coalfields

million EUA

Coalfield	Actual expenditure			Estimated expenditure [3]				
				on 1 Jan. 1978 for	on 1 Jan. 1979 for			
	1976	1977	1978	1978	1979		1980	
				A + B	A + B	A + B + C	A + B	A + B + C
Ruhr [1]	172,9	159,7	140,1	174,5	204,6	204,6	157,8	222,1
Aachen [2]	29,3	24,1	16,9	14,3	16,7	17,3	16,7	21,6
Lower Saxony	18,3	20,7	15,2	14,9	13,2	13,2	5,4	16,5
Saar	32,8	31,7	37,9	70,5	75,5	75,6	55,8	76,0
FR of Germany	*253,4*	*236,2*	*210,1*	*274,1*	*310,0*	*310,7*	*235,8*	*336,2*
Campine	8,4	12,7	19,6	24,1	30,7	30,7	—	30,3
Southern Belgium	1,0	0,3	0,4	0,2	0,1	0,1	—	—
Belgium	*9,4*	*13,0*	*20,0*	*24,3*	*30,8*	*30,8*	—	*30,3*
Nord/Pas-de-Calais	8,0	7,4	6,2	6,0	5,4	5,4	4,7	4,7
Lorraine	30,6	36,1	37,5	37,2	31,7	31,7	33,0	33,0
Centre-Midi	3,5	5,7	4,9	4,3	4,4	4,4	4,4	4,4
France	*42,2*	*49,2*	*48,7*	*47,5*	*41,5*	*41,5*	*42,0*	*42,0*
Scotland	17,1	15,6	23,6	19,1	28,2		35,4	
North East	39,9	37,9	48,5	38,8	52,1		43,4	
Yorkshire	130,6	170,7	322,9	263,6	275,2		294,9	
Midlands and Kent	116,1	110,9	179,6	139,1	162,2		144,5	
Western	51,0	42,0	48,7	39,2	51,2		43,8	
South Wales	39,2	54,5	57,6	34,6	38,0		32,8	
Opencast mining	13,4	13,8	18,5	21,9	16,3	19,9	8,3	16,2
United Kingdom	*407,2*	*445,3*	*699,3*	*556,2*	*623,1*	*721,0*	*603,0*	*750,0*
Total EUR 9	**712,1**	**743,6**	**978,0**	**902,1**	**1 005,4**	**1 104,0**	**880,7**	**1 158,5**

[1] Without the expenses of the Ruhr part of EBV.
[2] Includes the expenses of the Ruhr part of EBV.
[3] The estimates relate only to expenditure on projects already in progress (cat. A) and approved (cat. B).

TABLE 2

Capital expenditure per tonne of coal produced 1975-1978

EUA/tonne at current prices and current exchange rates

Region	1975	1976	1977	1978
Ruhr	1,65	2,28	2,24	2,02
Aachen	1,56	3,29	2,89	1,98
Lower Saxony	9,94	9,13	9,82	6,26
Saar	2,84	3,53	3,42	4,08
FR of Germany	*1,92*	*2,64*	*2,60*	*2,34*
Campine	1,15	1,37	2,03	3,29
Southern Belgium	1,01	0,89	0,28	0,22
Belgium	*1,12*	*1,30*	*1,83*	*3,03*
Nord/Pas-de-Calais	0,77	1,10	1,11	0,93
Lorraine	1,71	3,07	3,60	3,84
Centre-Midi	0,93	0,76	1,23	1,25
France	*1,22*	*1,93*	*2,31*	*2,47*
Scotland	1,78	1,83	1,83	2,88
North East	2,34	2,98	2,98	3,71
Yorkshire	2,95	4,21	5,49	10,55
Midlands and Kent	3,10	3,20	3,10	4,96
Western	3,00	4,41	3,90	4,40
South Wales	3,95	4,99	7,36	7,66
Opencast mining	1,30	1,14	1,05	1,34
United Kingdom	*2,77*	*3,36*	*3,73*	*5,80*
Total EUR 9	**2,26**	**2,89**	**3,11**	**4,19**

TABLE 3

Extraction and extraction potential by coalfields

million tonnes (t = t)

Actual extraction 1978	Coalfield	Extraction potential 1976	1977	1978	Expected extraction potential 1979	1980	1981	1982
72,7	Ruhr	81,7	80,0	80,1	78,5	78,2	77,9	77,6
5,3	Aachen	5,9	5,8	5,6	5,5	5,6	5,6	5,6
2,4	Lower Saxony	2,1	2,2	2,5	2,4	2,4	2,4	2,4
9,3	Saar	10,2	10,5	10,8	11,0	11,0	11,0	11,0
89,7	*FR of Germany*	*99,9*	*98,5*	*98,9*	*97,5*	*97,1*	*96,8*	*96,6*
6,0	Campine	7,2	6,4	6,0	6,5	6,7	6,9	7,0
0,5	Southern Belgium	1,4	1,2	1,0	0,8	0,3	0,2	—
6,5	*Belgium*	*8,6*	*7,5*	*7,0*	*7,3*	*7,0*	*7,1*	*7,0*
6,0	Nord/Pas-de-Calais	7,5	6,7	6,0	5,0	4,3	3,6	2,9
9,8	Lorraine	11,2	10,2	9,8	10,4	10,6	10,2	10,5
4,0	Centre-Midi	4,7	4,7	4,0	3,7	3,6	3,4	3,1
19,7	*France*	*23,3*	*21,7*	*19,8*	*19,2*	*18,5*	*17,3*	*16,5*
8,2	Scotland	10,3	9,1	9,0	8,4	8,4	8,2	7,8
13,1	Northern	14,3	13,8	13,2	12,6	12,5	12,1	11,6
30,6	Yorkshire	33,1	33,4	32,6	32,8	32,6	33,7	33,9
36,2	Midlands and Kent	38,4	38,8	37,7	35,8	35,6	35,7	35,6
11,0	Western	12,4	11,6	11,6	10,8	10,4	10,1	10,0
7,5	South Wales	8,5	7,9	7,8	7,7	8,0	7,7	7,5
13,8	Opencast	11,7	13,6	14,0	12,7	12,1	11,1	10,7
120,5	*United Kingdom*	*128,7*	*128,2*	*126,0*	*120,7*	*119,5*	*118,6*	*117,1*
236,4	**Total EUR 9**	**260,5**	**255,9**	**251,7**	**244,7**	**242,1**	**239,8**	**237,2**

MINE-OWNED, INDEPENDENT AND STEELWORKS-OWNED COKING PLANTS

Investment

TABLE 4

Capital expenditure by coalfields

million EUA

Area	Actual expenditure			Estimated expenditure		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Mine-owned coking plants						
Ruhr [1]	28,0	41,9	20,9	26,4	19,8	13,4
Aachen [2]	4,1	2,1	0,4	0,6	0,6	1,1
Saar	3,4	4,2	4,2	7,6	3,3	0,9
FR of Germany	*35,4*	*48,2*	*25,5*	*34,6*	*23,6*	*15,4*
Nord/Pas-de-Calais	2,8	2,3	3,0	3,0	3,0	3,7
Lorraine	19,6	23,6	12,8	19,5	4,6	7,7
Centre-Midi	0,0	0,2	—	0,0	0,1	—
France	*22,4*	*26,0*	*15,8*	*22,5*	*7,7*	*11,3*
United Kingdom	*1,5*	*2,7*	*5,9*	*4,0*	*17,1*	*0,7*
Total EUR 9	**59,3**	**76,9**	**47,2**	**61,1**	**48,4**	**27,4**
Independent coking plants						
Belgium and Netherlands	*1,8*	*0,1*	*0,6*	*0,1*	*0,7*	*0,0*
Italy	*10,5*	*11,3*	*3,5*	*4,2*	*4,5*	*0,8*
United Kingdom	*0,6*	*0,7*	*0,8*	*0,7*	*0,8*	—
Total EUR 9	**12,9**	**12,1**	**4,9**	**5,0**	**6,0**	**0,8**
Steelworks-owned coking plants						
FR of Germany	*2,2*	*6,4*	*5,8*	*22,3*	*3,0*	*6,6*
Belgium and Netherlands	*14,7*	*10,9*	*7,6*	*8,5*	*11,0*	*5,6*
France	*21,0*	*20,0*	*18,2*	*16,7*	*13,0*	*12,4*
Italy	*24,5*	*19,9*	*18,9*	*16,3*	*10,9*	*6,9*
Scotland	7,6	7,0	3,3	5,5	1,1	—
South Wales	31,4	59,5	43,4	53,2	27,1	0,2
Northern England	62,8	32,8	15,2	26,6	22,5	3,0
England - other areas	0,4	1,2	3,1	3,8	1,1	—
United Kingdom	*102,2*	*100,5*	*64,9*	*89,1*	*51,8*	*3,2*
Total EUR 9	**164,6**	**157,7**	**115,4**	**152,9**	**89,7**	**34,7**
Grand total EUR 9	**236,8**	**246,7**	**167,5**	**218,3**	**144,1**	**62,9**

[1] Without the expenses of the Ruhr part of EBV.
[2] Includes the expenses of the Ruhr part of EBV.

COKE

Production

TABLE 5

Production and production potential by regions

million tonnes

Actual production 1978	Region	Extraction potential 1976	Extraction potential 1977	Extraction potential 1978	Expected extraction potential 1979	Expected extraction potential 1980	Expected extraction potential 1981	Expected extraction potential 1982
	Mine-owned coking plants							
15,1	Ruhr	23,6	21,1	19,0	19,0	19,0	19,1	19,2
1,7	Aachen	2,0	2,0	1,9	1,9	1,9	1,9	1,9
1,3	Saar	1,5	1,5	1,5	1,5	1,5	1,5	1,5
18,1	*FR of Germany*	*27,1*	*24,5*	*22,4*	*22,4*	*22,4*	*22,5*	*22,6*
2,3	Nord/Pas-de-Calais	4,8	4,8	2,9	2,9	2,9	2,9	2,9
2,0	Lorraine	2,3	2,7	2,6	2,6	2,6	2,6	2,6
0,3	Centre-Midi	0,5	0,5	0,5	0,4	0,3	0,3	0,3
4,6	*France*	*7,6*	*8,0*	*6,0*	*5,9*	*5,8*	*5,8*	*5,8*
3,1	*United Kingdom*	*4,7*	*4,6*	*4,1*	*3,7*	*3,6*	*3,0*	*2,9*
25,8	**Total EUR 9**	**39,4**	**37,1**	**32,5**	**32,0**	**31,8**	**31,3**	**31,3**
	Independent coking plants							
0,6	*Belgium and Netherlands*	*0,8*	*0,8*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*
1,5	*Italy*	*2,6*	*2,6*	*2,6*	*2,6*	*2,6*	*2,6*	*2,6*
0,4	*United Kingdom*[1]	*0,8*	*0,6*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*
2,5	**Total EUR 9**	**4,2**	**4,0**	**3,7**	**3,7**	**3,7**	**3,7**	**3,7**
	Steelworks-owned coking plants							
7,5	*FR of Germany*	*9,6*	*9,1*	*9,1*	*9,1*	*9,1*	*9,1*	*9,1*
7,6	*Belgium and Netherlands*	*10,2*	*10,7*	*9,7*	*9,3*	*9,1*	*8,9*	*8,9*
6,0	*France*	*6,7*	*6,7*	*6,7*	*6,5*	*6,3*	*6,3*	*6,1*
5,8	*Italy*	*9,0*	*9,0*	*9.0*	*9,0*	*9,0*	*9,0*	*9.0*
0,7	*Scotland*	1,2	1,1	0,9	1,2	1,3	1,3	1,0
2,5	Wales	3,9	3,7	2,9	3,0	3,6	3,2	2,9
3,4	Northern England	5,1	4,0	3,9	4,2	5,3	5,3	5,0
0,6	England - other regions	0,9	0,9	0,7	0,5	0,6	0,6	0,6
7,3	*United Kingdom*	*11,1*	*9,6*	*8,5*	*9,1*	*10,8*	*10,5*	*9,5*
34,2	**Total EUR 9**	**46,6**	**45,1**	**43,0**	**43,0**	**44,3**	**43,8**	**42,6**
62,6	**Grand total EUR 9**	**90,2**	**86,2**	**79,2**	**78,7**	**79,8**	**78,8**	**77,6**

[1] Without LTC.

HARD COAL BRIQUETTES

Production

TABLE 6

Production and production potential by regions

million tonnes

Actual production 1978	Region	Extraction potential 1976	1977	1978	Expected extraction potential 1979	1980	1981	1982
0,7	Ruhr	0,8	0,7	0,7	0,8	0,8	0,8	0,8
0,6	Aachen	1,0	1,0	1,0	1,0	1,0	1,0	1,0
0,2	Lower Saxony	0,7	0,7	0,7	0,7	0,7	0,7	0,7
1,5	*FR of Germany*	*2,5*	*2,3*	*2,4*	*2,4*	*2,4*	*2,4*	*2,4*
0,1	*Belgium*	*0,3*	*0,3*	*0,3*	*0,3*	*0,2*	*0,1*	—
1,3	Nord/Pas-de-Calais	2,7	2,0	1,4	1,4	1,4	1,4	1,4
0,4	Centre-Midi	0,8	0,8	0,8	0,8	0,8	0,8	0,3
0,6	Independent plants [1]	0,8	0,8	0,7	0,7	0,6	0,6	0,5
2,3	*France*	*4,3*	*3,6*	*2,9*	*2,9*	*2,8*	*2,8*	*2,2*
1,0	*United Kingdom*	*1,2*	*1,1*	*1,1*	*1,1*	*0,9*	*0,9*	*0,8*
4,9	**Total EUR 9**	**8,3**	**7,3**	**6,7**	**6,7**	**6,3**	**6,2**	**5,4**

[1] Estimate.

BROWN COAL BRIQUETTES

Production

TABLE 7

Production and production potential for brown coal briquettes

million tonnes

Actual production 1978		Extraction potential 1976	1977	1978	Expected extraction potential 1979	1980	1981	1982
3,9	**Total EUR 9**	**4,8**	**4,3**	**3,9**	**3,6**	**3,5**	**3,3**	**3,2**

IRON-ORE MINING

Investment

TABLE 8

Capital expenditure by countries

million EUA

Country	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
FR of Germany	*6,0*	*5,1*	*3,6*	*6,8*	*2,2*	—
Belgium	—	—	—	—	—	—
France	*20,5*	*13,3*	*10,9*	*11,1*	*8,7*	*2,4*
Italy	*0,3*	*0,3*	*0,0*	*0,3*	*0,3*	—
Luxembourg	*1,2*	*0,8*	*0,1*	*0,6*	*0,0*	—
United Kingdom	*0,3*	*1,2*	*1,5*	*1,4*	*5,9*	*1,2*
Total EUR 9	**28,6**	**20,7**	**16,1**	**20,2**	**17,1**	**3,6**

IRON-ORE MINING

Extraction

TABLE 9

Capital expenditure by category

million tonnes

Sectors	Actual expenditure			Estimated expenditure (cat. A + B)	
	1976	1977	1978	1979	1980
Extraction of ore	24,1	17,5	12,9	14,2	3,4
Mine-based preparation of ore	0,2	0,2	0,4	0,3	—
Miscellaneous surface	4,3	3,0	2,8	2,6	0,2
Total EUR 9	**28,6**	**20,7**	**16,1**	**17,1**	**3,6**

TABLE 10

Extraction and extraction potential by countries

million tonnes

Country	Extraction		Extraction potential				
	1977	1978	1978	1979	1980	1981	1982
FR of Germany	*2,9*	*1,7*	*2,1*	*2,2*	*2,3*	*2,3*	*2,3*
Belgium	*0,0*	*0,0*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*
France	*37,0*	*33,4*	*44,1*	*39,1*	*36,9*	*36,6*	*35,5*
Italy	*0,4*	*0,4*	*0,4*	*0,3*	*0,2*	*0,2*	*0,2*
Luxembourg	*1,5*	*0,9*	*1,1*	*0,6*	*0,6*	*0,6*	*0,6*
United Kingdom	*3,8*	*4,2*	*5,5*	*5,4*	*5,6*	*5,6*	*5,6*
Total EUR 9	**45,6**	**40,6**	**53,3**	**47,7**	**45,7**	**45,4**	**44,3**

TABLE 11

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	169,0	118,2	49,4	60,5	39,6	48,5
North Rhine/Westphalia	554,0	329,2	335,1	447,4	391,5	320,4
Southern Germany	23,8	30,3	27,2	33,6	21,0	5,0
Saar	76,3	27,8	33,9	69,3	83,8	91,1
FR of Germany	*823,1*	*505,5*	*445,5*	*610,8*	*536,0*	*465,0*
Belgium	*276,9*	*139,2*	*85,3*	*83,2*	*106,6*	*61,5*
Eastern France	198,5	174,0	243,2	217,6	201,7	99,1
Northern France	163,7	153,6	111,4	93,3	57,4	18,3
France - other areas	98,6	49,8	48,5	48,2	35,9	18,3
France	*460,8*	*377,4*	*403,1*	*359,1*	*294,9*	*135,7*
Italy - coastal areas	328,4	307,3	284,5	288,0	220,6	277,3
Italy - other areas	233,1	194,2	165,3	141,6	176,3	171,8
Italy	*561,5*	*501,6*	*449,8*	*429,6*	*396,9*	*449,1*
Luxembourg	*56,6*	*68,3*	*107,0*	*131,9*	*135,4*	*45,4*
Netherlands	*67,0*	*45,4*	*61,1*	*84,3*	*99,3*	*26,4*
Scotland	107,8	114,7	70,1	106,9	43,4	31,1
Wales	359,4	211,1	171,4	187,7	135,4	45,0
Northern England	537,1	366,0	241,7	267,0	189,0	53,8
England - other areas	27,5	24,2	17,8	17,4	32,9	15,5
United Kingdom	*1 031,8*	*716,0*	*501,0*	*579,0*	*400,6*	*145,4*
Denmark	*15,6*	*5,6*	*1,7*	—	*15,0*	*8,6*
Ireland	*0,1*	*0,7*	*0,8*	*6,8*	*32,9*	*17,5*
Total EUR 9	**3 293,3**	**2 359,5**	**2 055,3**	**2 284,7**	**2 017,6**	**1 354,7**
Total EUR 9 at constant 1970 prices	**1 800,6**	**1 174,5**	**956,0**	**1 062,7**	**938,4**	**630,1**

TABLE 12

Capital expenditure by type of installation

million EUA

Type of installation	Actual expenditure			Estimated expenditure (cat. A + B)	
	1976	1977	1978	1979	1980
Plant for production of:					
Pig-iron	813,9	593,2	470,4	372,1	210,6
Steel	582,0	463,9	371,6	357,0	241,8
Rolled products	1 354,6	917,7	833,1	901,9	665,8
General services	542,7	384,7	380,2	386,6	236,4
Total	**3 293,3**	**2 359,5**	**2 055,3**	**2 017,6**	**1 354,7**
Total at constant 1970 prices	**1 800,6**	**1 174,5**	**956,0**	**938,4**	**630,1**

TABLE 13

Capital expenditure in 1978 by stages in production

million EUA

Stage in production	Estimates (1)	Actual amounts spent (2)	Agreement with estimates % (3) = (2):(1)
Pig-iron	546,2	470,4	86,1
Crude steel	446,7	371,6	83,2
Rolling-mills	948,7	833,1	87,8
General services	343,0	380,2	110,8
Total iron and steel industry	**2 284,7**	**2 055,3**	**90,0**

IRON AND STEEL INDUSTRY
ESTIMATED / ACTUAL CAPITAL EXPENDITURE

Investment

TABLE 14

Capital expenditure in 1978 by countries

Country	Estimated national currency (1)	Achieved national currency (2)	Rate of achievement % at current prices (3) = (2):(1)
FR of Germany	*DM (million)*	*DM (million)*	
	1 561,3	*1 138,7*	*72,9*
Belgium	*BFR (million)*	*BFR (million)*	
	3 333,1	*3 417,2*	*102,5*
France	*FF (million)*	*FF (million)*	
	2 061,2	*2 313,7*	*112,2*
Italy	*LIT (thousand million)*	*LIT (thousand million)*	
	464,1	*485,9*	*104,7*
Luxembourg	*LFR (million)*	*LFR (million)*	
	5 284,1	*4 286,5*	*81,1*
Netherlands	*HFL (million)*	*HFL (million)*	
	232,2	*168,3*	*72,5*
United Kingdom	*UKL (million)*	*UKL (million)*	
	384,4	*332,6*	*86,5*
Denmark	*DKR (million)*	*DKR (million)*	
	—	*11,9*	*119,0*
Ireland	*IRL (million)*	*IRL (million)*	
	4,5	*0,5*	*1,1*
Total EUR 9	*million EUA*	*million EUA*	
	2 284,7	*2 055,3*	*90,0*

STEELWORKS-OWNED COKING PLANTS, BURDEN PREPARATION DIRECT REDUCTION AND BLAST-FURNACES

Total investment

TABLE 15

Capital expenditure by type of installation

million EUA

Sectors	Actual expenditure			Estimated expenditure (cat. A + B)	
	1976	1977	1978	1979	1980
Steelworks coking plants	164,6	157,8	115,3	89,7	34,8
Burden preparation and direct reduction	221,3	119,2	93,8	106,2	90,2
Blast-furnaces	428,0	316,2	261,3	176,3	85,6
Total EUR 9	**813,9**	**593,2**	**470,4**	**372,1**	**210,6**

TABLE 16

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	37,1	45,7	6,0	5,9	4,3	1,1
North Rhine/Westphalia	119,9	41,6	43,7	42,7	34,4	40,9
Southern Germany	2,0	0,2	0,1	0,3	0,5	0,4
Saar	10,7	2,2	0,8	5,3	6,2	6.4
FR of Germany	*169,7*	*89,7*	*50,5*	*54,2*	*45,4*	*48,7*
Belgium	*18,0*	*13,7*	*4,5*	*2,8*	*2,2*	*0,6*
Eastern France	53,8	26,2	28,3	28,6	14,3	5,9
Northern France	5,2	8,9	9,1	7,5	4,5	0,5
France - other areas	10,9	4,0	1,8	1,9	2,6	0,5
France	*69,9*	*39,2*	*39,2*	*38,0*	*21,4*	*6,8*
Italy - coastal areas	84,9	76,3	47,6	20,9	15,0	14,0
Italy - other areas	2,3	1,6	2,3	2,7	1,8	0,9
Italy	*87,2*	*77,9*	*49,8*	*23,6*	*16,8*	*14,9*
Luxembourg	*2,2*	*17,4*	*52,6*	*73,8*	*46,4*	—
Netherlands	*6,8*	*2,9*	*1,6*	*4,6*	*10,5*	*2,8*
Scotland	9,6	12,2	7,7	12,1	6,0	9,5
Wales	32,5	19,0	3,8	8,5	5,2	0,9
Northern England	28,8	43,5	51,3	42,0	21,8	0,5
England - other areas	3,3	0,7	0,3	1,1	0,5	0,7
United Kingdom	*74,2*	*75,4*	*63,1*	*63,7*	*33,5*	*11,6*
Denmark	—	—	—	—	—	—
Ireland	—	—	—	—	—	—
Total EUR 9	**428,0**	**316,2**	**261,3**	**260,7**	**176,3**	**85,6**

STEELWORKS-OWNED COKING PLANTS, BURDEN PREPARATION, DIRECT REDUCTION AND BLAST-FURNACES TOTAL

TABLE 17

Investment

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	44,9	57,5	10,8	13,3	9,4	2,6
North Rhine/Westphalia	131,3	61,4	81,7	114,8	83,9	69,4
Southern Germany	2,7	0,2	0,1	0,4	0,5	0,4
Saar	11,0	2,3	0,8	5,3	6,2	6,4
FR of Germany	*189,9*	*121,5*	*93,3*	*133,8*	*100,0*	*78,8*
Belgium	*66,4*	*36,8*	*11,6*	*12,6*	*12,9*	*6,5*
Eastern France	89,7	48,4	54,5	49,4	31,2	19,6
Northern France	10,0	9,7	9,5	8,0	4,6	0,5
France - other areas	26,4	8,5	4,1	5,2	3,0	0,7
France	*126,1*	*66,6*	*68,1*	*62,6*	*38,8*	*20,8*
Italy - coastal areas	116,4	105,2	68,6	49,7	34,0	53,6
Italy - other areas	2,9	2,3	3,7	3,7	21,8	25,2
Italy	*119,3*	*107,6*	*72,3*	*53,4*	*55,7*	*78,7*
Luxembourg	*3,9*	*18,6*	*52,7*	*74,2*	*47,0*	—
Netherlands	*18,9*	*7,9*	*5,7*	*7,6*	*13,1*	*3,6*
Scotland	68,7	62,1	28,5	40,8	16,9	16,1
Wales	92,6	82,2	50,7	67,7	32,9	1,2
Northern England	122,1	85,1	84,0	87,5	53,1	4,2
England - other areas	6,0	4,8	3,4	6,0	1,6	0,7
United Kingdom	*289,4*	*234,3*	*166,6*	*202,0*	*104,6*	*22,2*
Denmark	—	—	—	—	—	—
Ireland	—	—	—	—	—	—
Total EUR 9	**813,9**	**593,2**	**470,4**	**546,2**	**372,1**	**210,6**

TABLE 18

Capital expenditure according to production process

million EUA

Process	Actual expenditure			Estimated expenditure (cat. A + B)	
	1976	1977	1978	1979	1980
OBM, LWS and similar	79,7	96,5	123,9	81,2	46,2
Open-hearth	41,0	23,5	6,5	5,9	2,5
Electric furnace	226,8	180,4	126,9	123,6	77,7
LD, Kaldo (Basic Bessemer and other)	234,5	163,5	114,3	146,4	115,3
Total EUR 9	**582,0**	**463,9**	**371,6**	**357,0**	**241,8**

OPEN-HEARTH STEELWORKS

Investment

TABLE 19

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	1,4	—	0,1	3,0	0,7	1,8
North Rhine/Westphalia	37,2	21,9	5,6	9,4	4,1	0,7
Southern Germany	0,2	0,1	0,3	0,1	0,0	—
Saar	0,0	0,0	—	—	—	—
FR of Germany	*38,8*	*22,1*	*5,9*	*12,6*	*4,8*	*2,5*
Belgium	—	—	—	—	—	—
Eastern France	1,2	—	—	—	—	—
Northern France	0,2	0,8	—	0,1	0,0	—
France - other areas	—	—	—	—	—	—
France	*1,4*	*0,8*	—	*0,1*	*0,0*	—
Italy - coastal areas	—	—	—	—	—	—
Italy - other areas	0,6	0,0	0,1	0,1	0,4	—
Italy	*0,6*	*0,0*	*0,1*	*0,1*	*0,4*	—
Luxembourg	—	—	—	—	—	—
Netherlands	—	—	—	—	—	—
Scotland	—	—	—	—	—	—
Wales	0,1	0,2	0,4	0,2	0,6	0,0
Northern England	—	0,0	—	—	—	—
England - other areas	—	0,1	—	—	—	—
United Kingdom	*0,1*	*0,3*	*0,4*	*0,2*	*0,6*	*0,0*
Denmark	*0,1*	*0,2*	*0,1*	—	*0,1*	—
Ireland	—	—	—	—	—	—
Total EUR 9	**41,0**	**23,5**	**6,5**	**13,0**	**5,9**	**2,5**

ELECTRIC-FURNACE STEELWORKS

Investment

TABLE 20

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	7,4	4,2	0,8	1,6	2,4	2,9
North Rhine/Westphalia	20,6	26,0	31,9	33,7	23,3	14,0
Southern Germany	2,7	2,5	0,2	4,7	0,0	0,0
Saar	5,2	1,5	1,1	0,9	—	—
FR of Germany	*35,9*	*34,2*	*34,0*	*40,9*	*25,7*	*16,9*
Belgium	*14,6*	*16,3*	*6,6*	*5,8*	*1,3*	—
Eastern France	3,2	0,3	0,1	0,4	0,1	0,0
Northern France	9,3	16,6	12,6	8,0	9,1	1,5
France - other areas	8,1	8,0	7,4	9,9	8,4	4,9
France	*20,6*	*24,9*	*20,2*	*18,3*	*17,5*	*6,4*
Italy - coastal areas	13,4	8,2	14,4	18,4	9,2	3,5
Italy - other areas	64,0	48,4	21,9	19,1	22,0	29,2
Italy	*77,4*	*56,6*	*36,3*	*37,5*	*31,3*	*32,7*
Luxembourg	*0,0*	—	—	—	—	—
Netherlands	—	*0,2*	*0,8*	*0,5*	*2,2*	*0,1*
Scotland	2,7	0,3	0,2	0,3	0,3	—
Wales	33,1	15,7	12,5	15,3	3,4	0,0
Northern England	32,6	26,3	14,6	18,4	23,2	9,4
England - other areas	2,1	2,3	1,2	1,6	9,9	8,1
United Kingdom	*70,5*	*44,5*	*28,5*	*35,6*	*36,8*	*17,5*
Denmark	*7,8*	*3,7*	*0,7*	—	*2,0*	*0,5*
Ireland	*0,0*	*0,0*	*0,0*	*1,3*	*6,8*	*3,6*
Total EUR 9	**226,8**	**180,4**	**126,9**	**140,0**	**123,6**	**77,7**

LD, KALDO AND OTHER STEELWORKS (BASIC BESSEMER, ETC.)

TABLE 21

Capital expenditure by regions

Investment

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	26,9	12,5	3,9	4,2	2,0	14,3
North Rhine/Westphalia	41,1	15,2	19,3	34,2	35,8	27,1
Southern Germany	—	—	—	—	—	—
Saar	1,0	0,8	11,8	32,5	43,9	45,9
FR of Germany	*69,0*	*28,5*	*35,1*	*70,9*	*81,7*	*87,2*
Belgium	*18,6*	*12,4*	*4,1*	*3,9*	*5,2*	*1,8*
Eastern France	4,3	1,3	1,0	1,8	3,3	5,3
Northern France	19,0	15,8	5,8	3,8	2,3	0,7
France - other areas	4,9	2,6	1,4	3,5	2,9	1,4
France	*28,2*	*19,7*	*8,2*	*9,1*	*8,5*	*7,4*
Italy - coastal areas	20,1	34,0	15,6	16,9	11,0	6,8
Italy - other areas	—	—	—	—	—	—
Italy	*20,1*	*34,0*	*15,6*	*16,9*	*11,0*	*6,8*
Luxembourg	*31,8*	*20,2*	*14,2*	*13,0*	*12,4*	*1,2*
Netherlands	*16,7*	*8,0*	*6,0*	*7,0*	*6,5*	*1,9*
Scotland	12,4	11,1	12,2	21,9	13,2	6,3
Wales	3,0	1,9	3,0	3,8	2,1	0,2
Northern England	34,6	27,6	15,9	21,7	5,8	2,5
England - other areas	0,1	0,1	0,2	1,6	0,1	0,0
United Kingdom	*50,1*	*40,8*	*31,3*	*49,0*	*21,1*	*8,9*
Denmark	—	—	—	—	—	—
Ireland	—	—	—	—	—	—
Total EUR 9	**234,5**	**163,5**	**114,3**	**169,8**	**146,4**	**115,3**

BOTTOM BLOWN STEELS (OBM, LWS, ETC.)

TABLE 22

Capital expenditure

Investment

million EUA

Total EUR 9	**79,7**	**96,5**	**123,9**	**123,9**	**81,2**	**46,2**

TABLE 23

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	37,0	18,0	4,8	8,9	5,1	19,6
North Rhine/Westphalia	100,2	63,0	56,8	77,3	63,1	41,8
Southern Germany	8,9	7,7	1,7	6,2	0,9	0,1
Saar	24,9	11,2	17,6	38,9	44,8	45,9
FR of Germany	*171,0*	*100,0*	*80,9*	*131,2*	*114,0*	*107,3*
Belgium	*59,0*	*29,5*	*11,7*	*10,0*	*6,5*	*1,8*
Eastern France	28,9	69,6	93,8	89,4	58,7	17,6
Northern France	28,8	33,3	18,3	11,9	11,4	2,3
France - other areas	13,1	10,6	8,9	13,3	11,3	6,3
France	*70,8*	*113,5*	*121,0*	*114,6*	*81,4*	*26,2*
Italy - coastal areas	39,0	54,5	54,1	64,9	44,3	43,6
Italy - other areas	65,0	48,6	22,0	19,3	22,4	29,2
Italy	*104,0*	*103,1*	*76,0*	*84,2*	*66,7*	*72,8*
Luxembourg	*31,8*	*20,2*	*14,2*	*13,0*	*12,4*	*1,2*
Netherlands	*16,7*	*8,2*	*6,7*	*7,5*	*8,7*	*2,0*
Scotland	15,1	11,3	12,4	22,2	13,5	6,3
Wales	36,3	17,8	16,0	19,3	6,1	0,3
Northern England	67,2	53,9	30,5	40,1	29,0	11,8
England - other areas	2,2	2,5	1,3	3,3	10,0	8,1
United Kingdom	*120,8*	*85,6*	*60,2*	*84,9*	*58,5*	*26,4*
Denmark	*7,9*	*3,9*	*0,8*	—	*2,1*	*0,5*
Ireland	*0,0*	*0,0*	*0,0*	*1,3*	*6,8*	*3,6*
Total EUR 9	**582,0**	**463,9**	**371,6**	**446,7**	**357,0**	**241,8**

TABLE 24

Capital expenditure by type of mill

million EUA

Type of mill	Actual expenditure			Estimated expenditure (cat. A + B)	
	1976	1977	1978	1979	1980
Blooming and slabbings mills	149,7	138,6	105,3	87,9	58,4
Continuous casting plants	196,5	187,4	190,3	280,6	240,4
Total section mills	308,1	206,2	202,4	194,6	126,2
Total flat product mills	529,0	290,1	270,6	274,9	203,4
Miscellaneous (including coating lines)	171,3	95,5	64,5	63,8	37,4
Total EUR 9	**1 354,6**	**917,7**	**833,1**	**901,9**	**665,8**

TABLE 25

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	0,3	0,6	0,7	0,8	1,7	5,1
North Rhine/Westphalia	28,9	39,7	37,4	45,9	47,5	63,6
Southern Germany	2,1	0,1	0,1	0,7	0,2	0,0
Saar	0,8	0,1	1,7	6,2	13,3	14,0
FR of Germany	*32,1*	*40,4*	*39,9*	*53,6*	*62,8*	*82,7*
Belgium	*34,0*	*24,0*	*19,8*	*16,8*	*7,2*	*10,7*
Eastern France	0,7	3,5	47,4	39,9	72,0	42,3
Northern France	15,4	15,9	4,3	9,1	0,7	—
France - other areas	6,8	2,6	0,4	1,9	1,4	0,4
France	*22,9*	*22,0*	*52,1*	*50,9*	*74,2*	*42,7*
Italy - coastal areas	17,0	18,5	24,8	34,9	17,6	33,7
Italy - other areas	16,1	20,9	10,0	5,7	7,8	7,2
Italy	*33,1*	*39,3*	*34,9*	*40,6*	*25,4*	*40,9*
Luxembourg	—	—	*0,3*	—	*20,7*	*23,2*
Netherlands	—	*2,8*	*22,4*	*47,8*	*50,0*	*13,3*
Scotland	8,3	25,7	9,4	13,8	3,3	1,0
Wales	24,4	0,9	0,4	3,6	0,4	—
Northern England	40,3	31,8	10,9	11,8	24,7	17,0
England - other areas	1,4	0,4	0,3	0,5	0,5	2,0
United Kingdom	*74,4*	*58,8*	*21,0*	*29,7*	*28,9*	*19,9*
Denmark	—	—	—	—	*9,8*	*6,0*
Ireland	—	—	—	—	*1,7*	*0,9*
Total EUR 9	**196,5**	**187,4**	**190,3**	**239,5**	**280,6**	**240,4**

BLOOMING, SLABBING, SEMI-FINISHED PRODUCT MILLS

Investment

TABLE 26

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	0,5	1,7	4,3	0,8	1,4	1,6
North Rhine/Westphalia	15,2	13,5	17,4	18,5	14,5	9,7
Southern Germany	0,6	0,1	0,0	0,1	2,0	—
Saar	4,7	2,1	0,4	0,1	4,4	7,2
FR of Germany	*21,0*	*17,5*	*22,1*	*19,5*	*22,3*	*18,5*
Belgium	*4,9*	*0,4*	*0,5*	*0,1*	*9,9*	*0,7*
Eastern France	15,9	1,7	3,3	2,9	1,8	0,6
Northern France	1,2	3,5	0,8	0,1	0,3	0,0
France - other areas	6,3	5,3	1,3	0,8	0,2	0,0
France	*23,4*	*10,4*	*5,4*	*3,8*	*2,3*	*0,7*
Italy - coastal areas	2,7	5,0	1,2	0,8	6,4	13,7
Italy - other areas	4,0	2,9	5,3	2,2	3,8	4,0
Italy	*6,7*	*8,0*	*6,5*	*3,0*	*10,2*	*17,7*
Luxembourg	*6,0*	*9,2*	*2,3*	*5,4*	*3,9*	*13,0*
Netherlands	*3,8*	*0,5*	*0,6*	*0,6*	*0,5*	*0,1*
Scotland	0,1	0,0	0,6	0,5	0,8	0,2
Wales	3,0	32,3	36,9	43,4	29,5	6,2
Northern England	80,1	59,0	29,7	43,1	7,8	1,1
England - other areas	0,6	1,2	0,7	0,5	0,8	0,2
United Kingdom	*83,8*	*92,6*	*67,9*	*87,5*	*38,9*	*7,7*
Denmark	—	—	—	—	—	—
Ireland	*0,0*	—	*0,0*	—	—	—
Total EUR 9	**149,7**	**138,6**	**105,3**	**120,0**	**87,9**	**58,4**

TABLE 27

Capital expenditure by sectors

million EUA

Type of mill	Actual expenditure			Estimated expenditure (cat. A + B)	
	1976	1977	1978	1979	1980
Heavy and medium section mills	143,2	100,5	77,0	80,9	53,4
Small bar mills	49,6	48,1	54,4	61,8	45,3
Wire rod mills	115,3	57,5	71,0	52,0	27,6
Total section mills EUR 9	**308,1**	**206,2**	**202,4**	**194,6**	**126,2**

TABLE 28

Capital expenditure by countries

million EUA

Country	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
FR of Germany	*61,2*	*31,6*	*17,3*	*31,3*	*17,2*	*6,7*
Belgium	*5,3*	*3,2*	*2,5*	*1,4*	*0,0*	—
France	*15,2*	*18,5*	*23,3*	*19,5*	*10,1*	*7,0*
Italy	*46,5*	*38,0*	*25,7*	*24,8*	*14,8*	*24,9*
Luxembourg	*2,5*	*3,0*	*4,3*	*5,6*	*13,3*	*3,8*
Netherlands	*0,0*	*0,1*	*0,2*	*0,7*	*0,6*	*0,0*
United Kingdom	*12,5*	*6,3*	*3,4*	*5,2*	*8,4*	*2,1*
Denmark	—	—	—	—	—	—
Ireland	—	—	—	—	*16,5*	*8,8*
Total EUR 9	**143,2**	**100,5**	**77,0**	**88,6**	**80,9**	**53,4**

TABLE 29

Capital expenditure by countries

million EUA

Country	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
FR of Germany	*7,4*	*7,6*	*11,4*	*14,0*	*10,9*	*1,8*
Belgium	*4,8*	*2,7*	*1,8*	*1,5*	*6,3*	*10,9*
France	*11,9*	*18,6*	*21,5*	*12,6*	*8,4*	*2,2*
Italy	*18,7*	*8,7*	*15,5*	*13,0*	*25,6*	*27,9*
Luxembourg	*0,6*	*1,5*	*0,1*	*0,7*	*5,5*	—
Netherlands	*0,3*	*0,9*	*0,3*	*0,2*	*0,2*	*0,1*
United Kingdom	*5,6*	*7,1*	*3,5*	*3,6*	*4,4*	*2,0*
Denmark	*0,3*	*1,1*	*0,2*	—	*0,5*	*0,4*
Ireland	—	—	—	*1,8*	—	—
Total EUR 9	**49,6**	**48,1**	**54,4**	**47,4**	**61,8**	**45,3**

TABLE 30

Capital expenditure by countries

million EUA

Country	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
FR of Germany	*11,9*	*4,2*	*2,7*	*6,0*	*1,7*	*2,1*
Belgium	*19,2*	*5,1*	*2,7*	*5,6*	*13,2*	*11,7*
France	*22,4*	*7,0*	*12,7*	*10,0*	*3,3*	*1,0*
Italy	*18,0*	*30,5*	*42,5*	*36,0*	*21,2*	*11,0*
Luxembourg	*0,0*	*0,1*	*2,5*	*1,9*	*0,2*	—
Netherlands	*0,1*	*0,2*	*0,7*	*0,3*	*1,0*	*0,1*
United Kingdom	*43,7*	*10,5*	*7,2*	*8,8*	*11,4*	*1,8*
Denmark	—	—	—	—	—	—
Ireland	—	—	—	*0,0*	—	—
Total EUR 9	**115,3**	**57,5**	**71,0**	**68,6**	**52,0**	**27,6**

TABLE 31

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	14,8	3,4	8,2	13,2	5,0	3,9
North Rhine/Westphalia	64,4	37,5	22,5	32,7	23,9	4,9
Southern Germany	0,3	0,0	0,2	5,1	0,1	—
Saar	1,0	2,5	0,6	0,4	0,7	1,8
FR of Germany	*80,5*	*43,4*	*31,5*	*51,4*	*29,7*	*10,6*
Belgium	*29,3*	*10,9*	*7,0*	*8,5*	*19,5*	*22,6*
Eastern France	29,9	10,3	14,5	12,1	6,5	6,8
Northern France	16,8	29,6	35,3	22,9	8,8	1,1
France - other areas	2,8	4,0	7,8	7,1	6,5	2,4
France	*49,5*	*44,0*	*57,6*	*42,1*	*21,8*	*10,2*
Italy - coastal areas	32,3	41,2	36,5	35,8	12,7	16,3
Italy - other areas	50,9	35,9	47,3	38,0	48,9	47,5
Italy	*83,2*	*77,1*	*83,8*	*73,8*	*61,6*	*63,8*
Luxembourg	*3,1*	*4,5*	*7,0*	*8,2*	*19,0*	*3,8*
Netherlands	*0,4*	*1,2*	*1,1*	*1,2*	*1,8*	*0,2*
Scotland	2,2	2,2	0,6	0,1	1,1	0,4
Wales	12,6	3,8	1,8	1,7	0,1	—
Northern England	39,2	14,4	9,7	14,5	10,3	3,6
England - other areas	7,8	3,4	2,1	1,3	12,7	1,8
United Kingdom	*61,8*	*23,8*	*14,2*	*17,6*	*24,2*	*5,9*
Denmark	*0,3*	*1,1*	*0,2*	—	*0,5*	*0,4*
Ireland	—	—	—	*1,8*	*16,5*	*8,8*
Total EUR 9	**308,1**	**206,2**	**202,4**	**204,6**	**194,6**	**126,2**

TABLE 32

Capital expenditure by sectors

million EUA

Sectors	Actual expenditure			Estimated expenditure (cat. A + B)	
	1976	1977	1978	1979	1980
Hot wide strip mills	171,6	49,6	52,8	81,7	90,9
Hoop and strip mills	18,6	11,3	23,4	21,7	1,9
Plate and universal mills	135,9	70,7	39,0	32,4	19,8
Hot sheet mills	0,3	0,3	0,3	0,6	0,7
Cold strip mills	202,6	158,1	155,1	138,6	90,2
Total flat product mills EUR 9	**529,0**	**290,1**	**270,6**	**274,9**	**203,4**

TABLE 33

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	41,3	22,9	7,9	15,6	5,4	8,7
North Rhine/Westphalia	91,0	48,0	54,9	68,9	70,0	50,4
Southern Germany	1,7	13,2	16,4	13,4	7,4	1,1
Saar	17,4	0,6	1,7	2,2	0,1	—
FR of Germany	*151,4*	*84,7*	*80,9*	*100,1*	*82,9*	*60,3*
Belgium	*48,8*	*14,6*	*9,7*	*7,6*	*13,1*	*2,7*
Eastern France	0,8	15,4	5,1	3,0	12,4	5,6
Northern France	56,8	32,3	22,1	27,0	15,9	7,6
France - other areas	21,4	4,6	3,0	1,8	1,6	1,8
France	*79,0*	*52,2*	*30,2*	*31,8*	*30,0*	*15,0*
Italy - coastal areas	45,6	38,2	31,4	51,8	52,8	69,8
Italy - other areas	35,5	21,2	29,5	21,0	19,0	25,2
Italy	*81,1*	*59,4*	*60,9*	*72,8*	*71,8*	*95,0*
Luxembourg	*0,6*	*1,7*	*17,5*	*5,2*	*13,0*	*0,9*
Netherlands	*6,6*	*11,0*	*9,6*	*8,3*	*14,4*	*4,5*
Scotland	7,6	8,0	7,0	14,2	3,2	3,5
Wales	88,7	27,8	37,1	24,4	37,3	18,0
Northern England	56,2	28,4	16,5	22,4	8,1	2,8
England - other areas	3,1	1,9	1,0	0,7	0,5	0,1
United Kingdom	*155,6*	*66,1*	*61,6*	*61,7*	*49,2*	*24,3*
Denmark	*5,9*	*0,4*	*0,3*	—	*0,6*	*0,7*
Ireland	—	—	—	—	—	—
Total EUR 9	**529,0**	**290,1**	**270,6**	**287,6**	**274,9**	**203,4**

HOT WIDE STRIP MILLS

Investment

(already included in capital expenditure for flat product mills: Table 33)

TABLE 34

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	16,3	6,9	3,0	3,3	1,1	1,1
North Rhine/Westphalia	25,1	10,6	20,3	34,5	38,4	29,3
Southern Germany	—	—	—	—	—	—
Saar	—	—	—	—	—	—
FR of Germany	*41,4*	*17,5*	*23,3*	*37,8*	*39,5*	*30,5*
Belgium	*36,4*	*6,9*	*3,1*	*3,9*	*3,1*	*1,2*
Eastern France	—	—	—	—	—	—
Northern France	0,8	0,0	0,0	0,4	1,7	4,3
France - other areas	19,0	2,2	2,0	0,7	0,1	0,2
France	*19,8*	*2,2*	*2,0*	*1,1*	*1,9*	*4,5*
Italy - coastal areas	5,4	5,6	1,0	5,7	18,8	35,7
Italy - other areas	7,2	7,3	19,1	11,0	9,7	15,9
Italy	*12,6*	*13,0*	*20,1*	*16,7*	*28,5*	*51,7*
Luxembourg	—	*0,0*	*0,1*	*0,1*	*0,3*	—
Netherlands	*1,7*	*0,8*	*1,7*	*1,8*	*6,2*	*2,2*
Scotland	—	0,5	0,4	—	0,7	0,4
Wales	59,7	7,3	1,8	1,4	1,4	0,4
Northern England	—	1,3	0,3	0,9	0,1	—
England - other areas	—	—	—	—	—	—
United Kingdom	*59,7*	*9,2*	*2,5*	*2,3*	*2,1*	*0,8*
Denmark	—	—	—	—	—	—
Ireland	—	—	—	—	—	—
Total EUR 9	**171,6**	**49,6**	**52,8**	**63,7**	**81,7**	**90,9**

ROLLING-MILLS [1]
TOTAL

Investment

TABLE 35

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	57,3	28,6	21,2	30,5	13,7	19,3
North Rhine/Westphalia	245,1	155,8	139,7	176,3	166,0	137,9
Southern Germany	6,8	16,0	20,4	23,2	11,5	1,7
Saar	27,7	6,6	8,9	11,4	21,5	26,1
FR of Germany	*336,9*	*206,9*	*190,1*	*241,4*	*212,7*	*185,1*
Belgium	*119,0*	*51,7*	*41,7*	*42,4*	*63,0*	*37,1*
Eastern France	49,6	32,9	71,8	61,9	94,5	55,8
Northern France	105,0	88,6	67,1	63,7	29,9	13,2
France - other areas	48,9	25,8	16,8	19,8	12,5	5,3
France	*203,5*	*147,4*	*155,7*	*145,4*	*136,9*	*74,2*
Italy - coastal areas	101,0	107,4	97,2	126,7	93,1	140,6
Italy - other areas	109,9	86,9	100,6	87,0	87,8	92,1
Italy	*210,9*	*194,3*	*197,8*	*213,7*	*180,9*	*232,8*
Luxembourg	*10,0*	*22,6*	*27,4*	*28,6*	*59,1*	*41,7*
Netherlands	*11,1*	*16,4*	*34,5*	*58,2*	*67,6*	*18,3*
Scotland	18,2	36,0	17,6	28,5	8,5	5,1
Wales	199,9	93,4	95,1	91,9	76,5	25,3
Northern England	225,4	140,4	68,4	93,5	53,3	25,2
England - other areas	13,4	7,0	4,4	3,2	14,5	4,1
United Kingdom	*456,9*	*276,8*	*185,5*	*217,1*	*152,7*	*59,7*
Denmark	*6,3*	*1,5*	*0,4*	—	*10,8*	*7,2*
Ireland	*0,0*	*0,0*	*0,0*	*1,8*	*18,2*	*9,6*
Total EUR 9	**1 354,6**	**917,7**	**833,1**	**948,7**	**901,9**	**665,8**

[1] Including ancillary plants.

STEELWORKS-OWNED POWER-GENERATING PLANTS AND DISTRIBUTION NETWORKS

Investment

TABLE 36

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	9,2	3,3	2,5	1,9	3,0	1,8
North Rhine/Westphalia	31,0	8,4	6,0	12,9	18,5	24,9
Southern Germany	0,9	0,7	0,5	0,8	0,4	0,2
Saar	0,9	0,3	0,7	0,2	0,7	0,1
FR of Germany	*42,0*	*12,8*	*9,7*	*15,8*	*22,7*	*27,1*
Belgium	*13,7*	*4,2*	*6,0*	*6,7*	*7,4*	*4,5*
Eastern France	9,3	5,7	4,6	2,9	4,6	0,9
Northern France	3,8	5,4	1,7	1,3	0,9	0,3
France - other areas	4,0	1,3	0,8	1,4	1,0	0,1
France	*17,1*	*12,4*	*7,1*	*5,6*	*6,5*	*1,3*
Italy - coastal areas	24,4	11,6	1,3	8,7	3,3	1,4
Italy - other areas	10,0	7,9	7,9	4,1	7,5	10,7
Italy	*34,4*	*19,5*	*9,2*	*12,8*	*10,8*	*12,1*
Luxembourg	*0,2*	*1,8*	*8,8*	*8,4*	*6,3*	*0,2*
Netherlands	*4,8*	*1,6*	*1,1*	*0,8*	*1,6*	*0,5*
Scotland	0,6	0,7	6,1	1,4	1,8	0,5
Wales	—	0,3	1,0	0,4	5,2	8,0
Northern England	61,4	23,9	7,6	8,9	10,9	4,0
England - other areas	1,3	1,8	3,1	1,3	0,3	0,1
United Kingdom	*63,3*	*26,6*	*17,7*	*12,0*	*18,2*	*12,5*
Denmark	—	—	—	—	—	—
Ireland	—	—	—	—	*1,9*	*1,0*
Total EUR 9	**175,5**	**79,0**	**59,7**	**62,0**	**75,5**	**59,2**

MISCELLANEOUS (IRON AND STEELWORKS) TOTAL

Investment

TABLE 37

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	20,5	10,9	10,1	6,0	8,4	5,1
North Rhine/Westphalia	46,3	40,5	50,9	66,0	59,9	46,3
Southern Germany	4,6	5,6	4,5	3,1	7,7	2,6
Saar	11,9	7,4	5,9	13,5	10,6	12,7
FR of Germany	*83,3*	*64,4*	*71,5*	*88,6*	*86,5*	*66,7*
Belgium	*18,7*	*17,0*	*14,3*	*11,5*	*16,7*	*11,6*
Eastern France	21,0	17,3	18,6	14,0	12,7	5,2
Northern France	16,2	16,5	14,7	8,4	10,5	2,1
France - other areas	6,2	3,6	17,9	8,5	8,1	5,9
France	*43,4*	*37,4*	*51,1*	*30,9*	*31,3*	*13,2*
Italy - coastal areas	47,6	28,6	63,3	38,1	45,9	38,1
Italy - other areas	45,3	48,4	31,1	27,3	37,0	14,6
Italy	*92,9*	*77,0*	*94,4*	*65,4*	*82,9*	*52,7*
Luxembourg	*10,6*	*5,2*	*3,8*	*7,7*	*10,7*	*2,3*
Netherlands	*15,4*	*11,3*	*13,1*	*10,1*	*8,3*	*2,0*
Scotland	5,2	4,4	5,4	14,0	2,7	3,2
Wales	30,7	17,3	8,7	8,5	14,7	10,2
Northern England	61,0	62,8	51,3	37,1	42,7	8,6
England - other areas	4,6	8,1	5,5	3,5	6,5	2,5
United Kingdom	*101,5*	*92,7*	*70,9*	*63,1*	*66,6*	*24,5*
Denmark	*1,4*	*0,2*	*0,5*	—	*2,0*	*0,9*
Ireland	—	*0,7*	*0,8*	*3,7*	*6,0*	*3,2*
Total EUR 9	**367,2**	**305,7**	**320,5**	**281,0**	**311,1**	**177,2**

GENERAL SERVICES (IRON AND STEEL-WORKS) TOTAL

Investment

TABLE 38

Capital expenditure by regions

million EUA

Region	Actual expenditure			Estimated expenditure (projects in progress, and approved)		
				on 1 Jan. 1978 for	on 1 Jan. 1979 for	
	1976	1977	1978	1978	1979	1980
Northern Germany	29,7	14,2	12,6	7,9	11,4	7,0
North Rhine/Westphalia	77,3	49,0	57,0	78,9	78,4	71,3
Southern Germany	5,5	6,3	5,0	3,9	8,1	2,8
Saar	12,7	7,7	6,7	13,7	11,3	12,8
FR of Germany	*125,2*	*77,2*	*81,2*	*104,4*	*109,3*	*93,8*
Belgium	*32,5*	*21,1*	*20,3*	*18,2*	*24,1*	*16,1*
Eastern France	30,3	23,0	23,1	16,9	17,3	6,1
Northern France	19,9	21,9	16,4	9,7	11,4	2,3
France - other areas	10,2	4,9	18,7	9,9	9,1	6,0
France	*60,4*	*49,8*	*58,3*	*36,5*	*37,9*	*14,5*
Italy - coastal areas	72,0	40,2	64,6	46,7	49,2	39,5
Italy - other areas	55,3	56,4	39,0	31,5	44,4	25,3
Italy	*127,3*	*96,6*	*103,7*	*78,2*	*93,7*	*64,8*
Luxembourg	*10,8*	*7,0*	*12,6*	*16,1*	*17,0*	*2,5*
Netherlands	*20,2*	*12,9*	*14,2*	*10,9*	*9,9*	*2,6*
Scotland	5,8	5,2	11,5	15,3	4,5	3,6
Wales	30,7	17,6	9,6	8,9	19,9	18,2
Northern England	122,4	86,7	58,9	46,0	53,6	12,6
England - other areas	5,9	9,9	8,6	4,9	6,9	2,5
United Kingdom	*164,8*	*119,3*	*88,7*	*75,1*	*84,8*	*37,0*
Denmark	*1,4*	*0,2*	*0,5*	—	*2,0*	*0,9*
Ireland	—	*0,7*	*0,8*	*3,7*	*7,9*	*4,2*
Total EUR 9	**542,7**	**384,7**	**380,2**	**343,0**	**386,6**	**236,4**

SINTER AND SPONGE-IRON

Production

TABLE 39

Production and production potential

million tonnes

Actual production		Production potential			Expected production potential			
		1976	1977	1978	1979	1980	1981	1982
125,8	**Total EUR 9**	**172,0**	**174,9**	**176,9**	**181,3**	**179,4**	**178,3**	**177,1**

PIG-IRON

Production

TABLE 40

Production and production potential by regions

million tonnes

5,8	Northern Germany	9,4	9,9	10,2	10,7	10,7	10,7	10,4
19,6	North Rhine/Westphalia	31,2	32,2	32,7	32,8	32,4	32,9	32,4
0,8	Southern Germany	1,4	1,4	1,4	1,4	1,4	1,4	1,1
4,0	Saar	7,5	7,5	7,7	7,7	7,7	6,6	5,6
30,1	*FR of Germany*	*49,5*	*50,9*	*51,9*	*52,6*	*52,2*	*51,6*	*49,5*
10,2	*Belgium*	*15,9*	*15,8*	*16,0*	*16,3*	*15,8*	*15,3*	*15,3*
8,9	Eastern France	14,1	13,7	13,1	12,5	11,9	11,0	10,7
6,6	Northern France	9,1	10,3	10,7	10,7	9,9	8,7	8,7
3,0	France - other areas	4,3	3,3	3,4	3,6	3,6	3,6	3,6
18,5	*France*	*27,5*	*27,3*	*27,2*	*26,8*	*25,4*	*23,3*	*23,0*
10,6	Italy - coastal areass	16,9	16,9	16,0	16,1	16,4	16,4	16,4
0,7	Italy - other areas	0,3	0,3	1,0	1,0	1,0	1,0	0,7
11,3	*Italy*	*17,2*	*17,2*	*17,0*	*17,1*	*17,4*	*17,4*	*17,1*
3,7	*Luxembourg*	*6,9*	*6,4*	*5,4*	*5,2*	*5,3*	*5,4*	*5,4*
4,6	*Netherlands*	*6,3*	*7,0*	*7,0*	*7,0*	*7,0*	*7,0*	*7,0*
1,0	Scotland	1,9	1,9	1,1	1,7	1,7	1,7	2,6
3,9	Wales	6,0	6,2	5,5	5,1	5,3	6,1	6,0
5,7	Northern England	8,9	7,5	8,3	8,9	9,9	10,4	10,3
0,9	England - other regions	2,0	2,0	1,6	1,3	1,1	1,1	1,1
11,5	*United Kingdom*	*18,8*	*17,6*	*16,5*	*17,0*	*18,1*	*19,4*	*20,0*
—	*Denmark*	—	—	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
90,2	**Total EUR 9**	**142,0**	**142,2**	**141,1**	**142,1**	**141,3**	**139,5**	**137,5**

TABLE 41

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
8,1	Northern Germany	11,6	12,6	13,5	13,6	13,6	13,6	13,5
26,1	North Rhine/Westphalia ..	42,4	43,1	42,5	42,5	42,7	42,7	42,4
2,4	Southern Germany	3,2	3,1	3,8	3,9	3,9	3,6	3,6
4,6	Saar	8,7	8,9	9,1	9,1	9,1	8,4	7,6
41,2	*FR of Germany*	*65,8*	*67,7*	*68,9*	*69,0*	*69,2*	*68,3*	*67,1*
12,6	*Belgium*	*18,5*	*19,2*	*20,0*	*19,7*	*19,7*	*19,1*	*19,1*
9,6	Eastern France	15,6	14,6	12,9	12,8	12,9	11,8	11,4
9,0	Northern France	10,9	13,5	14,2	14,3	13,7	12,4	12,4
4,2	France - other areas	6,8	5,2	5,2	5,2	5,2	5,3	5,3
22,8	*France*	*33,3*	*33,3*	*32,4*	*32,4*	*31,8*	*29,4*	*29,1*
12,0	Italy - coastal areas	19,3	19,2	18,9	19,2	19,4	19,4	19,4
12,3	Italy - other areas	14,4	14,8	16,8	17,0	17,3	17,7	17,7
24,3	*Italy*	*33,7*	*34,0*	*35,7*	*36,2*	*36,7*	*37,1*	*37,1*
4,8	*Luxembourg*	*8,2*	*8,2*	*7,6*	*7,2*	*7,3*	*7,5*	*7,5*
5,6	*Netherlands*	*7,7*	*8,2*	*8,3*	*8,3*	*8,5*	*8,6*	*8,6*
1,5	Scotland	3,3	3,1	2,1	2,4	2,4	2,4	3,4
6,0	Wales	8,1	8,7	8,6	8,6	9,0	9,9	9,9
10,3	Northern England	14,2	13,3	13,8	14,8	15,5	15,8	15,8
2,6	England - other regions ...	3,7	3,7	3,4	3,0	2,8	2,8	2,8
20,3	*United Kingdom*	*29,2*	*28,9*	*27,9*	*28,8*	*29,7*	*30,9*	*32,0*
0,9	*Denmark*	*1,2*	*1,2*	*1,2*	*1,2*	*1,2*	*0,9*	*0,9*
0,1	*Ireland*	*0,1*	*0,1*	*0,1*	*0,1*	*0,2*	*0,3*	*0,3*
132,6	**Total EUR 9**	**197,7**	**200,7**	**202,1**	**202,9**	**204,3**	**202,1**	**201,7**

TABLE 42

Comparison of the forecasts of crude steel production potential given in recent surveys

million tonnes

Year of inquiry	Production potential estimated							
	1975	1976	1977	1978	1979	1980	1981	1982
1974	197,4	204,5	206,1					
1975	191,3	200,6	207,5	212,8				
1976	189,9	198,0	207,8	212,4	215,8			
1977		197,7	201,7	208,5	212,7	214,0		
1978			200,7	201,2	208,1	210,3	210,5	
1979				202,1	202,9	204,3	202,1	201,7

CRUDE STEEL

Production

TABLE 43

Crude steel production potential according to steelmaking process

million tonnes

Process	Production		Production potential					
	1960	1978	1974	1978	1979	1980	1981	1982
Basic Bessemer and other	37,6	1,1	12,3	1,9	1,2	1,1	0,1	0,1
OBM and similar processes	—	8,9	8,4	13,6	14,5	16,2	14,9	13,9
Open-hearth	48,7	8,6	26,5	13,7	11,5	9,0	8,3	7,1
Electric furnace	9,3	30,3	29,4	42,0	43,2	44,4	45,3	46,3
LD, Kaldo, etc.	2,2	83,6	102,3	130,9	132,5	133,6	133,6	134,4
Total EUR 9	**97,8**	**132,6**	**178,9**	**202,1**	**202,9**	**204,3**	**202,1**	**201,7**

TABLE 44

Shares of the different steelmaking processes in 1960, 1978, 1982

%

Process	Production		Production potential	
	1960	1978	1978	1982 estimated share
Basic Bessemer and other	38,5	0,9	1,0	0,0
OBM and similar processes	—	6,7	6,7	6,9
Open-hearth	49,7	6,5	6,8	3,5
Electric furnace	9,5	22,9	20,8	23,0
LD, Kaldo, etc	2,3	63,0	64,7	66,6
Total EUR 9	**100,0**	**100,0**	**100,0**	**100,0**

CRUDE STEEL

Production

TABLE 45

Rate of utilization of production potential by steelmaking process, in 1978

Process		Production potential	Rate of utilization			
			<30%	31-60%	61-80%	>81%
Basic Bessemer and other ...	in million tonnes	1,9	0,0	0,5	1,3	0,0
	in %	100,0	0,6	28,4	70,9	0,1
Open-hearth steel	in million tonnes	13,7	1,3	5,7	3,7	3,0
	in %	100,0	9,4	41,6	27,3	21,7
Electric furnace steel	in million tonnes	42,0	2,5	5,1	18,5	16,0
	in %	100,0	5,9	12,1	43,9	38,1
Oxygen-blown steel	in million tonnes	144,6	2,1	58,6	62,2	21,6
	in %	100,0	1,5	40,6	43,1	14,9
Total crude steel EUR 9	in million tonnes	202,1	5,0	68,7	93,2	35,2
	in %	100,0	2,5	34,0	46,1	17,4

TABLE 46

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
—	Northern Germany	—	—	—	—	—	—	—
—	North Rhine/Westphalia	—	—	—	—	—	—	—
—	Southern Germany	—	—	—	—	—	—	—
—	Saar	0,7	—	—	—	—	—	—
—	*FR of Germany*	*0,7*	—	—	—	—	—	—
0,0	*Belgium*	*0,5*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
1,1	Eastern France	3,7	3,7	1,8	1,1	1,0	0,0	0,0
0,0	Northern France	—	—	0,0	0,0	0,0	0,0	0,0
0,0	France - other areas	0,5	0,5	0,0	0,0	0,0	0,0	0,0
1,1	*France*	*4,2*	*4,2*	*1,8*	*1,2*	*1,0*	*0,0*	*0,0*
—	Italy - coastal areas	—	—	—	—	—	—	—
0,0	Italy - other areas	0,0	0,0	0,0	0,0	0,0	0,0	0,0
0,0	*Italy*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
—	*Luxembourg*	*2,0*	*1,3*	—	—	—	—	—
—	*Netherlands*	—	—	—	—	—	—	—
—	Scotland	—	—	—	—	—	—	—
—	Wales	—	—	—	—	—	—	—
0,0	Northern England	—	—	0,0	0,0	0,0	0,0	0,0
—	England - other regions	0,0	0,0	—	—	—	—	—
0,0	*United Kingdom*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
—	*Denmark*	—	—	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
1,1	**Total EUR 9**	**7,3**	**5,5**	**1,9**	**1,2**	**1,1**	**0,1**	**0,1**

TABLE 47

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
0,8	Northern Germany	1,0	1,0	1,0	1,0	1,0	1,0	0,6
3,1	North Rhine/Westphalia ..	6,7	6,1	5,3	5,0	4,6	4,1	4,1
0,4	Southern Germany	0,5	0,5	0,5	0,5	0,5	0,2	0,2
0,2	Saar	0,6	0,5	0,2	0,2	0,2	0,2	0,0
4,5	*FR of Germany*	*8,7*	*8,1*	*7,0*	*6.5*	*6,3*	*6,0*	*4,9*
—	*Belgium*	*0,3*	*0,2*	—	—	—	—	—
0,1	Eastern France	0,8	0,3	0,1	0,1	0,1	0,1	0,1
0,3	Northern France	0,8	0,6	0,5	0,4	0,3	0,3	0,3
0,0	France - other areas	0,3	0,1	0,0	0,0	0,0	0,0	0,0
0,5	*France*	*1,8*	*1,0*	*0,6*	*0,5*	*0,4*	*0,4*	*0,4*
1,2	Italy - coastal areas	2,5	2,4	2,3	1,9	0,0	0,0	0,0
0,3	Italy - other areas	0,7	0,5	0,5	0,5	0,5	0,5	0,5
1,5	*Italy*	*3,2*	*2,9*	*2,8*	*2,4*	*0,5*	*0,5*	*0,5*
—	*Luxembourg*	—	—	—	—	—	—	—
0,0	*Netherlands*	*0,1*	—	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
0,1	Scotland	1,5	1,3	0,4	0,0	0,0	0,0	0,0
1,4	Wales	2,9	2,7	1,8	1,1	1,3	1,4	1,3
—	Northern England	0,6	0,5	—	—	—	—	—
0,3	England - other regions ...	0,7	0,6	0,5	0,3	0,0	0,0	0,0
1,8	*United Kingdom*	*5,8*	*5,2*	*2,7*	*1,4*	*1,3*	*1,4*	*1,3*
0,4	*Denmark*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*	*0,0*	*0,0*
—	*Ireland*	—	—	—	—	—	—	—
8,6	**Total EUR 9**	**20,4**	**17,9**	**13,7**	**11,5**	**9,0**	**8,3**	**7,1**

TABLE 48

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
1,1	Northern Germany	1,5	1,4	1,5	1,5	1,5	1,5	1,8
3,0	North Rhine/Westphalia	3,8	4,0	4,1	4,4	4,9	4,9	5,2
1,3	Southern Germany	1,5	1,5	1,9	1,9	1,9	1,9	1,9
0,5	Saar	0,4	0,5	0,5	0,5	0,5	0,5	0,5
5,9	*FR of Germany*	*7,2*	*7,4*	*8,0*	*8,4*	*8,9*	*8,9*	*9,5*
0,6	*Belgium*	*0,8*	*0,8*	*1,3*	*1,2*	*1,2*	*1,2*	*1,2*
0,5	Eastern France	1,3	0,9	0,7	0,7	0,7	0,6	0,6
1,8	Northern France	0,9	2,1	2,3	2,4	2,5	2,6	2,6
1,1	France - other areas	2,2	1,5	1,5	1,5	1,5	1,5	1,5
3,4	*France*	*4,4*	*4,6*	*4,6*	*4,6*	*4,7*	*4,8*	*4,8*
0,5	Italy - coastal areas	0,9	0,8	0,8	0,8	0,8	0,8	0,8
11,8	Italy - other areas	13,5	14,2	16,0	16,3	16,5	17,0	17,2
12,3	*Italy*	*14,4*	*15,0*	*16,9*	*17,1*	*17,4*	*17,9*	*18,1*
0,0	*Luxembourg*	*0,1*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
0,3	*Netherlands*	*0,4*	*0,3*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*
0,3	Scotland	0,5	0,5	0,4	0,4	0,4	0,4	0,4
1,0	Wales	0,5	1,4	2,3	2,8	2,8	2,8	2,8
4,4	Northern England	5,3	5,4	5,7	5,8	5,9	5,9	6,0
1,4	England - other regions	1,5	1,7	1,7	1,7	1,8	1,8	1,8
7,2	*United Kingdom*	*7,8*	*9,1*	*10,2*	*10,7*	*10,9*	*10,9*	*11,0*
0,5	*Denmark*	*0,7*	*0,7*	*0,7*	*0,7*	*0,7*	*0,9*	*0,9*
0,1	*Ireland*	*0,1*	*0,1*	*0,1*	*0,1*	*0,2*	*0,3*	*0,3*
30,3	**Total EUR 9**	**36,0**	**38,0**	**42,0**	**43,2**	**44,4**	**45,3**	**46,3**

LD, KALDO AND SIMILAR STEELS

Production

TABLE 49

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
6,1	Northern Germany	9,1	10,2	11,1	11,1	11,1	11,1	11,1
20,0	North Rhine/Westphalia	31,9	33,0	33,1	33,1	33,1	33,1	33,1
—	Southern Germany	—	—	—	—	—	—	—
1,4	Saar	5,0	5,0	5,0	5,0	5,0	5,8	5,7
27,5	*FR of Germany*	*46,0*	*48,1*	*49,1*	*49,2*	*49,2*	*50,0*	*49,9*
10,8	*Belgium*	*14,0*	*14,8*	*15,6*	*15,9*	*15,9*	*15,3*	*15,3*
4,0	Eastern France	5,3	5,3	5,2	4,5	4,5	4,3	4,4
6,9	Northern France	8,8	10,0	11,4	11,5	11,0	9,5	9,5
3,1	France - other areas	3,8	3,5	3,7	3,7	3,7	3,7	3,7
14,0	*France*	*17,9*	*18,8*	*20,3*	*19,7*	*19,2*	*17,5*	*17,6*
10,3	Italy - coastal areass	15,8	16,0	15,8	15,9	16,1	16,1	16,1
0,2	Italy - other areas	0,3	0,0	0,2	0,2	0,2	0,2	0,0
10,5	*Italy*	*16,1*	*16,0*	*16,0*	*16,2*	*16,4*	*16,3*	*16,1*
4,3	*Luxembourg*	*5,5*	*6,2*	*6,9*	*6,8*	*7,3*	*7,5*	*7,5*
5,3	*Netherlands*	*7,2*	*7,9*	*7,9*	*7,9*	*8,1*	*8,2*	*8,2*
1,0	Scotland	1,2	1,3	1,3	2,0	2,0	2,0	3,0
3,6	Wales	4,6	4,5	4,5	4,8	5,0	5,7	5,8
5,8	Northern England	8,2	7,4	8,1	9,0	9,6	9,9	9,8
0,9	England - other regions	1,5	1,3	1,1	1,0	1,0	1,0	1,0
11,3	*United Kingdom*	*15,6*	*14,6*	*15,0*	*16,7*	*17,5*	*18,7*	*19,7*
—	*Denmark*	—	—	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
83,6	**Total EUR 9**	**122,2**	**126,4**	**130,9**	**132,5**	**133,6**	**133,6**	**134,4**

BOTTOM BLOWN STEELS (OBM, LWS, ETC.)

Production

TABLE 50

Production and production potential

million tonnes

8,9	**Total EUR 9**	**11,8**	**12,8**	**13,6**	**14,5**	**16,2**	**14,9**	**13,9**

TABLE 51

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
3,6	Northern Germany	3,8	3,7	4,1	4,2	4,4	4,4	4,4
9,0	North Rhine/Westphalia	10,5	11,8	12,1	14,7	16,2	17,4	17,4
1,4	Southern Germany	1,7	1,8	2,1	2,1	2,1	2,1	2,1
1,7	Saar	3,2	3,2	3,3	3,3	3,3	3,8	4,2
15,7	*FR of Germany*	*19,2*	*20,6*	*21,6*	*24,3*	*26,0*	*27,7*	*28,1*
2,7	*Belgium*	*1,4*	*3,2*	*4,2*	*4,2*	*4,2*	*4,3*	*4,5*
0,2	Eastern France	0,4	0,4	0,2	0,4	2,4	3,3	3,3
4,7	Northern France	4,1	5,2	6,0	6,1	6,2	6,2	6,2
1,4	France - other areas	1,4	1,1	1,4	1,6	1,7	1,7	1,7
6,3	*France*	*5,9*	*6,7*	*7,6*	*8,1*	*10,2*	*11,1*	*11,2*
2,7	Italy - coastal areas	4,9	4,8	4,8	5,2	6,2	6,4	7,1
7,7	Italy - other areas	7,2	8,2	10,5	10,6	10,9	11,4	11,5
10,4	*Italy*	*12,1*	*13,1*	*15,3*	*15,8*	*17,2*	*17,8*	*18,6*
—	*Luxembourg*	—	—	—	—	—	*1,3*	*1,3*
—	*Netherlands*	—	—	—	—	*0,7*	*1,5*	*1,5*
0,6	Scotland	0,6	0,7	0,9	1,0	1,3	1,4	1,4
0,4	Wales	0,1	0,9	1,6	1,7	1,7	1,8	2,3
1,4	Northern England	1,7	1,9	2,2	2,5	3,2	3,6	3,9
0,8	England - other regions	0,9	1,1	1,0	0,8	0,9	0,9	0,9
3,2	*United Kingdom*	*3,3*	*4,7*	*5,6*	*6,0*	*7,2*	*7,7*	*8,6*
0,5	*Denmark*	*0,7*	*0,6*	*0,7*	*0,6*	*0,6*	*0,8*	*0,8*
—	*Ireland*	—	—	—	—	*0,2*	*0,3*	*0,3*
38,6	**Total EUR 9**	**42,6**	**48,8**	**54,9**	**59,1**	**66,3**	**72,7**	**74,9**

TABLE 52

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
4,0	Northern Germany	6,3	6,6	6,7	6,6	6,6	6,6	6,6
10,4	North Rhine/Westphalia ..	13,1	13,6	13,7	13,7	14,2	14,3	14,3
—	Southern Germany	—	—	—	—	—	—	—
—	Saar	—	—	—	—	—	—	—
14,3	*FR of Germany*	*19,3*	*20,3*	*20,3*	*20,3*	*20,9*	*20,9*	*20,9*
6,6	*Belgium*	*7,5*	*8,9*	*9,3*	*9,7*	*9,7*	*9,7*	*10,6*
3,1	Eastern France	3,3	3,5	3,5	3,5	3,5	3,5	3,5
4,5	Northern France	6,1	6,2	6,4	6,4	6,4	6,4	6,4
2,8	France - other areas	2,8	3,0	3,2	3,3	3,3	3,3	3,3
10,3	*France*	*12,2*	*12,7*	*13,1*	*13,1*	*13,1*	*13,1*	*13,1*
5,6	Italy - coastal areas	10,3	10,5	10,0	9,9	9,9	9,9	10,4
0,7	Italy - other areas	0,8	0,9	1,0	1,0	1,0	1,1	1,1
6,3	*Italy*	*11,1*	*11,3*	*10,9*	*10,9*	*10,9*	*11,0*	*11,6*
0,4	*Luxembourg*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*
3,4	*Netherlands*	*5,0*	*5,2*	*5,2*	*5,3*	*5,4*	*5,4*	*5,4*
0,6	Scotland	0,9	0,7	0,7	1,1	1,2	1,2	1,7
4,1[1]	Wales	5,3	6,2	6,2	6,1	6,4	6,8	6,8
0,6	Northern England	1,1	1,1	1,4	1,4	1,4	1,4	1,4
—	England - other regions ...	—	—	—	—	—	—	—
5,3	*United Kingdom*	*7,3*	*8,1*	*8,3*	*8,7*	*8,9*	*9,4*	*9,9*
—	*Denmark*	—	—	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
46,7	**Total EUR 9**	**63,0**	**67,1**	**67,7**	**68,7**	**69,6**	**70,2**	**72,2**

[1] Not including private sector production.

HEAVY SECTIONS (INCLUDING TUBE ROUNDS AND SQUARES, ROLLED)

Production

TABLE 53

Production and production potential by countries

millions tonnes

Actual production 1978	Country	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
3,7	*FR of Germany*	*6,7*	*6,7*	*6,9*	*6,7*	*6,6*	*6,6*	*6,6*
1,3	*Belgium*	*1,6*	*1,6*	*1,6*	*1,6*	*1,6*	*1,6*	*1,6*
1,8	*France*	*2,9*	*3,0*	*3,1*	*3,0*	*3,0*	*3,0*	*3,0*
1,3	*Italy*	*2,2*	*2,3*	*2,1*	*2,4*	*2,8*	*2,9*	*2,9*
1,1	*Luxembourg*	*1,9*	*1,9*	*1,7*	*1,7*	*1,7*	*1,9*	*1,9*
0,0	*Netherlands*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
2,0	*United Kingdom*	*2,8*	*3,1*	*3,5*	*3,5*	*3,5*	*3,6*	*3,6*
0,0	*Denmark*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
0,0	*Ireland*	*0,0*	*0,0*	*0,0*	*0,0*	*0,1*	*0,2*	*0,2*
11,3	**Total EUR 9**	**18,1**	**18,6**	**18,9**	**19,0**	**19,3**	**19,8**	**19,8**

TABLE 54

Production and production potential by countries

million tonnes

Actual production 1978	Country	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
4,2	*FR of Germany*	*9,3*	*9,0*	*8,8*	*8,2*	*7,9*	*7,9*	*7,9*
0,9	*Belgium*	*3,7*	*2,8*	*2,1*	*1,6*	*1,5*	*1,6*	*1,6*
2,7	*France*	*4,8*	*4,4*	*4,0*	*4,0*	*4,1*	*4,1*	*4,2*
7,1	*Italy*	*8,7*	*8,6*	*10,0*	*9,7*	*9,7*	*9,7*	*9,7*
0,8	*Luxembourg*	*1,6*	*1,6*	*1,7*	*1,6*	*1,6*	*1,6*	*1,6*
0,3	*Netherlands*	*0,4*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*
3,0	*United Kingdom*	*4,5*	*4,3*	*4,3*	*4,1*	*4,2*	*4,3*	*4,3*
0,2	*Denmark*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*
0,0	*Ireland*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*
19,2	**Total EUR 9**	**33,5**	**31,6**	**31,8**	**30,1**	**29,9**	**30,3**	**30,3**

FERRO-CONCRETE BARS [1]

Production

TABLE 55

Production and production potential by countries

million tonnes

Actual production 1978	Country	Production potential 1977	Production potential 1978	Expected production potential 1979	1980	1981	1982
1,4	*FR of Germany*	*3,2*	*3,1*	*2,8*	*2,6*	*2,5*	*2,5*
0,4	*Belgium*	*1,4*	*1,1*	*0,7*	*6,7*	*0,7*	*0,7*
1,0	*France*	*1,6*	*1,6*	*1,5*	*1,4*	*1,4*	*1,4*
4,1	*Italy*	*6,0*	*6,0*	*5,7*	*5,6*	*5,6*	*5,6*
0,4	*Luxembourg*	*0,7*	*0,7*	*0,7*	*0,6*	*0,6*	*0,6*
0,3	*Netherlands*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*
0,4	*United Kingdom*	*0,5*	*0,7*	*0,8*	*0,8*	*0,8*	*0,8*
0,1	*Denmark*	*0,1*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
0,0	*Ireland*	*0,0*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*
8,0	**Total EUR 9**	**14,0**	**13,8**	**12,8**	**12,4**	**12,4**	**12,3**

[1] Already included - for rods in Table 54 'Light sections' and coils in Table 57 'Wire rod'.

HEAVY AND LIGHT SECTIONS (INCLUDING TUBE ROUNDS AND SQUARES, ROLLED)

Production

TABLE 56

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
1,4	Northern Germany	2,2	2,4	2,9	2,9	2,9	2,9	2,9
4,1	North Rhine/Westphalia	8,9	8,7	8,6	8,1	7,8	7,8	7,8
0,9	Southern Germany	1,8	1,7	1,8	1,8	1,8	1,8	1,8
1,4	Saar	3,0	2,9	2,4	2,0	2,0	2,0	2,0
7,9	*FR of Germany*	*16,0*	*15,6*	*15,7*	*14,9*	*14,5*	*14,5*	*14,5*
2,2	*Belgium*	*5,4*	*4,4*	*3,7*	*3,2*	*3,1*	*3,2*	*3,2*
2,5	Eastern France	4,6	4,6	4,1	3,8	3,8	3,8	3,8
1,5	Northern France	1,5	2,1	2,3	2,4	2,4	2,4	2,5
0,5	France - other areas	1,6	0,7	0,8	0,8	0,8	0,8	0,8
4,5	*France*	*7,7*	*7,4*	*7,1*	*7,0*	*7,1*	*7,1*	*7,2*
1,1	Italy - coastal areas	2,6	2,5	1,5	1,6	1,7	1,7	1,7
7,3	Italy - other areas	8,3	8,4	10,5	10,6	10,8	11,0	11,0
8,3	*Italy*	*10,9*	*10,9*	*12,1*	*12,2*	*12,5*	*12,7*	*12,6*
2,0	*Luxembourg*	*3,5*	*3,5*	*3,3*	*3,3*	*3,3*	*3,5*	*3,5*
0,3	*Netherlands*	*0,4*	*0,5*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*
0,2	Scotland	0,4	0,4	0,4	0,3	0,3	0,4	0,4
0,3	Wales	0,7	0,5	0,4	0,4	0,5	0,5	0,5
3,0	Northern England	4,1	4,8	4,7	4,8	4,8	4,8	4,8
1,6	England - other regions	2,2	1,7	2,3	2,1	2,2	2,2	2,1
5,0	*United Kingdom*	*7,3*	*7,4*	*7,8*	*7,7*	*7,8*	*7,9*	*7,9*
0,2	*Denmark*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*
0,1	*Ireland*	*0,1*	*0,1*	*0,1*	*0,1*	*0,2*	*0,3*	*0,3*
30,5	**Total EUR 9**	**51,6**	**50,1**	**50,7**	**49,2**	**49,3**	**50,1**	**50,1**

WIRE ROD

Production

TABLE 57

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
0,4	Northern Germany	0,7	0,7	0,7	0,7	0,7	0,7	0,7
1,7	North Rhine/Westphalia ..	3,6	3,8	3,7	3,4	2,7	2,6	2,6
0,4	Southern Germany	0,4	0,3	0,4	0,4	0,4	0,4	0,4
0,9	Saar	1,6	1,6	1,6	1,6	1,6	1,6	1,6
3,4	*FR of Germany*	*6,3*	*6,4*	*6,5*	*6,1*	*5,5*	*5,3*	*5,3*
0,7	*Belgium*	*0,9*	*1,2*	*1,2*	*1,4*	*1,5*	*1,5*	*2,1*
1,6	Eastern France	2,8	2,6	2,4	2,5	2,5	2,5	2,5
0,7	Northern France	0,4	1,0	1,2	1,1	0,9	0,9	0,9
0,1	France - other areas	0,6	0,1	0,1	0,1	0,1	0,1	0,1
2,4	*France*	*3,7*	*3,6*	*3,7*	*3,7*	*3,5*	*3,5*	*3,5*
0,2	Italy - coastal areas	0,3	0,4	0,3	0,6	0,8	0,8	0,8
1,6	Italy - other areas	1,7	1,7	2,3	2,5	2,4	2,5	2,5
1,8	*Italy*	*2,0*	*2,1*	*2,6*	*3,1*	*3,2*	*3,3*	*3,2*
0,3	*Luxembourg*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*	*0,5*
0,3	*Netherlands*	*0,5*	*0,6*	*0,8*	*0,8*	*0,8*	*0,8*	*0,8*
—	Scotland	—	—	—	—	—	—	—
0,3	Wales	0,4	0,3	0,4	0,5	0,6	0,6	0,6
1,7	Northern England	2,2	2,7	2,6	2,3	2,3	2,3	2,3
0,2	England - other regions ...	0,2	0,1	0,3	0,3	0,3	0,3	0,3
2,2	*United Kingdom*	*2,7*	*3,1*	*3,2*	*3,1*	*3,2*	*3,2*	*3,2*
—	*Denmark*	—	*0,0*	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
11,2	**Total EUR 9**	**16,7**	**17,6**	**18,5**	**18,7**	**18,2**	**18,1**	**18,8**

HOOP AND STRIP AND TUBEMAKING STRIP FROM SPECIAL MILLS

Production

TABLE 58

Production and production potential by countries

million tonnes

Actual production 1978	Country	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
1,6	*FR of Germany*	*2,5*	*2,6*	*2,8*	*2,8*	*2,8*	*2,6*	*2,6*
0,1	*Belgium*	*0,2*	*0,2*	*0,2*	*0,1*	*0,1*	*0,1*	*0,0*
1,0	*France*	*1,5*	*1,5*	*1,5*	*1,6*	*1,4*	*1,2*	*1,2*
0,7	*Italy*	*1,3*	*1,3*	*1,3*	*1,3*	*1,3*	*1,3*	*1,3*
0,7	*Luxembourg*	*1,2*	*1,2*	*1,2*	*1,3*	*1,3*	*1,3*	*1,3*
0,0	*Netherlands*	*0,0*	—	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
1,1	*United Kingdom*	*1,7*	*1,7*	*1,7*	*1,7*	*1,7*	*1,7*	*1,7*
—	*Denmark*	—	—	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
5,2	**Total EUR 9**	**8,4**	**8,5**	**8,7**	**8,9**	**8,7**	**8,4**	**8,3**

HOOP AND STRIP AND TUBEMAKING STRIP FROM COILS

Production

TABLE 59

Production and production potential by countries

million tonnes

Actual production 1978	Country	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
0,7	*FR of Germany*	*1,6*	*1,8*	*1,7*	*1,7*	*1,7*	*1,7*	*1,7*
0,0	*Belgium*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*
0,3	*France*	*0,7*	*0,7*	*0,9*	*0,9*	*0,9*	*0,9*	*0,9*
0,1	*Italy*	*0,4*	*0,3*	*0,4*	*0,4*	*0,4*	*0,5*	*0,5*
0,0	*Luxembourg*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*	*0,0*
0,2	*Netherlands*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*
0,1	*United Kingdom*	*0,1*	*0,2*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*
—	*Denmark*	—	—	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
1,4	**Total EUR 9**	**3,4**	**3,5**	**3,7**	**3,7**	**3,7**	**3,8**	**3,8**

HOOP AND STRIP FOR TUBE MAKING

Production

TABLE 60

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential			Expected production potential			
		1976	1977	1978	1979	1980	1981	1982
0,1	Northern Germany	0,4	0,2	0,2	0,2	0,2	0,2	0,2
2,0	North Rhine/Westphalia	3,4	3,8	3,9	3,8	3,8	3,8	3,8
0,1	Southern Germany	0,1	0,1	0,1	0,1	0,1	0,1	0,1
0,0	Saar	0,3	0,3	0,3	0,3	0,3	0,2	0,2
2,3	*FR of Germany*	*4,2*	*4,4*	*4,5*	*4,5*	*4,5*	*4,4*	*4,4*
0,1	*Belgium*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,1*
1,1	Eastern France	1,6	1,5	1,6	1,7	1,5	1,3	1,3
0,1	Northern France	0,2	0,3	0,2	0,2	0,2	0,2	0,2
0,1	France - other areas	0,4	0,4	0,5	0,5	0,5	0,5	0,5
1,3	*France*	*2,2*	*2,2*	*2,3*	*2,4*	*2,2*	*2,1*	*2,1*
0,3	Italy - coastal areas	0,9	0,8	0,8	0,8	0,8	0,8	0,8
0,5	Italy - other areas	0,8	0,8	1,0	1,0	1,0	1,1	1,1
0,8	*Italy*	*1,7*	*1,6*	*1,8*	*1,8*	*1,8*	*1,8*	*1,9*
0,7	*Luxembourg*	*1,2*	*1,2*	*1,3*	*1,4*	*1,4*	*1,4*	*1,4*
0,2	*Netherlands*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*
—	Scotland	—	—	—	—	—	—	—
0,1	Wales	0,2	0,3	0,2	0,2	0,2	0,2	0,2
0,3	Northern England	0,5	0,4	0,4	0,4	0,4	0,4	0,4
0,8	England - other regions	1,1	1,1	1,2	1,2	1,2	1,2	1,2
1,2	*United Kingdom*	*1,8*	*1,9*	*1,9*	*1,9*	*1,9*	*1,9*	*1,9*
—	*Denmark*	—	—	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
6,6	**Total EUR 9**	**11,9**	**12,0**	**12,4**	**12,6**	**12,4**	**12,2**	**12,1**

HEAVY AND MEDIUM PLATE FROM SPECIAL MILLS (INCLUDING WIDE FLATS)

Production

TABLE 61

Production and production potential by countries

million tonnes

Actual production 1978	Country	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
3,8	*FR of Germany*	*7,9*	*8,6*	*8,8*	*8,7*	*8,7*	*8,7*	*8,7*
1,0	*Belgium*	*1,4*	*1,6*	*1,6*	*1,6*	*1,6*	*1,6*	*1,6*
1,1	*France*	*1,7*	*1,6*	*1,6*	*1,6*	*1,6*	*1,6*	*1,6*
2,1	*Italy*	*3,7*	*3,7*	*4,1*	*4,1*	*3,9*	*3,9*	*3,9*
0,1	*Luxembourg*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*
0,3	*Netherlands*	*0,5*	*0,5*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*
1,3	*United Kingdom*	*2,3*	*2,5*	*2,5*	*2,5*	*2,5*	*2,5*	*2,5*
0,4	*Denmark*	*0,5*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*
—	*Ireland*	—	—	—	—	—	—	—
10,0	**Total EUR 9**	**18,1**	**19,2**	**19,9**	**19,8**	**19,7**	**19,7**	**19,7**

TABLE 62

Production and production potential by countries

million tonnes

Actual production 1978	Country	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
1,0	*FR of Germany*	*2,0*	*2,0*	*2,0*	*2,0*	*2,0*	*2,0*	*2,0*
0,4	*Belgium*	*0,8*	*0,8*	*1,0*	*1,1*	*1,1*	*1,1*	*1,1*
0,5	*France*	*1,3*	*1,3*	*1,5*	*1,5*	*1,5*	*1,5*	*1,5*
0,1	*Italy*	*0,7*	*0,7*	*0,7*	*0,7*	*0,8*	*0,8*	*0,8*
0,1	*Luxembourg*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*
0,1	*Netherlands*	*0,2*	*0,2*	*0,2*	*0,2*	*0,2*	*0,2*	*0,2*
0,4	*United Kingdom*	*0,4*	*0,5*	*0,6*	*0,7*	*0,6*	*0,6*	*0,6*
—	*Denmark*	—	—	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
2,5	**Total EUR 9**	**5,6**	**5,8**	**6,2**	**6,3**	**6,4**	**6,4**	**6,4**

PLATE ⩾3 mm (INCLUDING WIDE FLATS)

Production

TABLE 63

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
0,5	Northern Germany	1,0	1,1	1,1	1,1	1,1	1,1	1,1
3,6	North Rhine/Westphalia	6,9	7,1	7,4	7,4	7,4	7,4	7,4
0,0	Southern Germany	—	0,0	0,0	0,0	0,0	0,0	0,0
0,7	Saar	2,0	2,3	2,3	2,2	2,2	2,2	2,2
4,8	*FR of Germany*	*9,9*	*10,6*	*10,9*	*10,7*	*10,7*	*10,7*	*10,7*
1,3	*Belgium*	*2,2*	*2,4*	*2,6*	*2,7*	*2,7*	*2,7*	*2,7*
0,4	Eastern France	1,0	1,0	1,0	1,0	1,0	1,0	1,0
0,9	Northern France	1,3	1,4	1,4	1,4	1,4	1,4	1,4
0,3	France - other areas	0,7	0,5	0,7	0,7	0,7	0,7	0,7
1,6	*France*	*3,0*	*2,9*	*3,1*	*3,1*	*3,1*	*3,1*	*3,1*
1,7	Italy - coastal areas	3,6	3,4	3,9	3,9	3,9	3,9	3,9
0,5	Italy - other areas	0,8	1,0	0,8	0,8	0,8	0,8	0,8
2,2	*Italy*	*4,4*	*4,4*	*4,8*	*4,8*	*4,7*	*4,7*	*4,7*
0,2	*Luxembourg*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*
0,3	*Netherlands*	*0,7*	*0,7*	*0,8*	*0,8*	*0,8*	*0,8*	*0,8*
0,3	Scotland	0,6	0,7	0,8	0,8	0,8	0,8	0,8
0,1	Wales	0,1	0,3	0,2	0,2	0,2	0,2	0,2
1,0	Northern England	1,7	1,6	1,9	1,9	1,9	1,9	1,9
0,2	England - other regions	0,3	0,3	0,3	0,3	0,3	0,3	0,3
1,7	*United Kingdom*	*2,7*	*3,0*	*3,1*	*3,2*	*3,2*	*3,2*	*3,2*
0,4	*Denmark*	*0,5*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*
—	*Ireland*	—	—	—	—	—	—	—
12,4	**Total EUR 9**	**23,7**	**24,9**	**26,1**	**26,1**	**26,1**	**26,1**	**26,1**

TABLE 64

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
0,0	Northern Germany	0,0	0,0	0,0	0,0	0,0	0,0	0,0
0,1	North Rhine/Westphalia	0,2	0,1	0,1	0,1	0,1	0,1	0,1
0,0	Southern Germany	—	—	0,0	0,0	0,0	0,0	0,0
—	Saar	—	—	—	—	—	—	—
0,1	*FR of Germany*	*0,2*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*
0,1	*Belgium*	*0,2*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*
0,1	Eastern France	0,1	0,1	0,1	0,1	0,1	0,1	0,1
0,0	Northern France	0,1	0,1	0,1	0,1	0,1	0,1	0,1
0,0	France - other areas	0,2	0,2	0,2	0,4	0,4	0,4	0,4
0,2	*France*	*0,4*	*0,3*	*0,4*	*0,6*	*0,6*	*0,6*	*0,6*
0,0	Italy - coastal areas	0,4	0,4	0,4	0,4	0,4	0,4	0,4
0,0	Italy - other areas	—	—	0,0	0,0	0,0	0,0	0,0
0,0	*Italy*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*
0,0	*Luxembourg*	—	—	—	—	—	—	—
—	*Netherlands*	*0,0*	*0,0*	*0,0*	*0,0*	*0,1*	*0,1*	*0,1*
0,0	Scotland	0,0	0,0	0,0	0,0	0,0	0,0	0,0
0,1	Wales	0,1	0,3	0,0	0,0	0,0	0,0	0,0
0,0	Northern England	0,0	0,0	0,0	0,0	0,0	0,0	0,0
—	England - other regions	—	—	—	—	—	—	—
0,1	*United Kingdom*	*0,1*	*0,3*	*0,1*	*0,1*	*0,1*	*0,1*	*0,1*
—	*Denmark*	—	—	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
0,4	**Total EUR 9**	**1,4**	**1,5**	**1,3**	**1,6**	**1,6**	**1,6**	**1,6**

COLD-REDUCED SHEET
< 3 mm

Production

TABLE 65

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
1,6	Northern Germany	2,5	2,7	2,7	2,7	2,7	2,7	2,7
4,7	North Rhine/Westphalia	7,9	8,1	8,0	8,0	8,1	8,1	8,1
1,8	Southern Germany	2,8	2,9	3,0	3,0	3,0	3,0	3,0
—	Saar	—	—	—	—	—	—	—
8,1	*FR of Germany*	*13,1*	*13,7*	*13,7*	*13,7*	*13,9*	*13,9*	*13,9*
3,4	*Belgium*	*4,9*	*5,0*	*5,5*	*5,5*	*5,5*	*5,5*	*5,5*
2,7	Eastern France	3,8	3,8	3,3	3,3	3,3	3,3	3,3
3,4	Northern France	4,0	4,9	5,3	5,3	5,1	5,1	5,1
0,4	France - other areas	0,9	0,5	0,5	0,5	0,6	0,6	0,6
6,5	*France*	*8,7*	*9,2*	*9,1*	*9,2*	*9,0*	*9,0*	*9,0*
1,2	Italy - coastal areas	2,9	2,9	2,3	2,3	2,7	2,7	2,7
2,8	Italy - other areas	2,9	3,0	3,8	3,9	4,1	4,1	4,1
3,9	*Italy*	*5,8*	*5,9*	*6,0*	*6,3*	*6,8*	*6,8*	*6,8*
0,3	*Luxembourg*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*	*0,4*
1,8	*Netherlands*	*2,7*	*2,7*	*2,9*	*2,9*	*3,0*	*3,0*	*3,0*
0,3	Scotland	0,6	0,6	0,6	0,5	0,6	0,6	0,6
3,3	Wales	5,0	5,1	4,7	4,7	4,9	5,1	5,1
0,0	Northern England	0,1	0,1	0,1	0,1	0,1	0,1	0,1
—	England - other regions	—	—	—	—	—	—	—
3,7	*United Kingdom*	*5,7*	*5,8*	*5,4*	*5,3*	*5,6*	*5,8*	*5,8*
—	*Denmark*	—	—	—	—	—	—	—
—	*Ireland*	—	—	—	—	—	—	—
27,8	**Total EUR 9**	**41,3**	**42,7**	**43,0**	**43,3**	**44,2**	**44,4**	**44,5**

TABLE 66

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
1,9	Northern Germany	2,9	3,1	3,7	3,7	3,7	3,7	3,7
5,8	North Rhine/Westphalia ..	12,5	12,5	12,4	11,5	10,5	10,4	10,4
1,3	Southern Germany	2,2	1,9	2,2	2,2	2,2	2,2	2,2
2,3	Saar	4,6	4,5	4,0	3,6	3,6	3,6	3,6
11,2	*FR of Germany*	*22,2*	*22,0*	*22,2*	*21,0*	*20,0*	*19,8*	*19,8*
2,9	*Belgium*	*6,3*	*5,6*	*4,9*	*4,6*	*4,6*	*4,7*	*5,3*
4,1	Eastern France	7,4	7,1	6,4	6,3	6,3	6,3	6,3
2,2	Northern France	1,9	3,1	3,5	3,5	3,2	3,3	3,3
0,6	France - other areas	2,1	0,8	0,9	0,9	1,0	1,0	1,0
6,9	*France*	*11,4*	*11,0*	*10,8*	*10,8*	*10,5*	*10,6*	*10,7*
1,3	Italy - coastal areas	2,9	2,9	1,8	2,2	2,5	2,5	2,5
8,9	Italy - other areas	10,0	10,2	12,8	13,1	13,2	13,5	13,5
10,1	*Italy*	*12,9*	*13,1*	*14,6*	*15,2*	*15,7*	*16,0*	*16,0*
2,3	*Luxembourg*	*4,0*	*4,0*	*3,9*	*3,7*	*3,8*	*4,0*	*4,0*
0,7	*Netherlands*	*0,9*	*1,1*	*1,3*	*1,3*	*1,4*	*1,4*	*1,4*
0,2	Scotland	0,4	0,4	0,4	0,3	0,3	0,4	0,4
0,6	Wales	1,0	0,8	0,8	0,9	1,1	1,1	1,1
4,7	Northern England	6,3	7,5	7,3	7,1	7,1	7,1	7,2
1,8	England - other regions ...	2,4	1,8	2,5	2,4	2,4	2,5	2,4
7,2	*United Kingdom*	*10,1*	*10,5*	*11,0*	*10,8*	*11,0*	*11,1*	*11,1*
0,2	*Denmark*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*	*0,3*
0,1	*Ireland*	*0,1*	*0,1*	*0,1*	*0,1*	*0,2*	*0,3*	*0,3*
41,6	**Total EUR 9**	**68,2**	**67,7**	**69,2**	**67,9**	**67,5**	**68,3**	**68,9**

FLAT PRODUCTS [1]

Production

TABLE 67

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
2,2	Northern Germany	3,9	4,1	4,1	4,1	4,1	4,1	4,1
10,4	North Rhine/Westphalia ..	18,4	19,1	19,4	19,3	19,5	19,5	19,5
1,9	Southern Germany	2,9	3,0	3,2	3,2	3,2	3,2	3,2
0,8	Saar	2,3	2,6	2,6	2,5	2,5	2,4	2,4
15,3	*FR of Germany*	*27,3*	*28,8*	*29,2*	*29,1*	*29,2*	*29,1*	*29,1*
4,9	*Belgium*	*7,7*	*8,0*	*8,7*	*8,8*	*8,8*	*8,8*	*8,6*
4,3	Eastern France	6,5	6,4	5,9	6,0	5,9	5,7	5,7
4,4	Northern France	5,6	6,7	7,0	7,0	6,8	6,9	6,9
0,9	France - other areas	2,2	1,7	1,9	2,2	2,2	2,2	2,2
9,6	*France*	*14,3*	*14,7*	*14,9*	*15,2*	*14,9*	*14,8*	*14,8*
3,2	Italy - coastal areas	7,7	7,5	7,4	7,5	7,9	7,9	7,9
3,8	Italy - other areas	4,6	4,8	5,6	5,8	5,8	5,9	6,0
6,9	*Italy*	*12,3*	*12,3*	*13,0*	*13,2*	*13,7*	*13,8*	*13,9*
1,1	*Luxembourg*	*1,9*	*1,9*	*1,9*	*2,0*	*2,0*	*2,0*	*2,0*
2,4	*Netherlands*	*3,8*	*3,9*	*4,1*	*4,1*	*4,3*	*4,3*	*4,3*
0,7	Scotland	1,3	1,3	1,4	1,4	1,4	1,4	1,4
3,7	Wales	5,4	6,0	5,2	5,2	5,3	5,5	5,6
1,3	Northern England	2,2	2,2	2,4	2,4	2,5	2,5	2,5
1,0	England - other regions ...	1,4	1,5	1,5	1,5	1,5	1,5	1,5
6,7	*United Kingdom*	*10,3*	*11,0*	*10,4*	*10,5*	*10,7*	*10,9*	*10,9*
0,4	*Denmark*	*0,5*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*	*0,6*
—	*Ireland*	—	—	—	—	—	—	—
47,3	**Total EUR 9**	**78,2**	**81,2**	**82,9**	**83,6**	**84,3**	**84,3**	**84,3**

[1] Except coils - finished products.

TOTAL FINISHED ROLLED PRODUCTS [1]

Production

TABLE 68

Production and production potential by regions

million tonnes

Actual production 1978	Region	Production potential 1976	1977	1978	Expected production potential 1979	1980	1981	1982
4,1	Northern Germany	6,8	7,2	7,8	7,8	7,8	7,8	7,8
16,2	North Rhine/Westphalia	30,8	31,6	31,7	30,8	30,0	29,9	29,9
3,2	Southern Germany	5,0	4,9	5,3	5,3	5,4	5,4	5,4
3,1	Saar	6,9	7,1	6,5	6,1	6,1	6,0	6,0
26,5	*FR of Germany*	*49,6*	*50,8*	*51,4*	*50,0*	*49,2*	*48,9*	*48,9*
7,8	*Belgium*	*14,0*	*13,7*	*13,7*	*13,4*	*13,4*	*13,5*	*14,0*
8,4	Eastern France	13,9	13,5	12,4	12,4	12,2	12,1	12,1
6,7	Northern France	7,4	9,8	10,5	10,5	10,1	10,2	10,2
1,5	France - other areas	4,4	2,5	2,8	3,1	3,2	3,2	3,2
16,5	*France*	*25,7*	*25,8*	*25,7*	*26,0*	*25,5*	*25,4*	*25,5*
4,4	Italy - coastal areas	10,6	10,4	9,2	9,7	10,4	10,4	10,4
12,6	Italy - other areas	14,6	15,0	18,4	18,8	19,0	19,4	19,5
17,0	*Italy*	*25,2*	*25,4*	*27,7*	*28,5*	*29,4*	*29,8*	*29,9*
3,4	*Luxembourg*	*5,9*	*5,9*	*5,8*	*5,8*	*5,8*	*6,1*	*6,1*
3,0	*Netherlands*	*4,8*	*5,0*	*5,5*	*5,5*	*5,6*	*5,6*	*5,6*
0,9	Scotland	1,7	1,7	1,8	1,7	1,7	1,8	1,8
4,3	Wales	6,5	6,8	5,9	6,1	6,4	6,6	6,7
6,0	Northern England	8,4	9,6	9,7	9,6	9,6	9,6	9,6
2,8	England - other regions	3,8	3,3	4,0	3,9	3,9	4,0	3,9
13,9	*United Kingdom*	*20,3*	*21,5*	*21,4*	*21,3*	*21,7*	*22,0*	*22,0*
0,6	*Denmark*	*0,8*	*0,9*	*0,9*	*0,9*	*0,9*	*0,9*	*0,9*
0,1	*Ireland*	*0,1*	*0,1*	*0,1*	*0,1*	*0,2*	*0,3*	*0,3*
88,9	**Total EUR 9**	**146,4**	**149,1**	**152,1**	**151,4**	**151,7**	**152,6**	**153,2**

[1] Except coils - finished products.

TABLE 69

Actual and expected rates of production for finished steel products

Products	Actual production			Production potential				
	1960 (million tonnes)	Average annual movement %	1978 (million tonnes)	1974 (million tonnes)	Average annual movement %	1978 (million tonnes)	Average annual movement %	1982 (million tonnes)
Heavy and light sections, incl. tube rounds and squares, rolled	28,4	0,4	30,5	49,4	0,7	50,7	−0,3	50,1
Wire rod	6,9	2,9	11,2	15,3	4,9	18,5	0,4	18,8
Total sections	**35,3**	**1,0**	**41,6**	**64,7**	**1,7**	**69,2**	**−0,1**	**68,9**
Hoop for tubemaking	6,5	0,1	6,6	10,9	3,3	12,4	−0,6	12,1
Plate of 3 mm and over	10,9	0,7	12,4	21,8	4,6	26,1	0,0	26,1
Hot-rolled sheet under 3 mm	3,5 [2]	−11,4	0,4	1,1	4,3	1,3	5,3	1,6
Cold-rolled sheet under 3 mm	11,0 [2]	5,3	27,8	37,7	3,3	43,0	0,9	44,5
Total flats	**31,9**	**2,2**	**47,3**	**71,5**	**3,8**	**82,9**	**0,4**	**84,3**
Total finished rolled products [1]	**67,2**	**1,6**	**88,9**	**136,2**	**2,8**	**152,1**	**0,2**	**153,2**
Coils-finished products	*	*	12,1	6,9	21,4	15,0	1,8	16,1
Grand total EUR 9	*	*	**101,0**	**143,1**	**4,0**	**167,1**	**0,3**	**169,3**

[1] Exclusive of coils rating as end products.
[2] Estimated breakdown of hot and cold rolled sheet <3 mm.
* Figures not available.

TABLE 70

Movement by stages in production since 1960 [1]

%

Sectors	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Pig-iron	94,3	90,9	85,5	81,0	88,2	83,8	77,0	79,2	84,8	89,7	85,4	76,6	79,9	84,4	87,5	64,8	66,7	61,5	63,9
Crude steel . .	95,6	91,7	87,3	83,4	90,0	84,3	78,7	80,0	85,9	88,8	86,1	76,1	81,0	86,0	86,9	66,1	67,8	62,8	65,6
Finished products [2]	89,6	87,2	82,9	78,9	83,9	75,9	69,5	68,9	73,2	80,4	78,3	69,3	71,1	78,4	78,6	57,6	60,3	57,5	58,4

[1] Up to and including 1972, Community in its original form only.
[2] Except coils finished products.

TABLE 71

By stages of production and countries 1978

in %

Country	Pig-iron	Basic Bessemer and other	OBM, LWS	Open hearth	Electric	LD, Kaldo and other	Crude steel total	Continuous casting	Coils	Heavy sections	Light sections	Wire rod	Hoop and skip	Plate ⩾ 3 mm	Cold reduced sheet < 3 mm	Finished rolled products Total (excl. coils finished products)	Pro memoria finished rolled products – Total	
																	1976	1977
FR of Germany	58,1	—	67,5	64,5	74,5	56,0	59,8	72,5	70,5	53,5	47,3	52,0	52,1	44,3	58,9	51,7	54,2	52,4
Belgium	63,6	100	41,2	—	43,2	69,0	63,0	64,2	70,9	78,7	43,0	57,8	26,9	50,8	61,8	56,8	55,4	54,2
France	68,2	59,5	76,6	74,1	75,4	68,7	70,5	82,7	78,9	58,6	67,2	65,0	56,6	51,3	71,9	64,3	64,4	61,0
Italy	66,8	81,8	—	53,5	73,0	65,2	68,0	67,8	58,0	59,4	71,1	68,8	45,5	45,2	65,3	61,6	65,4	65,0
Luxembourg	68,8	—	81,8	—	26,7	62,0	63,4	—	71,0	67,5	50,2	63,0	54,7	61,5	72,0	59,4	53,9	53,1
Netherlands	65,9	—	—	—	75,9	66,8	67,2	—	66,3	100	53,7	43,5	55,5	40,3	63,0	55,6	58,7	55,6
United Kingdom	69,8	36,7	—	65,4	70,8	75,3	72,7	56,7	65,7	58,7	69,4	69,4	63,2	52,7	69,2	64,9	70,9	64,4
Denmark	—	—	—	70,6	75,2	—	73,2	74,0	—	0,0	63,0	—	—	68,3	66,4	66,4	63,9	58,7
Ireland	—	—	—	—	75,6	—	75,6	—	—	70,8	73,1	—	—	—	—	72,4	61,1	31,1
Total EUR 9	**63,9**	**59,3**	**65,5**	**63,1**	**72,1**	**63,9**	**65,6**	**70,3**	**69,2**	**59,5**	**60,4**	**60,3**	**53,4**	**47,5**	**64,6**	**58,4**	**60,6**	**57,5**
EUR 9 - P.M. 1976	**66,6**	**56,1**	**63,1**	**68,0**	**76,6**	**66,4**	**67,8**	**63,8**	**67,9**	**60,8**	**62,2**	**62,6**	**59,6**	**52,2**	**64,5**	**60,6**		
1977	**61,5**	**36,4**	**56,9**	**60,7**	**71,5**	**62,4**	**62,8**	**65,8**	**65,8**	**56,3**	**59,5**	**58,1**	**53,1**	**48,5**	**63,6**	**57,5**		

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The attached report has been prepared on the results of the 1979 survey of investments in the Community coal and steel industries. The survey, which is conducted annually, collects information on actual and forecast capital expenditure and production potential of coal and steel enterprises.

The introductory chapter summarizes the results of the survey and the conclusions on them.

Subsequent chapters of the report examine in detail the results of the survey for each producing sector, namely:

— the coalmining industry;
— coking plants;
— briquetting plants;
— iron-ore mines;
— iron and steel industry.

The annex to the report contains a statement of the definitions under which the survey was carried out, together with tables giving a complete analysis of the results of the survey, including tables of capital expenditure and production potential by region and by category of plant for all sectors and categories of coal and steel products falling within the ECSC Treaty.