

Supplement

ENERGY IN EUROPE

Short term energy outlook for the European Community



MAY 1991

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Short-term energy outlook for the European Community ¹

According to provisional data, total primary energy demand in the Community during 1990 increased by about 2%, in spite of slower economic growth, high oil prices during the Gulf crisis and exceptionally good weather conditions.

It seems now that the Gulf crisis had a rather limited impact on total energy demand. Oil deliveries declined during the fourth quarter of 1990 by more than 6% but demand for other fuels, mainly natural gas, continued to increase.

However, slowest economic growth in 1991 could result in a lower increase in energy demand in 1991. On the basis of our assumptions, total primary consumption could grow by 1.5% during this year.

After a sharp increase during the Gulf crisis, oil prices have declined to less than 20 dollars per barrel and could remain at a similar level for the rest of this year, leading to a possible increase in oil deliveries of about 0.7% in 1991. Weather conditions in the first months of 1991 are pushing demand for natural gas. After an increase of 4% in 1990, demand could grow by 3.2% this year.

Pushed by weather conditions, electricity demand could also increase considerably this year (2.9%). Given a possible upturn in hydro-electric production and a recovery of nuclear, demand for solid fuels could decline in 1991.

A summary of the main assumptions used in the preparation of this «Short Term Energy Outlook» (STEO) and of its main results is presented in Table 1.

**Table 1: EUR-12
Summary of Main Assumptions and Results
(Last Revision: 29 April 1991)**

							Annual Percentage Change					
	1986	1987	1988	1989	1990	1991	1986	1987	1988	1989	1990	1991
I. MAIN ASSUMPTIONS												
GDP (1985=100)	102.8	105.7	109.8	113.3	116.4	118.5	2.8	2.8	3.9	3.2	2.7	1.8
Private Consumption (1985=100)	104.3	108.3	112.8	116.2	119.6	121.9	4.3	3.8	4.1	3.0	2.9	2.0
Industrial Production (1985=100)	102.1	104.1	108.5	112.5	114.4	116.1	2.3	1.9	4.3	3.6	1.7	1.5
Consumer Prices (1985=100)	103.5	106.9	110.7	116.4	123.0	129.7	3.5	3.2	3.6	5.2	5.6	5.5
Exchange Rate ECU/US \$	0.983	1.154	1.184	1.102	1.273	1.235	29.0	17.4	2.5	-6.9	15.6	-3.0
Imported Crude Oil Price (US \$ / bbl)	14.51	17.87	14.78	17.65	22.89	19.81	-47.3	23.2	-17.3	19.5	29.7	-13.4
(ECU / bbl)	14.91	15.50	12.48	16.04	17.79	16.05	-59.0	3.9	-19.5	28.5	10.9	-9.8
Degree Days	2710	2774	2409	2376	2244	2697	13	77	-288	-321	-453	0
II. MAIN RESULTS												
Oil												
Total Inland Deliveries (Mt)	441.1	442.3	451.9	454.0	458.0	461.4	2.8	0.3	2.2	0.5	0.9	0.7
Hard Coal												
Total Inland Deliveries (Mt)	327.3	319.0	310.4	311.9	317.9	312.7	-0.1	-2.5	-2.7	0.5	1.9	-1.6
Total Solids												
Gross Inl. Consumption (Mtoe)	231.5	231.2	226.7	230.8	231.5	228.6	-3.1	-0.1	-1.9	1.8	0.3	-1.2
Natural Gas												
App. Gross Consumption (Mtoe)	186.8	198.9	191.1	199.8	207.8	214.5	1.3	6.5	-3.9	4.5	4.0	3.2
Electricity												
Consumpt. Intern. Market (Twh)	1414.9	1464.4	1504.1	1547.2	1582.6	1628.0	2.9	3.5	2.7	2.9	2.3	2.9
Nuclear Heat												
Production (Twh)	1537.5	1580.4	1694.9	1829.0	1819.0	1902.9	6.8	2.8	7.2	7.9	-0.5	4.6
Total Energy												
Gross Inl. Consumption (Mtoe)	1043.3	1062.6	1076.9	1098.4	1116.2	1132.6	1.4	1.8	1.3	2.0	1.6	1.5
Energy Ratio (1984 = 100)												
Total Gr. Inl. Consumption/GDP	100.0	99.0	96.6	95.5	94.5	94.2	-1.4	-0.9	-2.4	-1.2	-1.1	-0.3

¹ Manuscript completed on 14 May 1991.

Energy in 1990

According to the SOEC monthly data, apparent energy consumption during 1990 grew by 2%. Given that on average the weather was even warmer than in 1989, the estimated underlying growth is higher by about 0.7%.

It should be noted, however, that serious statistical discrepancies between the monthly and annual figures of the SOEC for 1988 and 1989 (see discussion in Box A), make the interpretation of 1990 monthly data difficult. On the basis of our adjusted data, the estimated growth of inland consumption in 1990 is slightly lower (1.6%).

1989 REVISITED

In our previous issue (Box, page 6) we discussed the difference between SOEC monthly and annual figures for 1988. The publication of the annual balance sheet for 1989 shows that this problem persisted in 1989.

In fact, the difference between the sum of monthly data and annual data, that was already 13.9 Mtoe in 1988, is 15.3 Mtoe in 1989. In the oil sector the difference is now of 12.5 Mtoe and it is explained by methodological reasons (more than 4 Mtoe are lost due to simplified conversion factor for oil products, see Annex I) and by underestimated monthly figures of oil imports, in particular in Italy (about 5.1 Mtoe).

TABLE A: 1989 REVISITED

in Mtoe	Monthly data		Annual data	Difference	for memory :
	SOEC Jul-90	SOEC Apr-91	SOEC Apr-91	SOEC Apr-91	STEO Apr-91
1988					
1. Solids	226.3	226.1	226.7	0.6	226.7
2. Oil	476.3	477.7	488.0	10.2	482.0
3. Gas	191.1	191.1	192.5	1.4	191.1
4. Heat	147.5	147.5	148.7	1.2	147.6
5. Electricity	18.3	18.3	18.3	0.0	18.3
6. Other	2.3	2.3	2.6	0.3	2.6
TOTAL	1061.8	1062.9	1076.9	13.9	1068.4
1989					
1. Solids	230.3	230.0	230.8	0.7	230.4
2. Oil	479.6	479.1	491.6	12.5	483.3
3. Gas	199.8	199.8	201.4	1.7	199.8
4. Heat	159.0	159.0	158.8	-0.1	159.2
5. Electricity	12.9	12.9	13.0	0.1	12.9
6. Other	2.3	2.3	2.7	0.4	2.7
TOTAL	1084.0	1083.1	1098.4	15.3	1088.2
Growth rate in %					
1. Solids	1.8%	1.7%	1.8%		1.6%
2. Oil	0.7%	0.3%	0.8%		0.3%
3. Gas	4.5%	4.5%	4.6%		4.5%
4. Heat	7.8%	7.8%	6.8%		7.8%
5. Electricity	-29.2%	-29.3%	-29.0%		-29.2%
6. Other	0.0%	0.0%	2.4%		2.4%
TOTAL	2.1%	1.9%	2.0%		1.9%

Source: SOEC (Sirene) and Table 4

As long as annual data for 1990 are not available, it is impossible to know if the monthly figures continue to be underestimated or not. However it is possible that, due to the close monitoring of oil imports following the Gulf crisis, monthly oil import figures were improved in 1990.

To avoid this problem, we introduced an adjustment of 6 Mtoe to the oil data for 1990 and 1991 (see Annex I and Tables 4 and 5). For this reason, the rate of growth of total «Gross Inland Consumption» of energy in 1990 is slightly lower from the one of «Apparent Consumption» (1.6% against 2%, Tables 4, 8 and 9) and from the figure of 2.1% published by the SOEC (see EUROSTAT, Rapid Reports, Energy and Industry, no 9/91).

NOTE: This report is based on statistical data available as of 23 April 1991 and covering, with some minor exceptions, December 1990. In all tables observed data are presented in **boldface** characters and forecasts in *italics*.

Although all unexpected factors by our previous «Short Term Energy Outlook» (lower economic growth, higher prices, better weather) had a restricting impact on energy demand in 1990, the 2% growth in apparent consumption is slightly higher than our last forecast of 1.8% which assumed «normal» weather in the fourth quarter. In other words, weather corrected intensity gains in 1990 were probably very small.

It must be remembered that the exceptional weather conditions during the last three years (1988, 1989, 1990, see Graph 1) have seriously distorted the seasonality of the European energy market, as well as resulting in a substantial energy saving. This question was discussed in detail in our previous issue (August 1990). It is therefore clear that the interpretation of recent energy figures must be made with extreme caution.

In any case, it seems now that demand for all types of fossil fuel increased in 1990. In spite of the Gulf crisis, oil primary consumption increased by some 10 million tonnes (2.1%) primarily as a result of the continuing strong final demand in the transportation sector (estimated at about 3.3%).

In spite of weather conditions, demand for natural gas expanded by 4% (more than 11% in Spain). It becomes more and more clear that natural gas is rapidly penetrating the European energy market, creating some important structural modifications.

Electricity demand increased by 2.3%. At the same time, production of nuclear heat declined surprisingly by 0.5%. Hydro-electric production which was very low in 1989

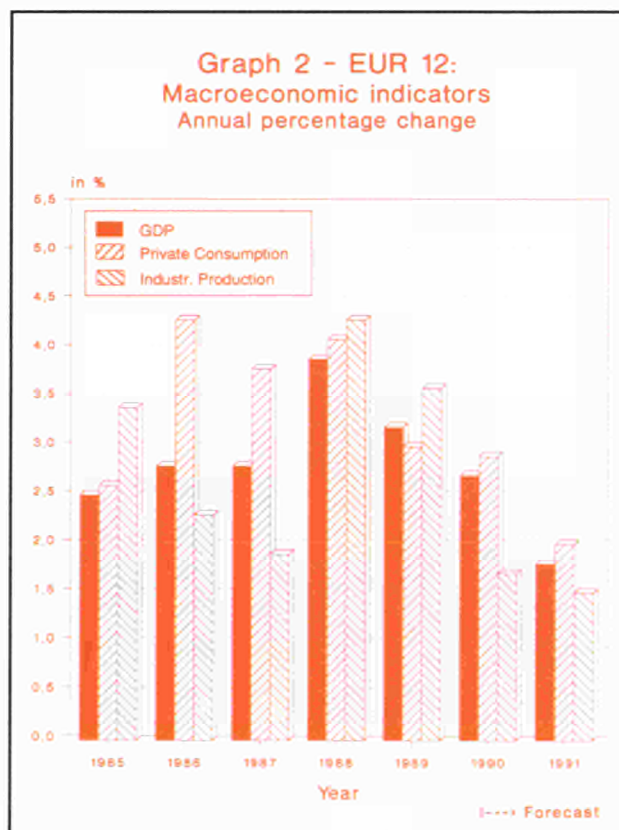
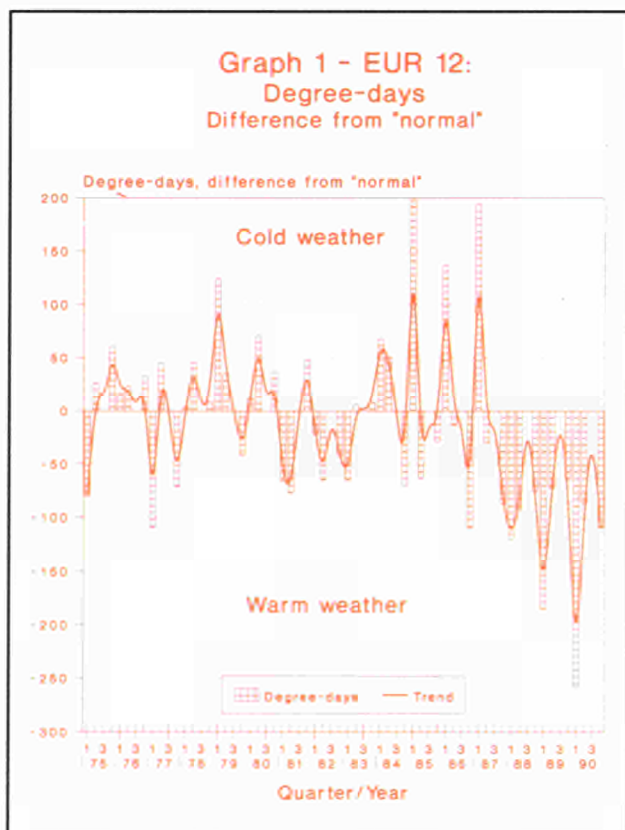
started recovering (10.1%) and conventional thermal generation increased by 3.1% resulting in a slight rise of total solid fuels consumption (0.3%).

Working assumptions for 1991

Macroeconomic assumptions are based on the latest forecasts by the Commission's Directorate-General for Economic Affairs (DG II, November 1990), slightly modified to account for new information. A GDP growth of 1.8% in 1991 is assumed. The average crude oil price is assumed to be 19.8 USD/bbl in 1991. «Normal» weather conditions are assumed after the first quarter of 1990.

Table 2 presents the main working assumptions underlying the 1991 forecasts.

Based partly on the Commission's latest economic forecasts (published in November 1990) and partly on the basis of new data, an average GDP growth for EUR-12 of 1.8% in 1991 is now assumed (the November forecast of DG II was of 2.2%, as compared to 3.1% in June 1990). This is considerably lower than the 3.2% and 2.7% recorded in 1989 and 1990 respectively and is still surrounded by important uncertainties. The rate of growth in private consumption is expected to be around 2% (Graph 2).



GERMAN STATISTICS

All data and forecasts presented in the present «Short Term Energy Outlook» refer to the Federal Republic of Germany prior to German unification. Due to major statistical problems, concerning mainly the National Accounts, it is not yet possible to present reliable data for the new German State.

A new statistical database, using concepts and definitions comparable to those of the other Community members is now under preparation. German data in the «Short Term Energy Outlook» will be updated when they will be available by the Statistical Office of the European Community (SOEC).

Meanwhile, the following table presents some estimates of the main energy variables for East Germany.

EAST GERMANY - ENERGY INDICATORS

	Units	1985	1988	1989	1990
A. SELECTED STATISTICS					
Production of Brown Coal and Lignite	Mt	312.1	310.3	301.1	256.0
Apparent Consumption					
Hard Coal	Mt	4.8	5.5	4.0	3.2
Brown Coal and Lignite	Mt	309.0	307.0	298.0	235.5
Crude Oil	Mt	22.8	20.6	21.1	17.9
Oil Products (Net Imports)	Mt	-5.7	-4.1	-5.2	-3.5
Natural Gas	Bcm	10.9	11.3	11.1	9.7
Production of Electricity	Twh	113.8	118.3	119.0	108.4
Source: PlanEcon Energy Report, March 1991					
B. PRIMARY ENERGY CONSUMPTION					
a. IEA : World Energy Statistics, 1990	Mtoe	96.5	94.7	n.a.	n.a.
b. UN/ECE : Energy Balances, June 1990	Mtoe	95.7	95.8	n.a.	n.a.
c. UN/NY : Energy Statistics Yearbook, 1990	Mtoe	91.4	90.5	n.a.	n.a.
d. EIA : International Energy Annual, 1991	Mtoe	102.8	99.5	100.1	n.a.
e. PlanEcon : Review and Outlook, Summer 1990.	Mtoe	97.6	97.4	96.9	n.a.

**Graph 3 - EUR 12:
Average crude oil import price (cif)**



THE GULF CRISIS

Our previous «Short Term Energy Outlook» was prepared just before the beginning of the Gulf crisis. Ten months later we can try to estimate the impact of this crisis to the world and European oil markets.

a. World Oil Supply and Demand

Table C1 compares the last pre-crisis World Oil Outlook, as published by the IEA in its end-July Monthly Oil Report, with actual estimates (end-April Monthly Oil Report). The main results are also shown in the graph.

Table C 1
World Oil Balance
(mbd)

A. PRE CRISIS OUTLOOK (End-July 1990)

	SUPPLY										DEMAND			Stock change
	Iraq	Kuwait	Other OPEC	OPEC crude	OPEC NGL	OECD	Others	CPE. Net exp.	Ref.gains	TOTAL	OECD	Others	TOTAL	
1q90	3.0	1.8	18.9	23.7	1.9	16.1	9.7	1.4	1.3	54.1	38.5	15.3	53.8	0.3
2q90	3.1	1.7	18.8	23.6	1.9	15.8	9.8	1.8	1.3	54.2	36.6	14.8	51.4	2.8
3q90	3.0	1.8	18.0	22.8	1.9	15.5	9.8	1.8	1.3	53.1	37.3	15.3	52.6	0.5
4q90	3.0	1.8	18.2	23.0	1.9	15.9	9.9	1.7	1.3	53.7	39.6	15.7	55.3	-1.6
1q91	3.0	1.7	17.8	22.4	1.9	16.0	10.0	1.4	1.3	53.0	39.6	15.9	55.5	-2.5
2q91	3.0	1.7	17.9	22.6	1.9	15.9	10.0	1.7	1.3	53.4	37.0	15.4	52.4	1.0
1990	3.0	1.8	18.5	23.3	1.9	15.8	9.8	1.7	1.3	53.8	38.0	15.3	53.3	0.5
1991H1	3.0	1.7	17.8	22.5	1.9	16.0	10.0	1.6	1.3	53.2	38.3	15.7	54.0	-0.8

B. END-APRIL SITUATION

	SUPPLY										DEMAND			Stock change
	Iraq	Kuwait	Other OPEC	OPEC crude	OPEC NGL	OECD	Others	CPE. Net exp.	Ref.gains	TOTAL	OECD	Others	TOTAL	
1q90	3.0	1.8	19.0	23.8	1.9	16.1	9.7	1.4	1.3	54.2	38.3	15.2	53.5	0.7
2q90	3.1	1.7	18.8	23.6	1.9	15.7	9.8	1.8	1.3	54.1	36.5	15.1	51.6	2.5
3q90	1.5	0.6	19.8	21.9	1.9	15.4	9.8	2.1	1.3	52.4	37.8	15.4	53.2	-0.8
4q90	0.4	0.1	22.6	23.1	1.9	16.2	10.2	1.4	1.3	54.1	37.4	15.7	53.1	1.0
1q91	0.2	0.0	22.9	23.1	1.9	16.4	10.0	1.2	1.3	53.9	38.4	16.0	54.4	-0.5
2q91	0.1	0.0	22.5	22.6	1.9	15.7	10.1	1.5	1.3	53.1	36.1	15.7	51.8	1.3
1990	2.0	1.1	20.1	23.1	1.9	15.9	9.9	1.7	1.3	53.7	37.5	15.4	52.9	0.9
1991H1	0.2	0.0	22.7	22.9	1.9	16.1	10.1	1.4	1.3	53.5	37.3	15.9	53.1	0.4

C. CRISIS IMPACT

	SUPPLY										DEMAND			Stock change
	Iraq	Kuwait	Other OPEC	OPEC crude	OPEC NGL	OECD	Others	CPE. Net exp.	Ref.gains	TOTAL	OECD	Others	TOTAL	
1q90	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	-0.2	-0.1	-0.3	0.4
2q90	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	0.3	0.2	-0.3
3q90	-1.5	-1.2	1.8	-0.9	0.0	-0.1	0.0	0.3	0.0	-0.7	0.5	0.1	0.6	-1.3
4q90	-2.6	-1.7	4.4	0.1	0.0	0.3	0.3	-0.3	0.0	0.4	-2.2	0.0	-2.2	2.6
1q91	-2.8	-1.7	5.2	0.7	0.0	0.4	0.0	-0.2	0.0	0.9	-1.2	0.1	-1.1	2.0
2q91	-2.9	-1.7	4.6	0.0	0.0	-0.2	0.1	-0.2	0.0	-0.3	-0.9	0.3	-0.6	0.3
1990	-1.0	-0.7	1.6	-0.2	0.0	0.0	0.1	0.0	0.0	-0.1	-0.5	0.1	-0.4	0.4
1991H1	-2.8	-1.7	4.9	0.4	0.0	0.1	0.1	-0.2	0.0	0.3	-1.1	0.2	-0.8	1.2

Source: IEA

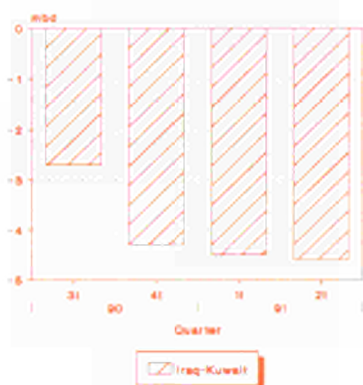
By the fourth quarter of 1990 additional production by OPEC countries and other oil producers had more than replaced lost supplies from Iraq and Kuwait and total world oil supply was by 0.4 mbd higher than it was anticipated before the crisis. At the same time, due to higher prices and the economic slow-down in many OECD countries, world oil demand was by 2.2 mbd less than anticipated. However prices remained high until the beginning of the Gulf war, leading to an unusual increase in stocks of 1 mbd in the fourth quarter of 1990.

Production remained high in the first quarter of 1991 resulting, despite the IEA decision to draw on stocks, to only a small decrease in stocks: -0.5 mbd as compared to an anticipated -2.5 mbd before the crisis.

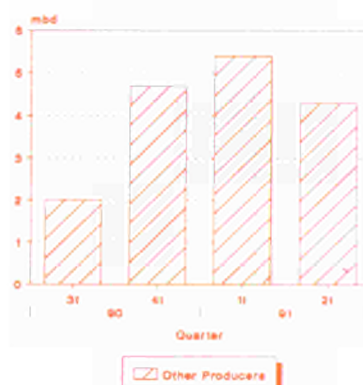
WORLD OIL BALANCE

Impact of the Gulf Crisis

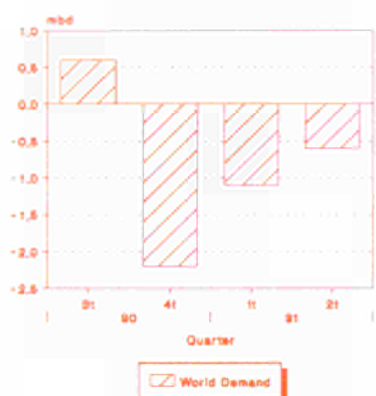
OIL SUPPLY
Estimated Loss of Supply by
Iraq and Kuwait (mbd)



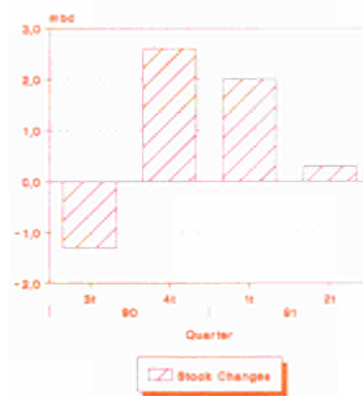
OIL SUPPLY
Estimated Increase of Supply by
Other Producers (mbd)



OIL DEMAND
Estimated Reaction of
World Demand (mbd)



OIL DEMAND
Estimated Additional
Stock Changes (mbd)



Source: IEA, MOR, End-July 1990, End-April 1991

b. World Oil Prices

Spot prices rose above 40 US dollars/bbl in mid-October and then started to decline slowly until the beginning of the war (see also main text and graph 3). By end-April they were around 19 US dollars/bbl.

c. Oil demand in the European Community

Total oil deliveries in the European Community increased in 1990 by 0.9%. However, in the fourth quarter they decreased by 6.3% as a result of different factors: Economic slow-down, higher prices, fuel switching, mainly in the electricity sector and good weather conditions. The following table compares quarterly deliveries with our last forecast, published last year.

Table C 2
Oil Deliveries - Actual and Forecast

		1 Q90	2 Q90	3 Q90	4 Q90	1990
1. Motor Gasoline	Actual	24.8	26.7	27.6	25.9	105.0
	<i>Forecast</i>	24.8	26.8	27.7	25.9	105.2
	Difference	0.0	-0.1	-0.1	0.0	-0.2
2. Kerosenes	Actual	6.3	6.6	7.8	6.6	27.3
	<i>Forecast</i>	6.1	6.6	7.6	6.8	27.1
	Difference	0.2	0.0	0.2	-0.2	0.2
3. Automotive Diesel	Actual	20.6	21.1	21.5	21.7	84.9
	<i>Forecast</i>	19.7	21.6	21.8	22.6	85.7
	Difference	0.9	-0.5	-0.3	-0.9	-0.8
4. Heating Gas Oil	Actual	24.7	18.4	20.2	22.2	85.5
	<i>Forecast</i>	25.1	16.4	17.7	25.2	84.4
	Difference	-0.4	2.0	2.5	-3.0	1.1
5. Heavy Fuel Oil	Actual	19.3	16.3	16.2	16.4	68.2
	<i>Forecast</i>	19.4	15.2	15.4	19.5	69.5
	Difference	-0.1	1.1	0.8	-3.1	-1.3
6. Other Products	Actual	21.7	21.8	22.0	21.7	87.1
	<i>Forecast</i>	20.9	22.3	22.7	23.0	88.9
	Difference	0.8	-0.5	-0.7	-1.3	-1.8
TOTAL DELIVERIES	Actual	117.3	110.9	115.3	114.5	458.0
	<i>Forecast</i>	115.9	108.9	112.9	123.0	460.8
	Difference	1.4	2.0	2.4	-8.5	-2.8
	in %	1.2%	1.8%	2.1%	-7.4%	-0.6%

It can be seen that during the first three quarters of 1990, oil deliveries were higher than anticipated but declined sharply in the fourth quarter. Deliveries of heating gas oil decreased by 13.7% and those of heavy fuel oil by 20.6% (Table 8).

d. Imports from Iraq and Kuwait

The following table shows the shares of oil imports from Iraq and Kuwait before and during the crisis, by Member State. According to available information, all Member States including those that were importing big quantities from these two countries, had no real difficulty in replacing the lost imports.

Table C3
Oil Imports from Iraq and Kuwait

	EUR-12	Belgique	Danmark	Deutschland	Ellas	Espana	France	Ireland	Italia	Nederland	Portugal	United-Kingdom
Crude oil + feedstocks + products imports												
1 000 T												
Extra Community imports (EUR-12)												
JAN - DEC 1989	487218	29251	8200	66604	18360	56540	79082	192	95366	74365	10316	48942
JAN - DEC 1990	501121	28041	6993	71559	20857	54782	80940	639	100787	72967	11348	52208
JAN - SEP 1990	379618	20605	5117	53603	15756	42342	61221	342	74926	56592	8943	40171
SEP - DEC 1990	121503	7436	1876	17956	5101	12440	19719	297	25861	16375	2405	12037
Imports from Iraq												
JAN - DEC 1989	31199	2287	0	428	2549	5334	6249	0	6766	4984	1157	1445
JAN - DEC 1990	21385	1440	0	151	2187	3121	3009	0	3490	5735	929	1323
JAN - SEP 1990	21385	1440	0	151	2187	3121	3009	0	3490	5735	929	1323
SEP - DEC 1990	0	0	0	0	0	0	0	0	0	0	0	0
JAN - DEC 1989	6.4%	7.8%	0.0%	0.6%	13.9%	9.4%	7.9%	0.0%	7.1%	6.7%	11.2%	3.0%
JAN - DEC 1990	4.3%	5.1%	0.0%	0.2%	10.5%	5.7%	3.7%	0.0%	3.5%	7.9%	8.2%	2.5%
JAN - SEP 1990	5.6%	7.0%	0.0%	0.3%	13.9%	7.4%	4.9%	0.0%	4.7%	10.1%	10.4%	3.3%
SEP - DEC 1990	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Imports from Kuwait												
JAN - DEC 1989	24233	0	3277	1033	479	677	898	0	4784	9475	155	3455
JAN - DEC 1990	15080	19	1679	578	0	483	46	0	3168	6743	97	2267
JAN - SEP 1990	14910	19	1679	574	0	483	46	0	3168	6577	97	2267
SEP - DEC 1990	170	0	0	4	0	0	0	0	0	166	0	0
JAN - DEC 1989	5.0%	0.0%	40.0%	1.6%	2.6%	1.2%	1.1%	0.0%	5.0%	12.7%	1.5%	7.1%
JAN - DEC 1990	3.0%	0.1%	24.0%	0.8%	0.0%	0.9%	0.1%	0.0%	3.1%	9.2%	0.9%	4.3%
JAN - SEP 1990	3.9%	0.1%	32.8%	1.1%	0.0%	1.1%	0.1%	0.0%	4.2%	11.6%	1.1%	5.6%
SEP - DEC 1990	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%
Iraq and Kuwait												
JAN - DEC 1989	11.4%	7.8%	40.0%	2.2%	16.5%	10.6%	9.0%	0.0%	12.1%	19.4%	12.7%	10.0%
JAN - DEC 1990	7.3%	5.2%	24.0%	1.0%	10.5%	6.6%	3.8%	0.0%	6.6%	17.1%	9.0%	6.9%
JAN - SEP 1990	9.6%	7.1%	32.8%	1.4%	13.9%	8.5%	5.0%	0.0%	8.9%	21.8%	11.5%	8.9%
SEP - DEC 1990	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%

Source: SOEC, SIRENE (22.04.91)

Inflation this year could be around 5.5%. As usual, the assumption is made that the USD/ECU nominal exchange rate will remain constant throughout the forecasting period at 1.2 USD/ECU. An average oil price of 19.8 USD/bbl is assumed for 1991 (see next section and Graph 3).

Finally, it is assumed that «normal» weather conditions will prevail after the first quarter of 1991.

The forecasts are, as usual, based on the results of the «ERASME» model but they also incorporate, as far as possible, other information from different sources (DG XVII, Member States, energy experts etc).

Energy Prices

The oil price

Crude oil prices which had reached an 18 month low by June started to rise in July 1990. Following the Iraqi invasion of Kuwait, oil prices started to increase rapidly. By mid-October, spot prices were above 40 USD/bbl.

As world oil supply started to increase (see box C) prices started to ease but remained still very high until the beginning of the Gulf war. When it became clear that the war was not threatening the Saudi production, prices collapsed below 20 USD/bbl. After the end of the war, Brent spot prices stabilized around 19 USD/bbl.

The average 1990 import price for the European Community was finally 22.9 USD/bbl, a 30% increase over 1989. However, taking in account the dollar

devaluation in 1990, import prices of crude oil in ECU in 1990 increased on average by only 11% after an increase of almost 29% in 1989.

Given the actual supply situation there is probably no risk of any serious price increase this year. On the other hand, as long as Iraq and Kuwait continue to be absent from the world market, the risk of a price collapse can probably be avoided by the other OPEC members without major sacrifices.

Under this situation the working assumption is made that average import prices will remain at 19 USD/bbl during the second and third quarter of 1991 and will be at 20 USD/bbl for the last quarter, leading to an average import price of 19.8 USD/bbl, by 13.4% less than in 1990.

Final energy prices

Final prices of oil products increased sharply during the second half of 1990. Following the profile assumed for the imported crude price, they could decline slightly during this summer and increase thereafter.

During the last two quarters of 1990 final prices of oil products and in particular of heating oil and residual fuel oil increased substantially under the impact of the Gulf crisis (Table 3 and Graph 4). According to provisional estimates for the beginning of 1991 final prices of some oil products (gasoline and residual fuel oil) eased somewhat. On the basis of our assumptions on crude oil

price, a new slight increase is possible by the end of the year. In annual terms, average prices will probably be higher in 1991 than in 1990, with the exception of heavy fuel oil.

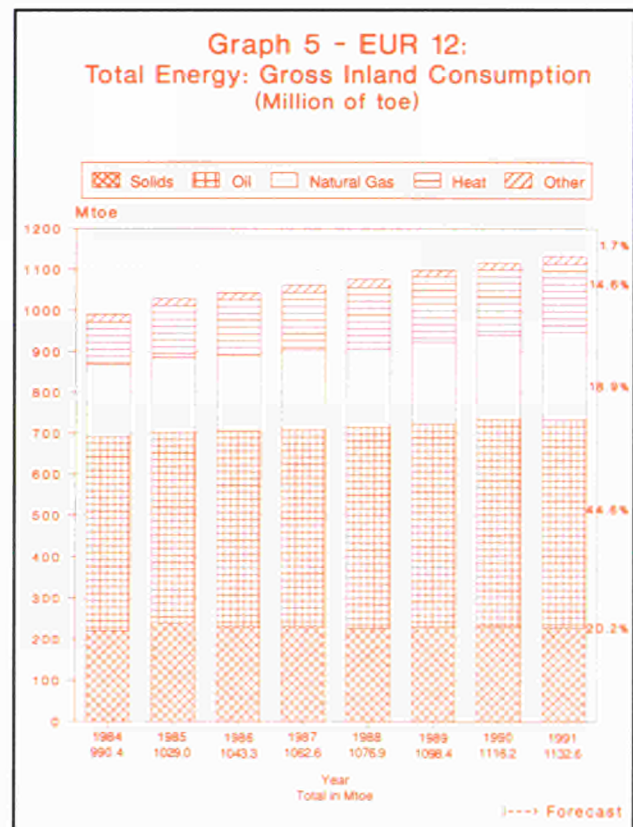
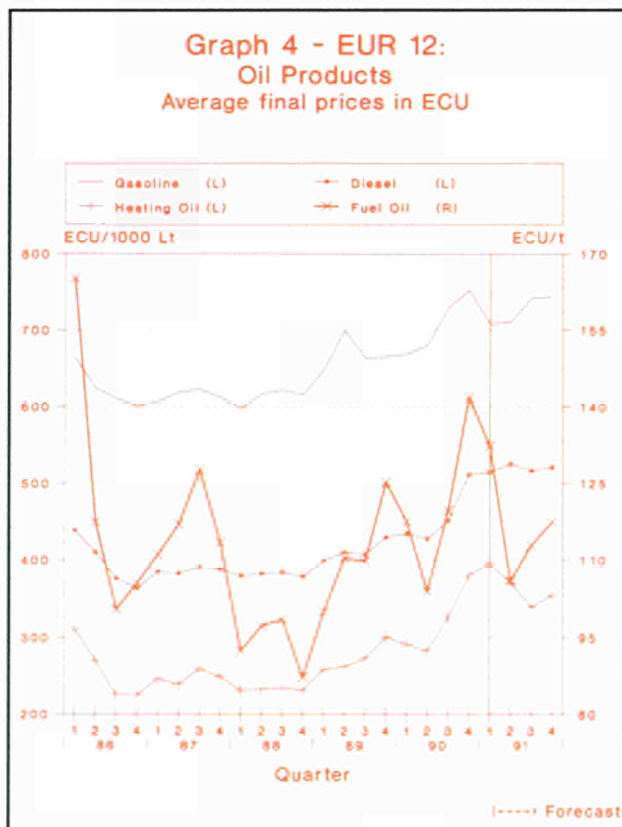
Considering the usual lags in the transmission of the impact of oil prices on other fuels, average annual natural gas prices could continue rising until the fourth quarter of 1991. Coal prices will probably remain at the same levels as in 1990, while electricity prices could increase more in 1991.

However, we would like to point out that given the insufficient quality of historical data on average final energy prices, other than oil, these forecasts must be considered only as indicative.

Overall energy in 1991

Taking account of the economic slow-down and assuming «normal» weather conditions, a growth in total energy demand of about 1.5% is expected this year.

Unfortunately, due to technical problems, the SOEC has not yet published detailed data on degree-days for the first quarter of 1991. However, isolated information shows that the weather during this quarter was close to «normal». For this reason, estimates for the first quarter 1991 are based on the assumption of «normal» weather conditions and some limited and provisional data.



Our actual forecast for 1991, gives an overall growth in energy demand of only 1.5%. In practice, all of it can be attributed to climatic factors. This figure is of course very uncertain. In particular this forecast implicitly assumes, as it was the case in our previous forecast of July 1990, a substantial gain in energy intensity. In terms of weather corrected primary energy, the underlying decrease in energy intensity is in the order of 2%, a value that has not been observed since 1983. (For more details see our previous issue, August 1990).

A small part of this can be explained by technical reasons (the way that hydro-electricity is accounted in the SOEC balance sheets). Another part is explained by our price assumptions. Finally two other factors were considered:

- In case of «normal» weather, some households could regulate more effectively their heating consumption. Fragmentary information shows that this could be the case in the first quarter of 1991. For example, weather corrected consumption of heating oil in France was estimated to be by 12.8% less than in 1990 (observed consumption: +6.8%, source: Observatoire de l'Energie).

- In some cases, energy consumers could try to use energy more efficiently given the increasing public awareness on this question, especially after the Gulf crisis.

However, it is clear that the distortions generated by the exceptional climatic conditions of the last three years render any short-term energy outlook more uncertain than usual.

Oil

Demand for oil, in terms of total inland deliveries, increased by 0.9% during 1990. However, in terms of primary consumption it increased by 2.1%. In spite of lower average oil import price in 1991 deliveries are expected to grow by only 0.7% in 1991. Production of crude oil stabilised in 1990 and it is expected to remain at the same level in 1991.

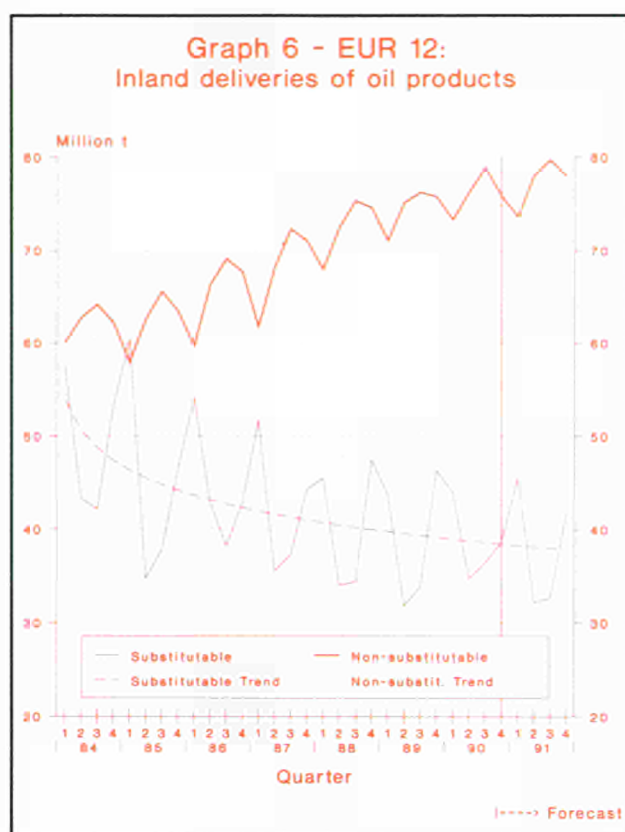
Provisional data for oil consumption in 1990 could be confusing. The following small table explains the difference in growth rates between primary consumption and deliveries.

Deliveries of transportation fuels (motor gasoline, automotive diesel oil and kerosenes) increased by 3.3% in 1990 (3.6% in 1989). Deliveries of heating oil increased also by 0.9% in spite of the combined effect of good weather, increasing prices and continuing penetration of competitive fuels (mainly natural gas). However, during the fourth quarter of the year, heating oil deliveries declined by 13.7% (see also Box C on the impact of the Gulf crisis).

During the first half of the year, oil burned in power stations was growing fast (explained by low nuclear and hydro-electric production, see section on electricity). However, after the sharp increase of prices during the Gulf crisis, consumption by the power stations dropped by more than 25% in the fourth quarter. On an annual basis deliveries of heavy fuel oil decreased by 3.9%. Overall inland deliveries of oil products increased by 0.9% (Tables 5, 8 and 9 and Graphs 6 and 7).

in Million Mt		1989	1990	Difference	in %
1	Apparent Consumption	478.7	491.7	13.0	2.7%
2	Adjustment to annual data	8.9	6.0	-2.9	
3=1+2	Gross Inland Consumption	487.6	497.7	10.1	2.1%
4	Power Generation	42.8	41.7	-1.1	-2.6%
5	Other Transformations	1.5	1.5	0.0	0.0%
6	Refineries Total Losses	32.1	35.7	3.6	11.2%
7=4+5+6	Total Transformations	76.4	78.9	2.5	3.3%
8	Final Consumption	409.7	414.8	5.1	1.2%
9=3-7-8	Statistical error	1.5	4.0	2.5	
10=4+5+8	Deliveries	454.0	458.0	4.0	0.9%

Source: Table 5



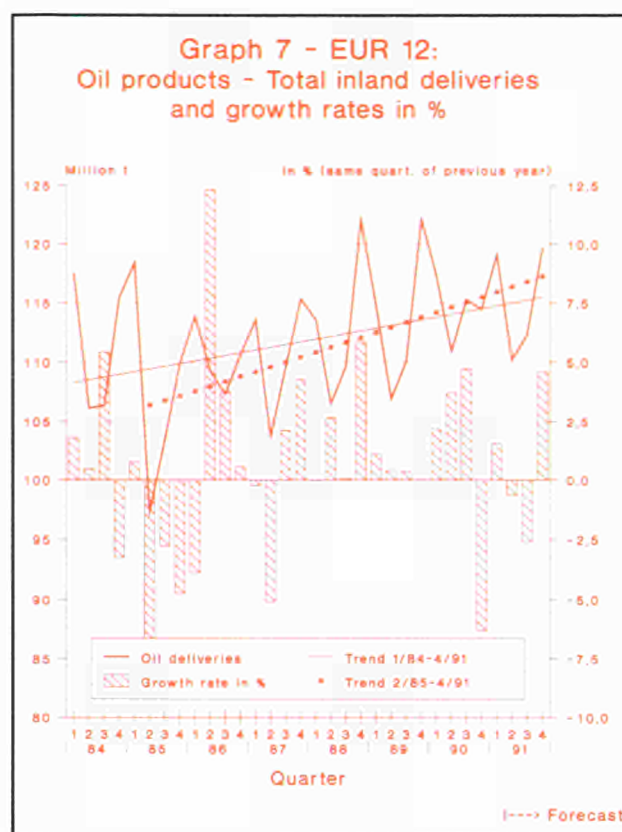
Demand for transportation fuels will probably continue to grow in 1991 at a rate of 3%, with diesel oil continuing to increase its penetration in the transportation market, although diesel prices could lose some of their competitive advantages against gasoline prices (see Table 3 and Graph 4).

It is more difficult to forecast deliveries of other oil products. The weather has modified the seasonality of heating oil deliveries. After a massive decrease of heating oil deliveries in Germany in 1989, actual data show that demand has increased substantially in 1990 (about 8.5%) mainly in the first half of the year, no doubt with the aim of restoring consumer stocks. In 1991, on the basis of our climatic assumptions, deliveries could increase once again by about 1%.

The long trend of decline of heavy fuel oil deliveries, which has been temporarily reversed in 1989 by the increased demand in the power sector, seems to continue. Industrial demand continues to decline and is expected to be very weak this year. Assuming also a recovery of nuclear and hydro-electric production, deliveries of fuel oil could again decline in 1991 by more than 3%.

In total, oil deliveries could increase by less than 4 million tonnes in 1991 (0.7%).

Oil production in 1990 remained at its low level of 1989. Due to postponed maintenance programmes in the North Sea, production this year is expected to be once again at the same levels.



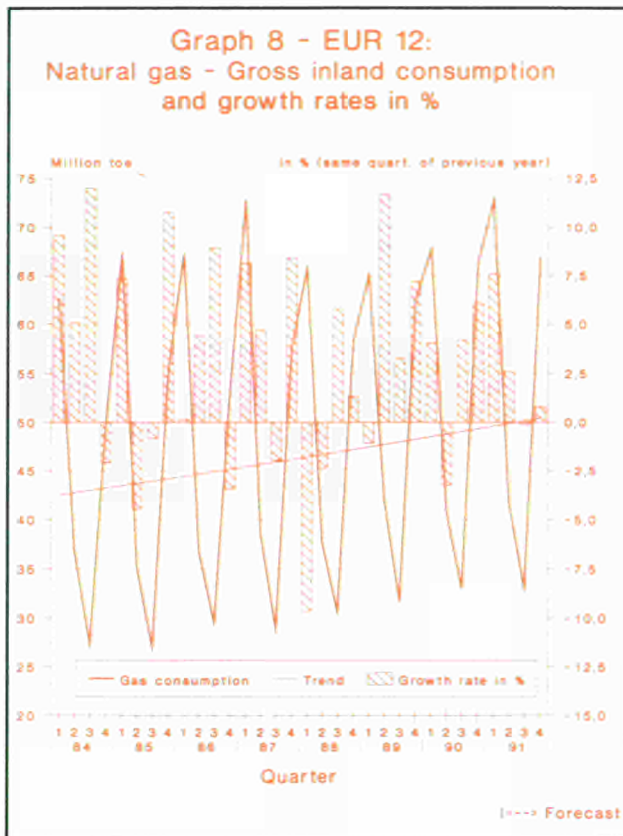
Given the patterns of production and demand, net oil imports may continue to increase in 1991.

Natural gas

Demand for natural gas increased by 4% in 1990. This fast growing trend will probably continue in 1991. Under our economic and weather assumptions, demand in 1991 could grow by 3.2%.

According to SOEC monthly data, apparent consumption last year increased by 4%. «Weather corrected» consumption increased by about 6%. Consumption of natural gas was doubtlessly influenced by the Gulf crisis in the last quarter as some fuel switching took place. Use of natural gas for power generation, in particular, increased in the fourth quarter by more than 20%.

Consumption of natural gas is more weather dependent than any other fuel. With «normal» weather conditions during the forecast period, a total demand increase of 3.2% in 1991 implies a negative «weather corrected» growth that could be explained by slower economic activity, increase in real prices in the domestic sector (table 3) and a limited growth in demand from the power sector (Tables 5, 8 and 9 and Graph 8).



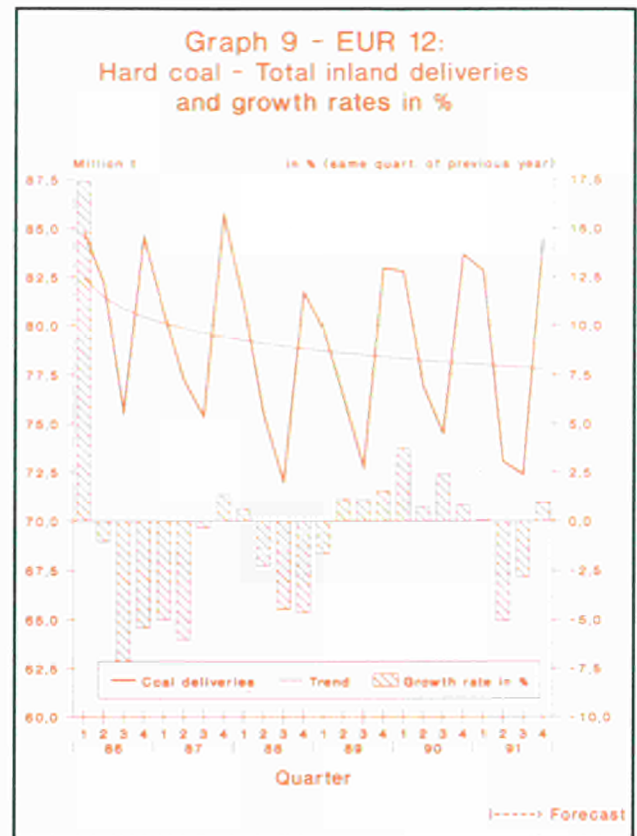
Indigenous production of natural gas increased in 1990 by 5.7 Mtoe (4.6%). Net imports increased also by 2.8 Mtoe or 3.6%. Both production and net imports will probably continue to expand this year, but at a lower rate.

Solids

For the second consecutive year total demand for solids grew in 1990 by about 0.3%. Demand, which is more and more linked to the power sector, could decline slightly this year.

Total inland deliveries of hard coal which declined by more than 17 million tonnes between 1985 and 1988 and remained almost stable in 1989, increased in 1990 by 6 million tonnes. Deliveries to power plants increased by almost 9 million tonnes, deliveries to all industrial activities (including use for electricity auto-production) increased by 1.1 million tonnes, while deliveries to all other sectors were declining. (Tables 6, 8 and 9 and Graph 9).

The future of coal demand depends more and more on the power sector. However, the share of hard coal in total inputs of conventional thermal power stations decreased from 55% in 1987 to 53.9% in 1988 and to 51.6% in 1989. According to provisional estimates, in 1990 it was 52.8% due to an exceptional increase in coal burning during the second and fourth quarter (almost 7% in each case, explained by the nuclear slow-down and by the



Gulf crisis respectively). Weather partly explains this decline. Nevertheless, as we were suggesting in our previous issue, we are perhaps in the beginning of a structural change resulting in a slower increase in demand for solid fuels from the power sector. Given the present attitude in some Member States, it is possible that natural gas will penetrate the power sector faster than previously expected, slowing the growth of coal demand.

In 1991 total hard coal deliveries could decline by about 5 million tonnes.

Production of hard coal in 1990 was 11.4 million tonnes less than in 1989. Net imports increased by almost 13 million tonnes. According to recent forecasts by Member States production could decrease by 9 million tonnes by the end of 1991. Net imports will continue to rise in 1991.

Electricity

On the basis of current available figures, electricity demand increased by only 2.3% in 1990, the lowest growth rate since 1983. Demand could increase by 2.9% in 1991.

Electricity demand in the Community in 1990, when corrected for weather, increased by 2.9% which is a rather low growth implying almost a stabilisation of electricity intensity. In the absence of annual data for final consumption, it is difficult to explain the reasons for this

behaviour. Let us remember however that last year, monthly data for 1989 were implying a growth of electricity final consumption of only 2.5% (see our last issue) but the recently published annual balance sheet shows an observed growth of 3.4% which is equivalent to 3.6% in «weather corrected» terms.

Our actual forecast for demand growth in 1991 is of 2.9%. (Tables 7, 8 and 9, Graph 10). This means that electricity intensity (corrected for the climate) in the Community could decline in 1991 with real electricity prices remaining almost stable (Tables 2 and 3).

Surprisingly, production of nuclear heat declined in 1990 by 0.5% (-12.4% in the Netherlands, -7.4% in the UK where some old plants were decommissioned, see Annex II, -5.2% in Spain where the Vandellos-1 plant was also decommissioned, and -1.5% in Germany where the Wurgassen plant was closed from the end 1989 until the last quarter of 1990).

Normally production by the nuclear sector will increase this year as total generating capacity is supposed to increase. Annex II shows our assumptions on nuclear capacity. On this basis the forecast for growth in the production of nuclear electricity is around 4%.

Hydro-electric production recovered last year. By the end of 1990 it was by 10% higher than in 1989 but still considerably lower than in 1988. The production gap was covered by conventional thermal power generation (+3.1%), resulting in a substantial increase in consumption of hard coal (+4.5%) and natural gas (+4.2%).

Assuming a new increase in production of hydro-electricity this year (which however will not reach the levels of 1988, see table 7) and a recovery in the nuclear sector, production of electricity by conventional thermal power stations could slightly decrease in 1991.

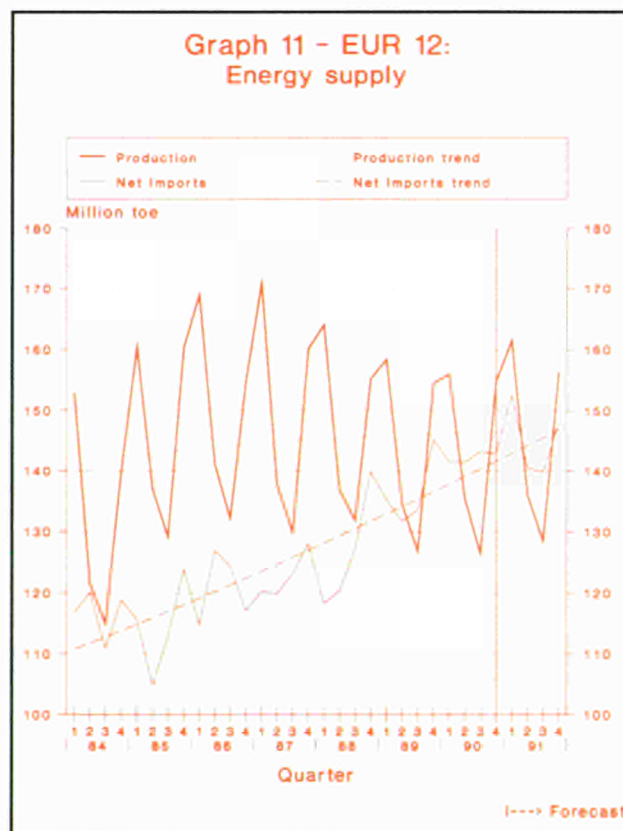
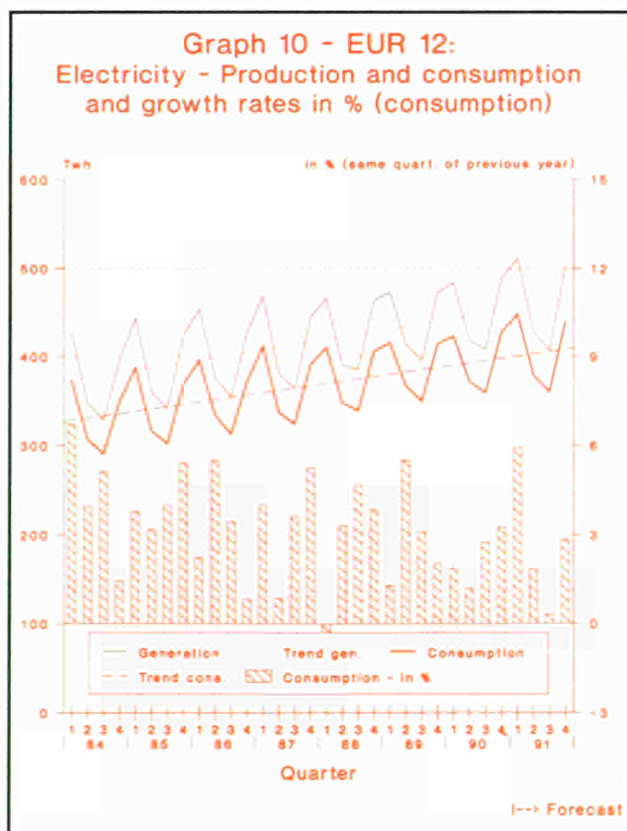
It is difficult to predict if use of oil will rise again as prices decline. In any case, weather conditions and rainfall will also influence the use of oil. Overall, it is probable that oil will decline this year, remaining nevertheless at a higher level than in the years 1986 to 1988.

Solid fuels will probably stabilize their contribution to the power sector, and natural gas will most likely be the only fossil fuel growing.

Total supply

Total primary production of energy decreased by 0.3% during 1990. This was mainly due to the decrease in the production of solid fuels. Both indigenous production and net imports could increase this year. Dependency on imports which increased sharply in 1989 and a little more in 1990 could continue to increase in 1991.

Due to the decline in solid fuels production (-7.4 Mtoe) and in nuclear heat (-0.9 Mtoe) and in spite of an increase in the production of other sectors (Natural gas: +5.7 Mtoe, Hydro: +1.2 Mtoe) total inland primary production



dropped in 1990 by 1.6 Mtoe, or by 0.3%. Net imports increased by more than 23 Mtoe, or 4.3% (Table 4, Graph 11).

Supposing a higher nuclear production in 1991, total production could increase by 10 Mtoe and net imports by 12 Mtoe.

Total net imports are forecast to represent about 49.8% of total primary energy consumption (including bunkers)

in 1991, compared to 43.3% in 1985, 45.6% in 1988, 48.3% in 1989 (48.9% on the basis of the latest observed annual data on imports) and an estimated 49.5% in 1990.

This evolution confirms once again that since 1986 energy dependency of the Community is increasing as net imports are following a stable upward trend (Graph 11). In 1991 net oil imports could represent a bigger part of total energy consumption than in 1984 (about 35.9%, as compared to 34.5%, Table 4).

Data and definitions

The short-term energy outlook is presented in nine tables:

Table 1 : Summary of main assumptions and results, on an annual basis.

Table 2 : Macroeconomic, oil price and weather assumptions.

Historical values for macroeconomic variables are based on EUROSTAT figures, the average import oil price is estimated by DG XVII and degree-days are the weighted average (by the population) of degree-days in 9 Member States (Spain, Greece and Portugal are excluded). Those data, on a monthly basis, are published in the "Energy, Monthly Statistics" bulletin of EUROSTAT.

Table 3 : Energy prices.

These figures are based on data collected by DG XVII and by the OECD.

Tables 4 to 7 present **energy data**:

Table 4 : Primary energy balance sheet.

Table 5 : Oil and natural gas.

Table 6 : Solid fuels.

Table 7 : Electricity and heat.

The contents of those tables are discussed in Annex I.

Tables 8 and 9: Quarterly growth rates for main variables:

Table 8 : Presents the quarterly growth rates for main variables relative to the same quarter of the previous year.

Table 9 : Presents quarterly year-to-date growth rates for the same variables.

Short-term energy outlook on PC diskette

DG XVII is now offering all the historical data and forecasts published in the short-term energy outlook on PC floppy disk. You can now consult these data on your personal computer.

For more informations please contact the editor.

TABLE 2 - EUR 12
Macroeconomic, Oil price, and Weather Assumptions
 (Data available the 23 April 1991)

	1 Q 89	2 Q 89	3 Q 89	4 Q 89	1 Q 90	2 Q 90	3 Q 90	4 Q 90	1 Q 91	2 Q 91	3 Q 91	4 Q 91	1984	1985	1986	Year 1987	1988	1989	1990	1991
A. Macroeconomic Variables																				
1. Gross Domestic Product (GDP)																				
(1985=100)	112.5	113.0	113.4	114.3	116.1	115.9	116.6	117.0	117.5	118.0	118.9	119.5	97.6	100.0	102.8	105.7	109.8	113.3	116.4	118.5
Percentage change																				
from prior year	3.5	3.6	2.8	2.9	3.2	2.6	2.8	2.4	1.2	1.8	2.0	2.1	2.4	2.5	2.8	2.8	3.9	3.2	2.7	1.8
from prior quarter(x4)	5.0	1.8	1.4	3.2	6.3	-0.7	2.4	1.5	1.5	1.7	3.2	1.9								
2. Private Consumption																				
(1985=100)	115.2	115.9	116.3	117.2	119.0	119.7	119.4	120.1	120.5	121.6	122.4	123.1	97.5	100.0	104.3	108.3	112.8	116.2	119.6	121.9
Percentage change																				
from prior year	3.4	3.7	2.5	2.5	3.3	3.3	2.7	2.5	1.3	1.6	2.5	2.5	1.6	2.6	4.3	3.8	4.1	3.0	2.9	2.0
from prior quarter(x4)	3.1	2.4	1.4	3.1	6.1	2.4	-1.0	2.4	1.4	3.5	2.5	2.4								
3. Industrial Production																				
(1985=100)	114.7	114.0	102.5	118.7	117.8	116.0	104.5	119.3	119.4	117.7	106.2	121.2	96.5	99.8	102.1	104.1	108.5	112.5	114.4	116.1
Percentage change																				
from prior year	3.5	4.2	3.7	3.1	2.7	1.8	2.0	0.5	1.4	1.5	1.6	1.6	2.3	3.4	2.3	1.9	4.3	3.6	1.7	1.5
from prior quarter(x4)	-1.4	-2.4	-40.4	63.2	-3.0	6.1	-39.7	56.7	0.5	-5.7	-39.3	56.7								
4. Steel Production																				
(1985=100)	106.2	107.4	99.0	99.2	104.6	103.9	96.2	98.8	101.0	101.8	94.8	97.8	99.1	99.9	92.7	93.0	101.4	103.0	100.9	98.8
Percentage change																				
from prior year	4.0	5.3	2.8	-5.5	-1.5	-3.3	2.8	-0.4	-3.4	-2.0	-1.5	-1.0	22.6	0.8	-7.2	0.3	9.0	1.6	-2.0	-2.0
from prior quarter(x4)	4.6	4.5	-31.3	0.8	21.8	-2.7	-29.6	10.8	8.9	3.3	-27.8	12.9								
5. Chemical Indus., NACE 25																				
(1985=100, SA)	114.8	114.3	114.5	116.5	117.5	115.4	116.6	117.2	117.9	117.7	118.4	119.0	97.1	99.8	100.6	104.5	111.0	115.0	116.7	118.2
Percentage change																				
from prior year	5.3	4.1	2.7	2.8	2.4	0.9	1.8	0.6	0.3	2.0	1.5	1.5	6.4	2.7	0.8	3.9	6.2	3.7	1.4	1.3
from prior quarter(x4)	5.2	-1.7	0.7	6.9	3.5	-7.4	4.4	2.0	2.3	-0.7	2.4	2.0								
6. Consumer Price Index																				
(1985=100)	114.2	116.0	117.0	118.5	120.2	122.3	123.8	125.6	126.8	128.8	130.9	132.5	94.3	100.0	103.5	106.9	110.7	116.4	123.0	129.7
Percentage change																				
from prior year	4.9	5.4	5.2	5.2	5.3	5.4	5.8	6.0	5.5	5.3	5.7	5.5	7.2	6.0	3.5	3.2	3.6	5.2	5.6	5.5
from prior quarter(x4)	5.7	6.3	3.4	5.1	5.7	7.0	4.9	5.8	3.8	6.3	6.4	5.0								
7. Exchange Rate																				
(1 ECU = xx US \$)	1.126	1.074	1.078	1.128	1.206	1.223	1.286	1.367	1.341	1.200	1.200	1.200	0.790	0.762	0.983	1.154	1.184	1.102	1.273	1.235
Percentage change																				
from prior quarter	-3.8	-4.6	0.4	4.6	6.9	1.4	6.0	5.5	-1.9	-10.5	0.0	0.0	-11.4	-3.5	29.0	17.4	2.5	-6.9	15.6	-3.0
B. Oil Prices																				
Imported Crude Oil																				
(cif, USD/barrel)	16.66	18.40	16.96	18.60	19.46	15.32	24.03	32.76	21.25	19.00	19.00	20.00	28.98	27.54	14.51	17.87	14.78	17.65	22.88	19.81
Percentage change																				
from prior quarter	27.4	10.4	-7.8	9.7	4.6	-21.3	56.8	36.3	-35.1	-10.6	0.0	5.3	-3.7	-5.0	-47.3	23.2	-17.3	19.5	29.7	-13.4
C. Weather																				
Degree Days	1069	360	0	947	996	346	0	902	1254	432	0	1011	2746	2803	2710	2774	2409	2376	2244	2697
Difference from average	-185	-72	0	-64	-258	-86	0	-109	0	0	0	0	49	106	13	77	-288	-321	-453	0

Sources: EUROSTAT, DG XVII

TABLE 3 - EUR 12
Energy Prices
(Last revision: 29 April 1991)

	1 Q 89				2 Q 89				3 Q 89				4 Q 89				1 Q 90				2 Q 90				3 Q 90				4 Q 90				1 Q 91				2 Q 91				3 Q 91				4 Q 91				Year																																		
	1984	1985	1986	1987	1988	1989	1990	1991	1984	1985	1986	1987	1988	1989	1990	1991	1984	1985	1986	1987	1988	1989	1990	1991	1984	1985	1986	1987	1988	1989	1990	1991	1984	1985	1986	1987	1988	1989	1990	1991	1984	1985	1986	1987	1988	1989	1990	1991																																			
A. IMPORT PRICES																																																																																			
A1. Crude Oil (cif)																																																																																			
USD/barrel	16.66	18.40	16.96	18.60	19.46	15.32	24.03	32.76	21.25	19.00	19.00	20.00	28.98	27.54	14.51	17.87	14.78	17.65	22.89	19.81	ECU/barrel	14.80	17.13	15.73	16.49	16.13	12.53	18.54	23.96	15.85	15.83	15.83	16.67	36.77	36.40	14.91	15.50	12.48	16.04	17.79	16.05																																										
Growth rate from previous quarter, in %																																																																																			
USD/barrel	27.4	10.4	-7.8	9.7	4.6	-21.3	56.8	36.3	-35.1	-10.6	0.0	5.3	-3.7	-5.0	-47.3	23.2	-17.3	19.5	29.7	-13.4	ECU/barrel	32.3	15.8	-8.2	4.8	-2.1	-22.4	48.0	29.3	-33.9	-0.1	0.0	5.3	8.8	-1.0	-59.0	3.9	-19.5	28.5	10.9	-9.8																																										
Real prices in ECU																																																																																			
(in 1985 prices)	13.0	14.8	13.4	13.9	13.4	10.2	15.0	19.1	12.5	12.3	12.1	12.6	39.0	36.4	14.4	14.5	11.3	13.8	14.4	12.4	(in 1989 prices)	15.1	17.2	15.7	16.2	15.6	11.9	17.4	22.2	14.6	14.3	14.1	14.6	45.4	42.4	16.8	16.9	13.1	16.0	16.8	14.4																																										
Growth rate from previous quarter, in %																																																																																			
(in real ECU)	30.5	14.0	-9.0	3.5	-3.5	-23.7	46.2	27.4	-34.5	-1.6	-1.6	-4.0	1.5	-6.5	-60.4	0.5	-22.2	22.0	4.8	-14.3																																																															
A2. Steam Coal																																																																																			
USD/tce	47.8	49.9	51.0	52.0	53.1	53.5	55.2	55.3	54.7	55.1	53.8	57.2	51.0	51.6	48.3	43.1	46.4	50.2	54.3	55.2	ECU/tce	42.5	46.5	47.3	46.1	44.0	43.7	42.6	40.5	40.8	45.9	44.9	47.6	64.7	68.2	49.3	37.4	39.3	45.6	42.7	44.8																																										
Growth rate from previous quarter, in %																																																																																			
USD/tce	1.0	4.4	2.1	2.1	1.9	0.8	3.3	0.2	-1.2	0.8	-2.3	6.2	-11.5	1.2	-6.4	-10.8	7.6	8.2	8.1	1.7	ECU/tce	5.0	9.5	1.7	-2.4	-4.7	-0.6	-2.5	-5.0	0.7	12.6	-2.3	6.2	0.0	5.3	-27.7	-24.2	5.1	16.1	-6.3	4.9																																										
Real prices in ECU																																																																																			
(in 1985 prices)	37.2	40.1	40.4	38.9	36.6	35.7	34.4	32.2	32.2	35.7	34.3	36.0	68.6	68.2	47.7	35.0	35.4	39.1	34.7	34.5	(in 1989 prices)	43.3	46.6	47.0	45.3	42.6	41.6	40.1	37.5	37.4	41.5	39.9	41.9	79.9	79.4	55.5	40.7	41.3	45.6	40.4	40.2																																										
Growth rate from previous quarter, in %																																																																																			
(in real ECU)	3.5	7.8	0.8	-3.6	-6.0	-2.4	-3.7	-6.3	-0.2	10.9	-3.9	4.9	-6.8	-0.5	-30.2	-26.6	1.4	10.4	-11.2	-0.7																																																															
B. FINAL CONSUMER PRICES																																																																																			
B1. Oil Products																																																																																			
Gasoline (ECU/1000 lt)	648	700	664	665	669	680	729	752	708	711	742	743	723.0	752.6	624.6	615.2	613.0	669.3	707.5	725.9	Diesel (ECU/1000 lt)	399	410	407	429	434	427	451	511	514	525	516	521	481.2	506.1	396.7	386.2	381.1	411.4	455.9	519.2	Heating Oil (ECU/1000lt)	259	262	273	300	291	282	326	381	395	371	339	354	370.9	395.4	257.9	248.4	232.6	273.5	320.0	364.9	Residual Fuel Oil (ECU/t)	100	110	110	125	118	104	120	142	132	106	113	117	242.7	243.8	122.1	117.2	93.8	111.3	120.7	117.1
Growth rate from previous quarter, in %																																																																																			
Gasoline	5.3	8.0	-5.2	0.2	0.5	1.7	7.2	3.2	-5.9	0.4	4.5	0.2	4.9	4.1	-17.0	-1.5	-0.4	9.2	5.7	2.6	Diesel	5.3	2.9	-0.8	5.5	1.1	-1.6	5.5	13.4	0.6	2.1	-1.7	0.9	5.5	5.2	-21.6	-2.7	-1.3	7.9	10.8	13.9	Heating Oil	11.7	1.5	4.0	10.0	-3.0	-3.1	15.3	16.9	3.8	-6.2	-8.5	4.5	5.6	6.6	-34.8	-3.7	-6.3	17.6	17.0	14.0	Residual Fuel Oil	14.5	10.4	-0.6	14.1	-6.1	-11.6	15.1	18.6	-6.7	-19.9	6.5	4.0	18.1	0.4	-49.9	-4.0	-20.0	18.6	8.4	-3.0
B2. Natural Gas																																																																																			
Households (1984=100)	83.8	85.4	90.2	86.1	87.3	90.2	94.5	94.8	97.8	102.2	107.5	104.4	100.0	105.4	97.2	81.6	83.7	86.4	91.7	103.0	Industry (1984=100)	53.7	52.9	54.5	57.5	59.7	60.3	59.2	58.9	60.3	62.0	62.3	61.1	100.0	104.6	74.8	57.6	52.4	54.7	59.5	61.4																																										
Growth rate from previous quarter, in %																																																																																			
Households	1.3	2.0	5.6	-4.6	1.5	3.3	4.8	0.3	3.1	4.6	5.1	-2.9	4.4	5.4	-7.8	-16.0	2.5	3.2	6.2	12.2	Industry	4.8	-1.6	3.1	5.4	3.9	1.0	-1.8	-0.6	2.4	2.8	0.5	-2.0	10.8	4.6	-28.5	-22.9	-9.2	4.4	6.9	3.2																																										
B3. Coal																																																																																			
Households (ECU/t)	213.4	205.4	204.8	210.8	201.4	194.7	200.6	207.4	209.3	206.8	209.3	213.1	199.0	207.3	203.6	199.6	201.8	208.6	201.0	209.6	Industry (ECU/t)	88.0	88.5	88.6	89.4	90.7	90.0	90.4	90.9	90.9	90.5	90.6	90.2	97.1	99.7	95.3	91.0	90.8	88.6	90.5	90.6																																										
Growth rate from previous quarter, in %																																																																																			
Households	3.3	-3.7	-0.3	2.9	-4.5	-3.3	3.0	3.4	0.9	-1.2	1.2	1.8	9.3	4.1	-1.8	-1.9	1.1	3.4	-3.6	4.3	Industry	-2.3	0.5	0.1	1.0	1.4	-0.7	0.5	0.5	0.0	-0.4	0.1	-0.4	1.7	2.7	-4.4	-4.5	-0.2	-2.4	2.1	0.1																																										
B4. Electricity																																																																																			
Households (ECU/100 Kwh)	10.96	11.07	11.26	11.26	11.24	11.45	11.22	11.28	11.47	11.58	11.75	11.76	10.39	10.75	10.53	10.47	10.76	11.14	11.30	11.64	Industry (ECU/100 Kwh)	6.21	6.03	6.10	6.38	6.44	6.28	6.25	6.28	6.47	6.55	6.56	6.71	5.91	6.11	5.92	5.87	5.94	6.18	6.31	6.57																																										
Growth rate from previous quarter, in %																																																																																			
Households	0.5	1.1	1.7	0.0	-0.2	1.8	-2.0	0.5	1.7	1.0	1.4	0.1	6.5	3.5	-2.1	-0.5	2.7	3.5	1.4	3.0	Industry	2.4	-2.9	1.1	4.8	0.8	-2.5	-0.4	0.5	2.9	1.3	0.1	2.2	4.4	3.4	-3.0	-0.9	1.1	4.1	2.1	4.1																																										

Sources: IEA, DG XVII estimates

TABLE 4 - EUR 12
Primary Energy Balance and Final Consumption (million toe)
(Last revision: 29 April 1991)

	1 Q 89				1 Q 90				1 Q 91				Year							
	2 Q 89	3 Q 89	4 Q 89	1 Q 90	2 Q 90	3 Q 90	4 Q 90	1 Q 91	2 Q 91	3 Q 91	4 Q 91	1984	1985	1986	1987	1988	1989	1990	1991	
Primary Production																				
Solid Fuels:	43.2	39.5	37.0	40.2	38.8	38.4	37.7	37.5	39.2	36.3	35.5	36.7	143.8	168.4	172.7	166.6	161.8	159.8	152.4	147.8
Hard Coal	34.3	31.2	28.9	31.7	30.6	30.1	29.4	29.1	30.6	28.3	27.6	27.4	106.1	132.5	138.7	134.1	129.7	126.0	119.2	114.0
Lignite	8.9	8.3	8.1	8.5	8.1	8.3	8.3	8.4	8.6	8.0	7.9	9.3	37.7	35.9	34.0	32.5	32.2	33.8	33.2	33.8
Oil	29.4	26.5	29.8	31.7	30.7	30.3	27.2	28.8	28.8	28.7	29.3	30.6	146.1	149.8	150.8	148.6	140.7	117.3	117.0	117.3
Natural Gas	39.3	26.2	19.9	38.5	41.1	25.5	21.0	42.0	44.9	26.1	20.8	42.0	119.4	126.7	123.6	128.5	118.4	123.9	129.6	133.8
Heat:	43.4	38.1	36.7	41.0	41.2	37.3	37.2	42.6	44.0	39.8	39.0	42.8	103.3	125.6	134.0	137.8	147.6	159.2	158.3	165.6
Nuclear	42.9	37.6	36.2	40.5	40.7	36.9	36.8	42.1	43.5	39.3	38.5	42.4	101.6	123.9	132.2	135.9	145.8	157.3	156.4	163.6
Geothermy	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.8	1.7	1.7	1.8	1.8	1.9	1.9	1.9
Primary Electricity	2.5	3.6	2.6	2.6	3.5	3.2	2.6	3.2	3.9	4.5	3.2	3.5	15.0	14.6	14.2	15.0	16.5	11.3	12.5	15.0
Other	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.7	1.8	1.7	2.2	2.6	2.7	2.8	2.8
TOTAL	158.4	134.5	126.7	154.4	156.0	135.4	126.4	154.7	161.5	136.0	128.4	156.4	529.3	586.9	597.0	598.7	587.8	574.2	572.6	582.3
Recovered Production																				
Hard Coal	0.4	0.4	0.4	0.4	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	2.4	3.3	3.1	2.3	2.3	1.8	2.2	2.1
Oil	0.3	0.3	0.4	0.3	0.2	0.3	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	1.6	1.2	1.3	1.3	0.7	0.8
TOTAL	0.8	0.8	0.8	0.7	0.7	0.8	0.7	0.6	0.8	0.7	0.7	0.7	2.7	3.6	4.7	3.5	3.6	3.1	2.9	2.9
Net Imports																				
Solid Fuels:	16.1	16.4	15.9	18.1	18.9	18.7	17.9	20.6	19.4	17.5	17.5	23.9	57.9	63.5	60.7	60.3	62.0	66.6	76.1	78.3
Hard Coal	16.2	16.5	16.1	17.9	18.5	18.6	17.8	20.4	19.2	17.4	17.4	23.5	56.7	63.3	60.3	59.5	61.4	66.6	75.3	77.4
Oil	97.6	95.2	100.8	105.7	100.1	103.1	107.9	99.6	110.0	102.9	104.7	101.2	350.0	333.5	356.4	357.6	368.8	399.3	410.7	418.7
Natural Gas	21.3	19.4	16.2	21.2	22.4	19.0	17.0	22.4	23.1	19.7	17.2	22.9	57.0	59.1	64.8	71.8	73.0	78.1	80.9	82.8
Electricity	0.2	0.6	0.6	0.2	0.1	0.6	0.4	0.2	0.2	0.5	0.5	0.1	1.5	1.2	1.2	1.6	1.8	1.6	1.3	1.3
TOTAL	135.2	131.6	133.5	145.2	141.5	141.4	143.3	142.8	152.6	140.6	139.8	148.1	466.5	457.3	483.1	491.3	505.4	545.6	568.9	581.1
Change in Stocks																				
Solid Fuels:	-2.1	2.9	0.7	-3.8	-2.7	3.4	2.8	-4.5	-3.6	2.3	3.9	-3.3	-15.2	-4.1	5.8	-2.6	-0.7	-2.3	-1.0	-0.6
Hard Coal	-1.2	3.8	1.0	-3.8	-2.8	3.3	2.7	-4.5	-3.6	2.3	3.6	-3.1	-12.4	-0.4	4.4	-4.2	1.1	-0.2	-1.2	-0.9
Coke	-0.9	-0.8	-0.3	0.0	-0.0	0.1	0.1	-0.1	0.0	0.0	0.3	-0.2	-3.5	-2.6	1.5	0.9	-1.5	-2.0	0.2	0.1
Oil	-2.1	0.7	6.0	-0.1	-2.1	4.4	2.5	-5.0	2.2	3.8	3.9	-5.2	-3.5	0.7	4.7	2.1	-1.7	4.5	-0.2	4.7
Natural Gas	-4.1	4.0	4.9	-2.5	-4.2	3.8	5.1	-2.0	-4.9	4.0	5.1	-2.1	0.1	1.3	1.6	1.4	0.3	2.2	2.7	2.1
TOTAL	-8.3	7.6	11.6	-6.5	-9.0	11.7	10.4	-11.6	-6.2	10.1	12.9	-10.6	-18.5	-2.1	12.1	0.8	-2.1	4.4	1.4	6.1
Bunkers																				
	7.3	7.8	7.9	7.3	7.8	8.4	8.2	8.2	8.4	8.6	8.5	7.9	23.8	26.2	30.5	29.5	30.5	30.2	32.6	33.4
Apparent Gross Consumption																				
Solid Fuels:	61.8	53.4	52.7	62.5	60.9	54.2	53.3	63.1	62.8	52.0	49.5	64.4	219.3	239.3	230.7	231.8	226.7	230.4	231.5	228.6
Hard Coal	52.1	44.3	44.3	53.8	52.4	45.8	45.0	54.5	53.9	43.9	41.9	54.4	177.7	199.6	197.6	200.0	192.2	194.5	197.7	194.2
Coke	0.6	0.6	0.0	-0.1	0.0	-0.1	-0.1	0.1	0.1	-0.1	-0.2	0.3	2.7	1.3	-2.5	-1.1	1.2	1.1	-0.1	0.1
Lignite	9.2	8.5	8.3	8.8	8.4	8.5	8.4	8.5	8.7	8.2	7.9	9.6	38.8	38.4	35.6	32.9	33.4	34.8	33.8	34.4
Oil	122.1	113.5	117.2	130.5	125.3	120.8	124.6	125.3	128.3	119.4	121.7	129.3	476.2	456.8	473.7	475.9	482.0	483.2	496.0	498.8
Natural Gas	64.7	41.7	31.2	62.2	67.7	40.7	33.0	66.4	72.9	41.7	32.9	67.0	176.2	184.5	186.8	198.9	191.1	199.8	207.8	214.5
Heat	43.4	38.1	36.7	41.0	41.2	37.3	37.2	42.6	44.0	39.8	39.0	42.8	103.3	125.6	134.0	137.8	147.6	159.2	158.3	165.6
Primary Electricity	2.8	4.2	3.2	2.8	3.6	3.8	3.0	3.4	4.0	5.0	3.7	3.6	16.5	15.8	15.4	16.5	18.3	12.9	13.8	16.3
Other	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.7	1.8	1.7	2.2	2.6	2.7	2.8	2.8
TOTAL	295.4	251.6	241.6	299.6	299.4	257.5	251.8	301.5	312.7	258.6	247.6	307.8	993.2	1023.7	1042.2	1063.0	1068.4	1088.2	1110.2	1126.6
Adjustment to Annual Figures																				
Solid Fuels	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	-0.3	0.8	-0.5	0.0	0.4	0.0	0.0
Oil	2.1	2.1	2.1	2.1	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-4.3	5.7	0.3	0.7	6.0	8.4	6.0	6.0
Natural Gas	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.1	-0.9	1.4	1.6	0.0	0.0
Heat	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-0.2	0.1	0.3	1.1	-0.3	0.0	0.0
Primary Electricity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	2.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-2.8	5.3	1.1	-0.4	8.5	10.1	6.0	6.0
Gross Inland Consumption																				
Solid Fuels	61.9	53.5	52.7	62.6	60.9	54.2	53.3	63.1	62.8	52.0	49.5	64.4	219.6	239.0	231.5	231.2	226.7	230.8	231.5	228.6
Oil	124.2	115.6	119.3	132.6	126.8	122.3	126.1	126.8	129.8	120.9	123.2	130.8	471.9	462.5	473.9	476.6	488.0	491.6	502.0	504.8
Natural Gas	65.1	42.1	31.6	62.6	67.7	40.7	33.0	66.4	72.9	41.7	32.9	67.0	176.6	184.7	186.9	198.0	192.5	201.4	207.8	214.5
Heat	43.3	38.0	36.6	40.9	41.2	37.3	37.2	42.6	44.0	39.8	39.0	42.8	104.0	125.3	134.0	138.1	148.7	158.8	158.3	165.6
Primary Electricity	2.8	4.2	3.2	2.8	3.6	3.8	3.0	3.4	4.0	5.0	3.7	3.6	16.6	15.8	15.4	16.5	18.3	13.0	13.8	16.3
Other	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.7	1.8	1.7	2.2	2.6	2.7	2.8	2.5
TOTAL	298.0	254.1	244.2	302.1	300.9	259.0	253.3	303.0	314.2	260.1	249.1	309.3	990.4	1029.0	1043.3	1062.6	1076.9	1098.4	1116.2	1132.6
Net imports as % of consumption																				
Hard Coal	31.1	37.4	36.3	33.3	35.3	40.5	39.5	37.5	35.6	39.5	41.5	43.1	32.0	31.8	30.5	29.9	32.0	34.3	38.1	39.9
Oil	74.2	77.1	79.3	75.6	74.4	78.9	80.4	73.8	79.5	79.5	79.5	72.9	70.6	68.3	70.7	70.7	71.1	76.5	76.8	77.8
Natural Gas	32.7	46.1	51.1	33.8	33.0	46.8	51.7	33.8	31.7	47.2	52.2	34.2	32.3	32.0	34.7	36.3	37.9	38.7	38.9	38.6
TOTAL	44.3	50.3	53.0	46.9	45.8	52.9	54.8	45.9	47.3	52.3	54.3	46.7	46.0	43.3	45.0	45.0	45.6	48.3	49.5	49.8
Oil imports as % of total energy consumption																				
	32.0	36.3	40.0	34.2	32.4	38.5	41.3	32.0	34.1	38.3	40.6	31.9	34.5	31.6	33.2	32.7	33.3	35.4	35.8	35.9
Estimated Final Consumption																				
Solid Fuels	14.3	14.8	13.3	14.5	13.5	13.2	12.3	14.3	13.1	12.8	11.8	14.0	61.8	68.7	61.8	59.9	56.6	56.9	53.3	51.7
Oil	104.3	99.5	102.1	110.4	106.4	102.2	107.0	106.1	109.6	103.3	104.5	108.9	395.2	391.5	407.5	409.5	420.1	416.3	421.7	426.3
Natural Gas	56.1	33.9	23.8	53.0	58.6	32.9	25.2	55.2	61.6	34.2	25.7	55.7	145.3	155.1	156.9	166.5	161.7	166.8	171.8	177.2
Derived Gas	3.1	3.0	2.6	2.8	2.9	2.7	2.4	2.4	2.7	2.7	2.5	2.4	12.8	13.2	12.1	11.5	11.5	11.4	10.5	10.3
Heat	1.4	1.1	1.1	1.4	1.4	1.2	1.2	1.4	1.5	1.1	1.1	1.5	3.9	4.4	4.4	5.2</				

TABLE 5 - EUR 12
Oil and Natural Gas: Supply and Disposal
(Last revision: 29 April 1991)

	1 Q 89				2 Q 89				3 Q 89				4 Q 89				1 Q 90				2 Q 90				3 Q 90				4 Q 90				1 Q 91				2 Q 91				3 Q 91				4 Q 91				Year			
	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990	1987	1988	1989	1990								
1. OIL (Million tonnes)																																																				
Primary Production	29.0	26.1	29.4	31.2	30.3	29.9	26.8	28.4	28.4	28.2	28.8	30.2	144.0	147.7	148.5	146.4	138.6	115.6	115.3	115.6																																
of which: Crude	27.9	25.2	28.6	30.2	29.3	29.0	26.4	27.9	27.9	27.9	28.5	29.7	140.3	144.2	143.7	141.2	134.4	111.9	112.6	114.0																																
Oil products	1.0	0.8	0.8	0.9	0.9	0.9	0.4	0.5	0.5	0.3	0.3	0.5	3.7	3.5	4.8	5.2	4.2	3.7	2.8	1.6																																
Recovered Production	0.3	0.3	0.4	0.3	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	1.5	1.1	1.2	1.2	0.6	0.7																																
Change in Stocks	-2.2	0.7	6.1	-0.1	-2.2	4.5	2.6	-5.1	2.2	3.8	3.9	-5.2	-3.5	0.7	4.8	2.0	-1.7	4.6	-0.2	4.7																																
Net Imports	97.2	94.8	100.4	105.3	99.8	102.6	107.5	99.2	109.6	102.5	104.2	100.8	349.5	332.6	355.4	356.6	367.5	397.7	409.1	417.1																																
Bunkers	7.5	8.0	8.1	7.5	8.0	8.7	8.4	8.4	8.7	8.9	8.7	8.1	24.5	27.0	31.4	30.4	31.5	31.1	33.6	34.4																																
Apparent Consumption	121.1	112.4	115.9	129.3	124.4	119.5	123.4	124.3	127.2	118.3	120.6	128.2	472.7	452.9	469.2	471.6	477.6	478.7	491.7	494.3																																
Adjustment	2.2	2.2	2.2	2.2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	-2.3	7.3	1.7	1.5	6.6	8.9	6.0	6.0																																
Gross Inland Consumption	123.3	114.6	118.2	131.5	125.9	121.0	124.9	125.8	128.7	119.8	122.1	129.7	470.4	460.1	470.9	473.1	484.2	487.6	497.7	500.3																																
Transformation Input	132.4	124.9	135.1	144.0	134.9	139.6	141.2	133.8	140.8	135.0	142.3	143.5	517.7	492.3	515.6	506.0	526.4	536.4	549.6	561.6																																
of which:																																																				
Refineries	120.4	115.8	125.3	130.6	122.4	129.1	131.1	133.7	129.6	126.6	133.0	131.1	462.3	448.9	476.1	467.0	488.2	492.0	506.3	520.2																																
Power Generation	11.6	8.7	9.4	13.1	12.2	10.1	9.7	9.7	10.8	8.0	9.0	12.0	52.9	41.3	37.3	37.3	36.7	42.8	41.7	39.9																																
Refineries Gross Output	119.5	115.1	124.6	130.0	121.2	127.5	129.9	121.8	127.7	124.5	130.9	129.0	456.6	444.6	473.1	464.2	485.6	489.2	500.5	512.0																																
Refineries Consumption	7.2	7.0	7.4	7.6	7.4	7.5	7.6	7.5	7.6	7.4	7.7	7.9	25.7	24.8	27.4	27.2	28.1	29.3	29.9	30.7																																
Refineries Net Output	112.3	108.1	117.2	122.4	113.8	120.1	122.4	114.4	120.0	117.1	123.2	121.1	430.9	419.8	445.7	437.0	457.5	459.9	470.6	481.4																																
Avail. Final Consumption	103.1	97.8	100.3	109.9	104.8	101.5	106.0	106.4	108.0	101.8	103.0	107.3	383.5	387.6	401.0	404.1	415.3	411.2	418.6	420.0																																
Final Consumption (est)	102.8	97.9	100.3	108.7	104.8	100.5	105.2	104.3	108.0	101.8	103.0	107.3	390.1	385.8	401.6	403.3	413.7	409.7	414.8	420.0																																
Statistical Difference	0.3	-0.1	0.0	1.2	0.0	1.1	0.9	2.0	0.0	0.0	0.0	0.0	-6.6	1.9	-0.7	0.8	1.6	1.5	3.9	0.0																																
Inland Deliveries:																																																				
Motor Gasoline	24.2	26.0	26.9	25.6	24.8	26.7	27.6	25.9	25.2	27.3	28.0	26.4	91.6	91.2	95.5	97.9	101.3	102.8	105.0	106.9																																
Kerosenes	5.8	6.5	7.4	6.5	6.3	6.6	7.8	6.6	6.2	6.9	8.0	6.9	21.0	21.7	22.8	24.0	25.6	26.2	27.3	28.0																																
Gas/Diesel Oil-Total	43.2	36.1	39.7	47.1	45.4	39.5	41.8	43.9	48.9	39.2	40.1	46.0	155.9	162.3	169.9	168.5	170.1	166.0	170.4	174.1																																
of which:																																																				
Autom. Diesel	19.3	20.3	20.2	21.4	20.6	21.1	21.5	21.7	20.9	21.9	22.2	22.8	57.7	60.8	65.8	69.9	76.2	81.2	84.9	87.7																																
Heating Gas Oil	23.9	15.8	19.5	25.7	24.7	18.4	20.2	22.2	27.9	17.3	17.9	23.2	98.2	101.4	104.1	98.5	94.0	84.8	85.5	86.3																																
Heavy Fuel Oil	19.8	16.0	14.5	20.7	19.3	16.3	16.2	16.4	17.6	14.9	14.7	18.5	98.2	78.1	74.2	70.4	67.6	71.0	68.2	65.8																																
Other Products	21.8	22.3	21.7	22.3	21.7	21.8	22.0	21.7	21.3	21.9	21.5	21.9	78.9	76.0	78.8	81.6	87.4	88.1	87.1	86.7																																
TOTAL	114.8	106.9	110.1	122.2	117.3	110.9	115.3	114.5	119.2	110.2	112.3	119.7	445.6	429.2	441.1	442.3	451.9	454.0	458.0	461.4																																
Total Oil Stocks (end of period)	124.5	125.2	131.3	131.2	129.0	133.5	136.1	131.0	133.2	137.0	140.9	135.7	120.9	121.5	126.4	128.5	126.6	131.2	131.0	135.7																																
2. NATURAL GAS (Million toe)																																																				
Primary Production	39.3	26.2	19.9	38.5	41.1	25.5	21.0	42.0	44.9	26.1	20.8	42.0	119.4	126.7	123.6	128.5	118.4	123.9	129.6	133.8																																
Change in Stocks	-4.1	4.0	4.9	-2.5	-4.2	3.8	5.1	-2.0	-4.9	4.0	5.1	-2.1	0.1	1.3	1.6	1.4	0.3	2.2	2.7	2.1																																
Net Imports	21.3	19.4	16.2	21.2	22.4	19.0	17.0	22.4	23.1	19.7	17.2	22.9	57.0	59.1	64.8	71.8	73.0	78.1	80.9	82.8																																
Apparent Consumption	64.7	41.7	31.2	62.2	67.7	40.7	33.0	66.4	72.9	41.7	32.9	67.0	176.2	184.5	186.8	198.9	191.1	199.8	207.8	214.5																																
Adjustment	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.1	-0.9	1.4	1.6	0.0	0.0																																
Gross Inland Consumption	65.1	42.1	31.6	62.6	67.7	40.7	33.0	66.4	72.9	41.7	32.9	67.0	176.6	184.7	186.9	198.0	192.5	201.4	207.8	214.5																																
of which:																																																				
Power Generation	6.5	6.5	6.6	7.1	6.5	6.2	6.5	8.7	8.5	5.9	6.0	8.6	24.8	22.7	21.9	23.8	23.6	26.8	27.9	29.0																																
Final Consumption (est)	56.1	33.9	23.8	53.0	58.6	32.9	25.2	55.2	61.6	34.2	25.7	55.7	145.3	155.1	156.9	166.5	161.7	166.8	171.8	177.2																																

TABLE 7 - EUR 12
Electricity: Generation and Disposal
 (Last revision: 29 April 1991)

	1 Q 89	2 Q 89	3 Q 89	4 Q 89	1 Q 90	2 Q 90	3 Q 90	4 Q 90	1 Q 91	2 Q 91	3 Q 91	4 Q 91	1984	1985	1986	Year				
													1987	1988	1989	1990	1991			
1. ELECTRICAL POWER (TWh)																				
A. GENERATION																				
Total Gross Generation	472.8	414.0	395.3	473.0	483.7	418.0	408.3	489.0	511.4	428.3	407.5	502.8	1499.9	1571.1	1612.0	1659.3	1706.7	1755.1	1799.1	1850.0
(Produced by Pumping)	3.2	3.4	3.3	3.8	3.3	3.3	3.4	3.8	3.4	3.3	3.1	3.3	12.2	13.6	12.5	11.9	12.5	13.7	13.8	13.1
net of Pumping	469.6	410.6	392.0	469.2	480.4	414.7	404.9	485.2	508.0	425.0	404.0	499.5	1487.7	1557.5	1599.4	1647.4	1694.2	1741.4	1785.3	1836.9
of which:																				
Primary (Hydro):	29.3	41.8	30.7	29.8	40.2	37.2	30.0	37.4	45.0	52.5	36.8	40.1	174.1	169.9	165.4	173.9	192.1	131.6	144.9	174.5
Derived:	440.3	368.8	361.3	439.4	440.2	377.5	374.9	447.8	463.0	372.4	367.6	459.4	1313.6	1387.6	1434.1	1473.4	1502.1	1609.8	1640.4	1662.4
Nuclear	171.7	149.9	143.1	162.7	163.7	147.0	145.7	171.1	173.3	156.3	151.8	168.8	399.0	483.2	522.6	538.2	581.2	627.4	627.5	650.2
Conventional Thermal	267.8	218.1	217.5	275.9	275.8	229.7	228.4	275.8	288.8	215.4	214.9	289.7	911.7	901.7	908.7	932.2	917.8	979.3	1009.7	1008.9
Geothermal	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.8	0.8	0.8	0.8	2.8	2.7	2.8	3.0	3.1	3.2	3.2	3.3
Total Net Production	446.4	390.7	372.5	446.7	456.7	395.4	384.6	461.8	483.0	404.5	383.9	474.5	1419.5	1486.3	1523.5	1567.8	1611.1	1656.4	1698.3	1745.8
net of Pumping	443.2	387.3	369.2	442.9	453.4	392.0	381.1	458.0	479.6	401.2	380.8	471.2	1407.3	1472.7	1511.0	1555.8	1598.6	1642.7	1684.5	1732.7
B. DISPOSAL																				
Total Gross Generation	472.8	414.0	395.3	473.0	483.7	418.0	408.3	489.0	511.4	428.3	407.5	502.8	1499.9	1571.1	1612.0	1659.3	1706.7	1755.1	1799.1	1850.0
Net Imports	2.7	7.2	6.5	2.4	1.2	7.1	5.0	1.9	1.9	5.5	6.4	1.4	18.0	14.3	13.7	18.5	20.5	18.9	15.2	15.1
Gross Inland Consumption	475.5	421.2	401.8	475.5	484.9	425.1	413.4	490.8	513.3	433.7	413.9	504.2	1517.9	1585.4	1625.6	1677.8	1727.2	1774.0	1814.3	1865.1
Absorbed by Pumping	4.5	4.8	4.6	5.3	4.6	4.7	4.8	5.3	4.8	4.6	4.3	4.6	17.0	18.8	17.3	16.4	16.9	19.2	19.4	18.2
Production Losses	26.3	23.3	22.8	26.3	27.1	22.7	23.8	27.2	28.4	23.8	23.6	28.3	80.4	84.8	88.5	91.5	95.6	98.7	100.7	104.2
Available for Int.Market	444.7	393.1	374.4	443.9	453.3	397.8	384.8	458.3	480.1	405.3	385.9	471.4	1420.5	1481.8	1519.9	1569.9	1614.7	1656.1	1694.1	1742.7
Distribution Losses	29.3	25.7	24.5	29.3	30.0	25.9	25.3	30.3	31.7	26.6	25.3	31.2	99.4	106.3	104.9	105.5	110.7	108.8	111.5	114.7
Consumption Int.Market	415.4	367.4	349.9	414.5	423.3	371.8	359.5	428.0	448.4	378.8	360.6	440.2	1321.1	1375.5	1414.9	1464.4	1504.1	1547.2	1582.6	1628.0
Energy Branch Consumption	15.7	13.8	13.1	15.7	15.5	13.4	13.1	15.6	16.1	13.5	12.8	15.8	57.3	63.3	67.6	64.8	64.4	58.3	57.6	58.3
Final Consumption (est)	399.9	353.8	336.9	398.9	407.8	358.5	346.4	412.4	432.3	365.3	347.8	424.3	1264.4	1311.2	1347.2	1399.5	1439.9	1489.5	1525.0	1569.7
2. INPUT TO CONVENTIONAL THERMAL POWER STATIONS (Million toe)																				
Hard Coal	32.7	25.2	25.3	32.5	33.1	26.8	26.2	34.7	34.6	26.1	24.7	34.5	97.0	107.2	112.4	117.7	113.4	115.6	120.8	119.9
Lignite	8.1	7.4	7.5	7.9	7.4	7.6	7.8	7.6	7.8	7.2	7.2	8.5	33.4	32.5	30.7	28.3	28.9	31.0	30.4	30.6
Brown Coal Briquettes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7	0.6	0.6	0.3	0.3	0.4	0.3	0.3
Petroleum Products	11.2	8.3	9.1	12.5	11.7	9.7	9.4	9.4	10.4	7.7	8.6	11.6	50.7	39.4	35.8	35.8	35.3	41.1	40.0	38.3
Natural Gas	6.5	6.5	6.6	7.1	6.5	6.2	6.5	8.7	8.5	5.9	6.0	8.6	24.8	22.7	21.9	23.8	23.6	26.8	27.9	29.0
Derived Gas	1.4	1.5	1.6	1.4	1.3	1.5	1.5	1.6	1.4	1.4	1.5	1.5	5.4	5.5	5.5	5.1	5.8	5.9	5.9	5.7
Other	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.7	1.8	1.7	2.2	2.6	2.7	2.8	2.8
TOTAL, excl Geothermal	60.7	49.7	50.9	62.2	60.9	52.5	52.1	62.6	63.4	49.0	48.8	65.4	213.7	209.8	208.7	213.2	210.1	223.5	228.1	226.6
Geothermal	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.8	1.7	1.7	1.8	1.8	1.9	1.9	1.9
TOTAL	61.1	50.2	51.3	62.7	61.3	53.0	52.6	63.1	64.0	49.5	49.2	65.9	215.5	211.5	210.4	215.0	211.9	225.3	230.0	228.6
3. HEAT (TWh)																				
Production Nuclear Heat	499.0	437.1	421.5	471.4	473.5	428.5	427.4	489.6	505.3	456.9	448.1	492.5	1181.1	1440.3	1537.5	1580.4	1694.9	1829.0	1819.0	1902.9
Production Geoth. Heat	5.4	5.4	5.4	5.4	5.5	5.5	5.5	5.5	6.0	5.6	5.5	5.3	20.6	19.8	20.1	21.5	21.4	21.7	22.1	22.4
Production Total Heat	504.5	442.5	426.9	476.8	479.0	434.1	432.9	495.1	511.3	462.5	453.6	497.8	1201.7	1460.0	1557.6	1601.9	1716.3	1850.7	1841.1	1925.2
Adjustment	-0.8	-0.8	-0.8	-0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	-2.6	0.9	4.2	13.5	-3.3	0.0	0.0
Gross Consumption	503.6	441.7	426.1	476.0	479.0	434.1	432.9	495.1	511.3	462.5	453.6	497.8	1209.5	1457.5	1558.5	1606.0	1729.8	1847.4	1841.1	1925.2
Nuclear Capacity (GW)	103.2	103.2	102.9	102.7	102.6	104.7	105.0	105.0	105.0	106.0	106.0	107.3	70.7	79.1	89.1	94.7	101.5	102.7	105.0	107.3

TABLE 8 - EUR 12
Main Variables: Growth Rates from same Quarter of previous Year - in %
 (Last revision: 29 April 1991)

	1 Q 89	2 Q 89	3 Q 89	4 Q 89	1 Q 90	2 Q 90	3 Q 90	4 Q 90	1 Q 91	2 Q 91	3 Q 91	4 Q 91
A. SPECIFIC UNITS												
1. HARD COAL												
Primary Production	2.5	-1.7	-4.2	-7.6	-10.8	-3.7	2.0	-8.1	0.2	-6.0	-6.0	-6.0
Net Imports	8.6	11.9	4.8	9.5	14.7	11.4	10.3	13.9	3.4	-6.2	-2.6	15.1
Apparent Consumption	-1.1	1.6	2.4	2.2	-0.4	3.0	1.3	1.1	2.1	-3.4	-6.3	-1.6
Gross Inland Consumption	-1.1	1.6	2.4	2.2	-0.5	2.8	1.1	0.9	2.1	-3.4	-6.3	-1.6
Deliveries												
Power Plants	2.4	0.2	5.9	4.5	5.4	4.2	5.8	3.2	3.4	-6.0	-4.1	3.3
Coking Plants	-3.5	3.9	-5.2	0.2	-1.2	-5.3	-6.7	-5.4	-9.6	-6.0	-0.7	-7.0
All Industries	-10.7	3.3	4.0	-5.0	12.9	1.6	1.8	-0.8	-4.5	-0.8	-2.3	5.9
Domestic	-17.7	9.6	-24.8	-6.7	-12.1	-15.3	7.5	-1.0	9.8	-0.7	1.0	-9.5
TOTAL	-1.7	1.2	1.1	1.5	3.7	0.8	2.4	0.8	0.1	-5.1	-2.9	1.0
Transform. Power Generation	-1.8	1.1	5.8	3.8	1.4	6.3	3.7	6.7	4.4	-2.7	-5.6	-0.4
Final Consumption (est.)	-6.2	11.9	2.2	1.4	-1.8	-8.3	-2.3	-4.9	0.0	-0.5	-1.0	0.7
2. COKE												
Production	-2.8	-1.9	2.3	1.0	-3.4	-2.3	-7.1	-6.7	-5.5	-5.3	-5.5	-6.0
Deliv. to Iron and Steel	3.7	3.6	-0.8	-9.3	-7.5	-7.3	-5.5	-5.9	-5.4	-5.2	-7.5	-3.8
Final Consumption (est.)	1.9	1.8	-1.1	-6.7	-9.1	-9.8	-8.4	-2.5	-5.1	-5.0	-7.1	-3.2
3. LIGNITE												
Primary Production	9.6	16.1	2.2	-5.3	-8.3	0.1	1.9	-0.6	5.2	-4.8	-5.9	10.8
Apparent Consumption	8.9	15.2	1.6	-5.8	-8.5	-0.5	1.2	-1.4	4.4	-5.0	-6.9	11.6
Gross Inland Consumption	8.8	15.0	1.5	-5.9	-8.4	-0.4	1.3	-1.3	4.4	-5.0	-6.9	11.6
Transform. Power Generation	12.2	11.5	2.0	-8.4	-7.3	3.8	4.6	-2.5	4.4	-5.5	-7.3	11.7
4. OIL												
Crude Production	-23.8	-26.8	-10.8	-3.4	5.1	14.9	-7.6	-7.8	-5.0	-3.7	8.0	6.6
Total Primary Production	-23.4	-26.4	-10.8	-4.0	4.6	14.5	-8.8	-9.0	-6.3	-5.4	7.5	6.3
Net Imports	16.6	9.3	5.9	2.7	2.7	8.3	7.0	-5.8	9.8	-0.1	-3.0	1.6
Apparent Consumption	-0.1	1.4	-0.3	0.0	2.7	6.3	6.4	-3.9	2.2	-1.1	-2.3	3.1
Gross Inland Consumption	0.4	1.9	0.2	0.4	2.1	5.6	5.7	-4.3	2.2	-1.0	-2.3	3.1
Deliveries												
Motor Gasoline	2.7	2.0	0.1	1.4	2.3	2.5	2.6	1.1	1.7	2.1	1.4	2.1
Gas/Diesel Oil	-6.0	-3.6	2.4	-2.0	5.1	9.3	5.3	-6.8	7.7	-0.8	-4.0	4.8
Autom. Diesel Oil	7.7	7.4	6.1	5.3	7.0	4.0	6.2	1.4	1.5	3.5	3.0	5.1
Heating Gas Oil	-14.8	-14.9	-1.3	-7.2	3.5	16.2	4.4	-13.7	12.9	-5.8	-11.5	4.6
Heavy Fuel Oil	13.4	3.4	-1.7	4.3	-2.8	2.0	11.8	-20.6	-8.6	-8.6	-9.1	12.7
Kerosenes	0.8	3.5	1.4	3.8	7.5	2.3	5.9	1.2	-0.7	4.4	2.7	4.7
Other products	4.8	2.5	-1.8	-2.1	-0.5	-2.3	1.3	-2.7	-1.8	0.7	-2.0	0.9
TOTAL	1.1	0.4	0.4	0.0	2.2	3.7	4.7	-6.3	1.6	-0.6	-2.6	4.6
Transform. Power Generation	22.9	11.5	12.9	17.3	4.4	16.1	3.3	-25.4	-10.8	-20.2	-8.0	23.7
Input to Refineries	4.4	-0.2	-0.5	-0.3	1.7	11.5	4.7	-5.2	5.8	-1.9	1.4	6.0
Refineries Gross Output	4.2	-0.3	-0.1	-0.6	1.4	10.8	4.3	-6.3	5.4	-2.4	0.7	5.9
Final Consumption (est.)	-0.9	-0.5	-0.7	-1.7	1.9	2.6	4.9	-4.0	3.0	1.3	-2.1	2.9
5. NATURAL GAS												
Primary Production	-2.0	13.3	-0.2	9.1	4.8	-2.9	5.7	9.0	9.1	2.3	-1.0	0.0
Net Imports	12.3	9.3	0.9	4.8	5.1	-1.8	5.3	5.8	3.1	3.4	0.8	2.1
Apparent Consumption	-1.2	11.6	3.1	7.1	4.7	-2.3	5.6	6.8	7.6	2.6	-0.1	0.8
Gross Inland Consumption	-1.1	11.7	3.3	7.2	4.0	-3.3	4.2	6.1	7.6	2.6	-0.1	0.8
Transform. Power Generation	-2.4	24.4	32.2	5.9	0.6	-4.1	-2.7	21.7	29.7	-5.5	-7.1	-0.6
Final Consumption (est.)	-1.1	9.3	-2.9	7.2	4.4	-3.1	6.1	4.0	5.1	4.1	1.7	1.0
6. HEAT												
Production of Nuclear Heat	12.1	15.3	1.9	3.1	-5.1	-2.0	1.4	3.9	6.7	6.6	4.8	0.6
Apparent Consumption	12.0	15.1	1.9	3.1	-5.0	-1.9	1.4	3.8	6.7	6.5	4.8	0.6
Gross Inland Consumption	11.0	13.9	0.9	2.2	-4.9	-1.7	1.6	4.0	6.7	6.5	4.8	0.6
7. ELECTRICITY												
Primary electricity:												
Apparent Consumption	-44.2	-24.8	-22.6	-23.3	29.3	-9.7	-5.7	21.8	13.1	31.0	23.2	5.8
Total Gross Generation	1.3	6.1	2.5	1.9	2.3	1.0	3.3	3.4	5.7	2.4	-0.2	2.8
Total Net Production	1.2	5.8	2.6	2.1	2.3	1.2	3.2	3.4	5.8	2.3	-0.2	2.8
Generation Primary	-45.7	-26.4	-27.8	-23.2	37.4	-11.1	-2.2	25.6	11.8	41.3	22.7	7.2
Generation Derived	7.5	11.7	6.3	4.0	0.0	2.4	3.7	1.9	5.2	-1.4	-2.0	2.6
Generation Nuclear	12.4	15.0	3.0	2.2	-4.7	-2.0	1.9	5.2	5.9	6.3	4.2	-1.3
Generation Conv. Thermal	4.7	9.5	8.5	5.2	3.0	5.3	5.0	0.0	4.7	-6.3	-5.9	5.0
Gross Inland Consumption	1.2	5.7	2.7	1.7	2.0	0.9	2.9	3.2	5.8	2.0	0.1	2.7
Available Internal Market	1.0	5.2	2.8	1.7	1.9	1.2	2.8	3.3	5.9	1.9	0.3	2.8
Consumption Intern. Market	1.3	5.5	3.1	2.0	1.9	1.2	2.7	3.3	5.9	1.9	0.3	2.8
Final Consumption	1.8	6.1	3.7	2.6	2.0	1.3	2.8	3.4	6.0	1.9	0.4	2.9
II. TOE												
Primary Production	-3.4	-1.6	-3.8	-0.4	-1.5	0.6	-0.2	0.1	3.5	0.4	1.6	1.0
Net Imports	14.4	9.4	5.0	3.8	4.6	7.5	7.3	-1.7	7.9	-0.6	-2.4	3.8
Apparent Consumption	0.7	4.9	0.5	1.6	1.3	2.4	4.2	0.6	4.4	0.4	-1.7	2.1
Gross Inland Consumption	0.8	5.0	0.7	1.8	1.0	1.9	3.7	0.3	4.4	0.4	-1.7	2.1
of which:												
Solids	0.7	4.6	1.8	0.6	-1.7	1.3	1.0	0.9	3.1	-4.2	-7.0	2.0
Oil	0.5	1.9	0.2	0.5	2.2	5.7	5.7	-4.4	2.4	-1.1	-2.3	3.2
Natural Gas	-1.1	11.7	3.3	7.2	4.0	-3.3	4.2	6.1	7.6	2.6	-0.1	0.8
Heat	11.0	13.9	0.9	2.2	-4.9	-1.7	1.6	4.0	6.7	6.5	4.8	0.6
Primary Electricity	-44.0	-24.6	-22.3	-23.1	28.8	-9.9	-6.0	21.3	13.1	31.0	23.2	5.8
Total Final Consumption	-0.8	3.3	-0.2	1.1	2.1	0.1	3.6	-0.7	3.5	1.4	-1.4	2.0

TABLE 9 - EUR 12
Main Variables: Year to Date Growth Rates - in %
(Last revision: 29 April 1991)

	1 Q 89	2 Q 89	3 Q 89	4 Q 89	1 Q 90	2 Q 90	3 Q 90	4 Q 90	1 Q 91	2 Q 91	3 Q 91	4 Q 91
A. SPECIFIC UNITS												
1. HARD COAL												
Primary Production	2.5	0.4	-1.0	-2.7	-10.8	-7.4	-4.6	-5.5	0.2	-2.9	-3.9	-4.4
Net Imports	8.6	10.2	8.4	8.7	14.7	13.0	12.1	12.6	3.4	-1.4	-1.8	2.8
Apparent Consumption	-1.1	0.1	0.8	1.2	-0.4	-1.2	1.2	1.2	2.1	-0.5	-2.3	-2.1
Gross Inland Consumption	-1.1	0.1	0.8	1.2	-0.5	1.0	1.1	1.0	2.1	-0.5	-2.3	-2.1
Deliveries												
Power Plants	2.4	1.3	2.7	3.2	5.4	4.8	5.1	4.6	3.4	-1.1	-2.1	-0.6
Coking Plants	-3.5	0.1	-1.7	-1.2	-1.2	-3.3	-4.4	-4.6	-9.6	-7.8	-5.6	-5.9
All Industries	-10.7	-3.9	-1.3	-2.3	12.9	7.0	5.2	3.6	-4.5	2.7	2.5	-0.4
Domestic	-17.7	-6.4	-11.9	-10.5	-12.1	-13.7	-8.3	-6.2	9.8	4.8	3.7	-0.3
TOTAL	-1.7	-0.3	0.1	0.5	3.7	2.3	2.3	1.9	0.1	-2.4	-2.5	-1.6
Transform.Power Generation	-1.8	-0.5	1.3	2.0	1.4	3.5	3.6	4.5	4.4	1.2	-0.9	-0.7
Final Consumption (est.)	-6.2	2.2	2.2	2.0	-1.8	-5.1	-4.2	-4.4	-0.0	-0.3	-0.5	-0.2
2. COKE												
Production	-2.8	-2.3	-0.8	-0.4	-3.4	-2.9	-4.3	-4.9	-5.5	-5.4	-5.4	-5.6
Deliv. to Iron and Steel	3.7	3.6	2.2	-0.8	-7.5	-7.4	-6.8	-6.6	-5.4	-5.3	-6.0	-5.5
Final Consumption (est.)	1.9	1.8	0.9	-1.1	-9.1	-9.5	-9.1	-7.5	-5.1	-5.1	-5.7	-5.1
3. LIGNITE												
Primary Production	9.6	12.7	9.1	5.1	-8.3	-4.2	-2.2	-1.8	5.2	0.1	-1.9	1.3
Apparent Consumption	8.9	11.8	8.3	4.4	-8.5	-4.6	-2.7	-2.4	4.4	-0.4	-2.6	1.0
Gross Inland Consumption	8.8	11.7	8.2	4.3	-8.4	-4.5	-2.6	-2.6	4.4	-0.4	-2.6	1.0
Transform.Power Generation	12.2	11.9	8.4	3.6	-7.3	-2.1	0.1	-0.5	4.4	-0.6	-2.9	0.8
4. OIL												
Crude Production	-23.8	-25.3	-20.8	-16.7	5.1	9.7	3.7	0.6	-5.0	-4.4	-0.5	1.3
Total Primary Production	-23.4	-24.8	-20.5	-16.6	4.6	9.3	3.0	-0.2	-6.3	-5.9	-1.7	0.2
Net Imports	16.6	12.9	10.4	8.2	2.7	5.4	6.0	2.9	9.8	4.8	2.1	2.0
Apparent Consumption	-0.1	0.6	0.3	0.2	2.7	4.5	5.1	2.7	2.2	0.6	-0.4	0.5
Gross Inland Consumption	0.4	1.1	0.8	0.7	2.1	3.8	4.4	2.1	2.2	0.6	-0.3	0.5
Deliveries												
Motor Gasoline	2.7	2.3	1.5	1.5	2.3	2.4	2.5	2.1	1.7	1.9	1.7	1.8
Gas/Diesel Oil	-6.0	-5.0	-2.6	-2.4	5.1	7.0	6.4	2.7	7.7	3.7	1.2	2.1
Autom. Diesel Oil	7.7	7.6	7.1	6.6	7.0	5.4	5.7	4.6	1.5	2.5	2.7	3.3
Heating Gas Oil	-14.8	-14.8	-10.8	-9.8	3.5	8.6	7.2	0.9	12.9	4.9	-0.3	0.9
Heavy Fuel Oil	13.4	8.7	5.5	5.1	-2.8	-0.7	2.9	-3.9	-8.6	-8.6	-8.8	-3.6
Kerosenes	0.8	2.2	1.9	2.4	7.5	4.7	5.2	4.2	-0.7	1.9	2.2	2.8
Other products	4.8	3.6	1.7	0.7	-0.5	-1.4	-0.5	-1.1	-1.8	-0.5	-1.0	-0.5
TOTAL	1.1	0.8	0.6	0.5	2.2	2.9	3.5	0.9	1.6	0.5	-0.5	0.7
Transform.Power Generation	22.9	17.8	16.2	16.5	4.4	9.4	7.5	-2.6	-10.8	-15.1	-12.9	-4.4
Input to Refineries	4.4	2.1	1.2	0.8	1.7	6.5	5.8	2.9	5.8	1.9	1.7	2.7
Refineries Gross Output	4.2	2.0	1.2	0.7	1.4	6.0	5.4	2.3	5.4	1.4	1.2	2.3
Final Consumption (est.)	-0.9	-0.7	-0.7	-1.0	1.9	2.3	3.2	1.2	3.0	2.2	0.7	1.3
5. NATURAL GAS												
Primary Production	-2.0	3.6	2.7	4.6	4.8	1.7	2.6	4.6	9.1	6.5	4.7	3.2
Net Imports	12.3	10.9	7.8	7.0	5.1	1.8	2.8	3.6	3.1	3.3	2.6	2.4
Apparent Consumption	-1.2	3.5	3.4	4.5	4.7	2.0	2.8	4.0	7.6	5.7	4.3	3.2
Gross Inland Consumption	-1.1	3.6	3.5	4.6	4.0	1.2	1.8	3.2	7.6	5.7	4.3	3.2
Transform.Power Generation	-2.4	9.4	16.2	13.2	0.6	-1.7	-2.1	4.2	29.7	12.5	5.9	3.9
Final Consumption (est.)	-1.1	2.6	1.4	3.2	4.4	1.6	2.5	3.0	5.1	4.7	4.1	3.1
6. HEAT												
Production of Nuclear Heat	12.1	13.6	9.7	7.9	-5.1	-3.6	-2.1	-0.5	6.7	6.7	6.1	4.6
Apparent Consumption	12.0	13.4	9.6	7.8	-5.0	-3.6	-2.0	-0.5	6.7	6.6	6.0	4.6
Gross Inland Consumption	11.0	12.3	8.5	6.8	-4.9	-3.4	-1.9	-0.3	6.7	6.6	6.0	4.6
7. ELECTRICITY												
Primary electricity:												
Apparent Consumption	-44.2	-33.9	-30.7	-29.2	29.3	5.8	2.2	6.4	13.1	22.4	22.6	18.5
Total Gross Generation	1.3	3.5	3.2	2.8	2.3	1.7	2.2	2.5	5.7	4.2	2.8	2.8
Total Net Production	1.2	3.3	3.1	2.8	2.3	1.8	2.2	2.5	5.8	4.2	2.8	2.8
Generation Primary	-45.7	-35.8	-33.6	-31.5	37.4	8.9	5.5	10.1	11.8	26.0	25.1	20.5
Generation Derived	7.5	9.4	8.4	7.2	0.0	1.1	1.9	1.9	5.2	2.2	0.9	1.3
Generation Nuclear	12.4	13.6	10.1	7.9	-4.7	-3.4	-1.8	0.0	5.9	6.1	5.5	3.6
Generation Conv.Thermal	4.7	6.8	7.3	6.7	3.0	4.0	4.3	3.1	4.7	-0.3	-2.0	-0.1
Gross Inland Consumption	1.2	3.3	3.1	2.7	2.0	1.5	1.9	2.3	5.8	4.1	2.8	2.8
Available Internal Market	1.0	2.9	2.9	2.6	1.9	1.6	1.9	2.3	5.9	4.0	2.9	2.9
Consumption Intern.Market	1.3	3.2	3.2	2.9	1.9	1.6	1.9	2.3	5.9	4.0	2.9	2.9
Final Consumption	1.8	3.8	3.8	3.4	2.0	1.7	2.0	2.4	6.0	4.1	2.9	2.9
II. TOE												
Primary Production	-3.4	-2.6	-3.0	-2.3	-1.5	-0.5	-0.4	-0.3	3.5	2.1	1.9	1.7
Net Imports	14.4	11.9	9.5	7.9	4.6	6.0	6.4	4.3	7.9	3.6	1.6	2.1
Apparent Consumption	0.7	2.6	1.9	1.9	1.3	1.8	2.5	2.0	4.4	2.6	1.2	1.5
Gross Inland Consumption	0.8	2.7	2.1	2.0	1.0	1.4	2.1	1.6	4.4	2.6	1.2	1.5
of which:												
Solids	0.7	2.4	2.2	1.8	-1.7	-0.3	0.1	0.3	3.1	-0.3	-2.4	-1.2
Oil	0.5	1.2	0.9	0.8	2.2	3.9	4.5	2.1	2.4	0.7	-0.3	0.6
Natural Gas	-1.1	3.6	3.5	4.6	4.0	1.2	1.9	3.2	7.6	5.7	4.3	3.2
Heat	11.0	12.3	8.5	6.8	-4.9	-3.4	-1.8	-0.3	6.7	6.6	6.0	4.6
Primary Electricity	-44.0	-33.7	-30.5	-29.0	28.8	5.4	1.8	6.0	13.1	22.4	22.6	18.5
Total Final Consumption	-0.8	1.0	0.6	0.8	2.1	1.2	1.9	1.2	3.5	2.6	1.3	1.5

Annex I : Energy data

The energy data used to prepare this outlook come mainly from the monthly energy statistics of the SOEC, published in the EUROSTAT publication "Energy: Monthly Statistics" (also available in CRONOS and SIRENE computer databases). For the moment those figures are not corrected for seasonal or weather variations.

I. Data in specific units

Tables 5 for hydrocarbons, 6 for solid fuels and 7 for electricity, present data in their initial form (in specific units). Those data are, in general, published without adjustment (with only a few exceptions which are described later).

For all fuels, a line called "Apparent Consumption" is estimated by the following formula:

$$\text{Apparent Consumption} = \text{Primary Production} + \text{Recovered Production} + \text{Net Imports} \\ - \text{Change in Stocks} - \text{Bunkers (for oil)} \quad (1)$$

Due to important differences when compared with published annual balance sheets, a line called "Adjustment to annual figures" is added and Gross Inland Consumption, in specific units (Tables 5 to 7) and in Toe (Table 4), is given by the relation:

$$\text{Gross Inland Consumption} = \text{Apparent Consumption} + \text{Adjustment} \quad (2)$$

The latest known annual balance sheet covers 1989. Exceptionally, for reasons explained in Box A, adjustment for oil for the years 1990 to 1991 is different from zero.

For the following fuels: oil and natural gas (Table 5), hard coal and lignite (Table 6), the line "Input to Power Generation" is estimated on the basis of monthly data of consumption by the thermal public supply power stations (published by the SOEC in the monthly bulletin) and annual data (published in annual balance sheets) including all other producers of electricity.

The following remarks give some additional informations for each fuel:

Table 5 - Oil

- a) Crude oil: The item "other inputs" of SOEC crude oil balance sheet is added to net imports (value for 1990: 1.1 Mt).
- b) Oil products: The item "out of refinery production" of SOEC balance sheet of petroleum products is considered as "recovered production".
- c) The line "Available to final consumption" is estimated:

$$\text{Available to Final Consumption} = \text{Gross Inland Consumption} - \text{Transformation Input} \\ + \text{Refineries net Output} \quad (3)$$

- d) The line "Final consumption" is estimated:

$$\text{Final Consumption} = \text{Total Inland Deliveries} - (\text{Total Transformation Input} - \text{Input to Refineries}) \quad (4)$$

This information makes it possible to identify the relationship between Gross Inland Consumption and Deliveries:

$$\text{Gross Inland Consumption} = \text{Total Inland Deliveries} + (\text{Input to Refineries} - \text{Refineries net Output}) \\ + \text{Statistical Difference} \quad (5)$$

Table 5 - Natural Gas

The line "Natural Gas, Final Consumption" is estimated on the basis of annual data.

Table 6 - Hard coal

a) Hard Coal figures include patent fuels: Net imports, not shown in the table because of their small quantity, are added to hard coal apparent consumption, starting from 1987, and patent fuels production is considered as transformation output.

b) From 1987 Spanish black lignite ("negro") is included in hard coal figures (5.8 Mt in 1986).

c) The line "Input to Power Generation" is estimated by the formula:

$$\text{Input to Power Generation} = \text{Deliveries to Power Plants} + \text{Transformation for Power Generation in Industry} - \text{Change in Stocks in Power Plants} \quad (6)$$

The line "Transformation for Power Generation in Industry" is estimated on the basis of annual data.

d) The line "Transformation input" is given by the formula:

$$\text{Transformation Input} = \text{Input to Power Generation} + \text{Deliveries to Coke} + \text{Deliveries to Patent Plants} \quad (7)$$

e) The line "Available to final consumption" is estimated:

$$\text{Available to Final Consumption} = \text{Gross Inland Consumption} - \text{Transformation Input} + \text{Production of Patent Fuels} \quad (8)$$

f) The line "Final consumption" is estimated:

$$\text{Final Consumption} = \text{Final Consumption of Industry} + \text{Final Consumption Domestic} \quad (9)$$

where:

$$\text{Final Consumption of Industry} = \text{Deliveries to all Industries} + \text{'Other' Deliveries} - \text{Transformation for Power Generation in Industry} \quad (10)$$

$$\text{Final Consumption Domestic} = \text{Deliveries to Households} + \text{Patent Fuels} \quad (11)$$

This information makes it possible to identify the relationship between Gross Inland Consumption and Deliveries:

$$\text{Gross Inland Consumption} = \text{Total Inland Deliveries} - \text{Change in Stocks in Power Plants} + \text{Statistical Difference} \quad (12)$$

Table 6 - Lignite

a) Lignite gross inland consumption includes brown coal briquettes.

b) From 1987 Spanish black lignite ("negro") is included in hard coal figures (5.8 Mt in 1986).

c) The historical primary production monthly figures are adjusted to annual values.

Table 7 - Electricity

a) Primary production is treated in the same way as in SOEC's annual balance sheet.

$$\text{Primary Electricity} = \text{Gross Production of Hydro - Pumping (Electricity produced)} \quad (13)$$

b) Geothermal electricity is considered as derived, while geothermal heat is considered as a primary energy, following the concepts of the annual balance sheet.

c) Distribution losses, consumption by the energy branch and final consumption are estimated on the basis of annual figures.

Table 7 - Input to power stations

Those data, in toe, are calculated from the same variables in specific units, adjusted according to annual figures, and cover all producers.

Table 7 - Heat

a) The distinction between primary nuclear and geothermal heat follows the conventions of SOEC's balance sheet.

b) Data on nuclear capacity are based on the informations of the "ELECNUC" data base (see Annex II).

II. Data in Toe

Table 4 presents a complete quarterly primary balance sheet which is estimated by applying a conversion factor to each corresponding variable in specific units.

Starting from July 1989, the SOEC is publishing (in the monthly bulletin) a complete monthly primary balance sheet in toe, replacing the previous quarterly balance sheets. All time series run from January 1987 and several from January 1984. This new information is directly used in the case of hard coal, lignite and crude oil.

Starting from the previous issue an estimation of final consumption by fuel is also presented.

The following table shows the conversion factors used to transform quarterly data from specific units to toe.

Historic	1979 to 83	1984	1985	1986	1987-89
Hard Coal					
Production	0.615	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Recov. Production	0.450	0.450	0.450	0.450	SOEC/MBS
Imports	0.650	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Exports	0.675	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Stocks	0.580	0.580	0.580	0.580	SOEC/MBS
Patent Fuels					SOEC/MBS
Coke	0.681	0.681	0.681	0.681	0.681
Lignite					
Production	0.192	0.192	0.192	0.186	SOEC/MBS *
Imports	0.400	0.400	0.400	0.400	SOEC/MBS
Exports	0.480	0.480	0.480	0.480	SOEC/MBS
Stocks	0.220	0.220	0.220	0.220	SOEC/MBS
Crude Oil					
Production	1.008	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Imports	1.004	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Exports	1.010	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Stocks	1.005	1.005	1.005	1.005	1.005
Oil Products					
Production	1.100	1.100	1.100	1.100	1.100
Recov. Production	1.100	1.100	1.100	1.100	1.100
Imports	1.000	1.000	1.000	1.000	1.000
Exports	1.003	1.003	1.000	1.000	1.000
Stocks	0.970	0.970	0.970	0.970	0.970
Bunkers	0.970	0.970	0.970	0.970	0.970
Natural gas	0.0215	0.0215	0.0215	0.0215	0.0215
Heat and electricity	0.086	0.086	0.086	0.086	0.086

SOEC/MBS: SOEC Monthly Balance Sheet
*) Lignite production - adjusted

Forecast	Prod	Rec.Prod	Net Imp.	Stocks	Bunkers	Power Gen.	Fin.Consum.
Hard Coal	0.604	0.450	0.659	0.700		0.578	0.670
Patent Fuels			0.700				
Coke			0.681	0.681		0.681	0.681
Lignite	0.180		0.250	0.220		0.180	0.350
Crude Oil	1.015						
Oil Products		1.100					
Total Oil			1.004	1.000	0.970	0.960	1.015
Natural gas	0.0215		0.0215	0.0215		0.0215	0.0215
Heat and electricity	0.086		0.086				0.086

The main differences with the SOEC balance sheet can be summarized as follows:

- Coke: A slightly different conversion factor is used (0.681 in place of 0.7)
- Lignite: Our primary production figures are slightly adjusted.
- Oil: SOEC uses a 1:1 conversion factor for oil products. In addition, recovered production is ignored. These factors can lead to considerable differences for EUR-12. For example the difference in apparent consumption for 1990 is of 3.1 Mtoe (496.0 against 492.9 Mtoe, or 0.6%).
- Annual, rather than monthly data, are used for geothermal heat and other fuels.

The following table compares the 1990 figures by source. (See also table in Box A comparing the 1988 and 1989 figures).

1990	SOEC	STEO	Diff	in %
1. Hard Coal	197.90	197.91	-0.01	0.0%
2. Patent Fuels	-0.18	-0.18	0.00	0.0%
3. Coke	-0.09	-0.08	-0.02	16.0%
4. Lignite	33.54	33.87	-0.33	-1.0%
5. Briquettes	-0.03	-0.03	0.00	0.0%
6a. Crude Oil	499.52	500.62	-1.10	-0.2%
6b. Oil Products	-6.62	-4.64	-1.99	-30.0%
6. Total Oil	492.90	495.98	-3.09	-0.6%
7. Natural Gas	207.79	207.84	-0.04	0.0%
8. Nuclear Heat	156.40	156.43	-0.03	0.0%
9. Geothermal Heat	1.73	1.90	-0.17	-10.0%
10. Electricity	13.76	13.76	-0.01	-0.1%
11. Other	2.28	2.80	-0.52	-22.8%
TOTAL	1106.00	1110.21	-4.21	-0.4%

Source: SIRENE, April 1991

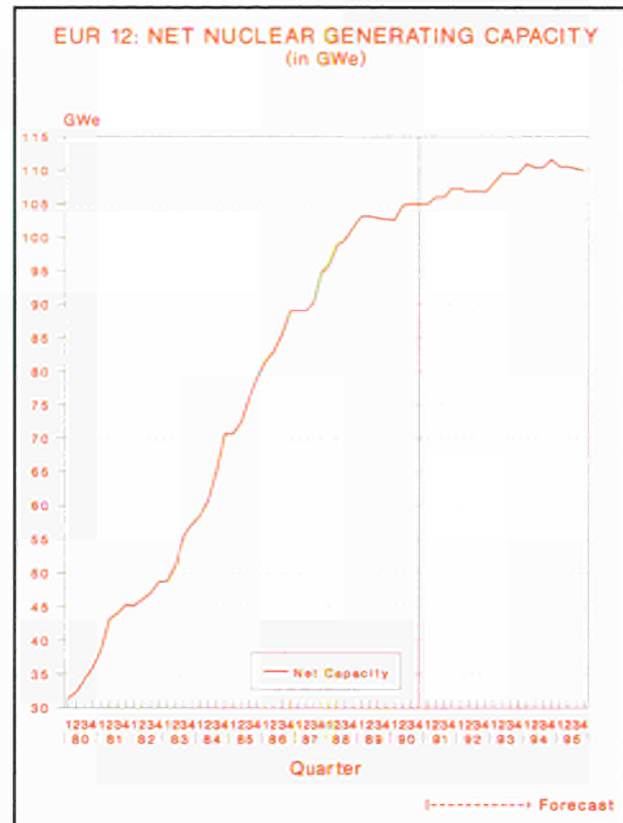
It can be seen that the major difference comes from the oil sector.

Annex II: Net nuclear generating capacities

The following tables compares our data on net nuclear capacity (source : "ELECNUC") with other sources. It also shows the assumptions on future modifications of net capacity. Total capacity is slightly higher than in the previous issue because, following "ELECNUC" conventions, the plant at Wurgassen that was previously considered as decommissioned in 1989 has been added to the data base.

A. Nuclear net generating capacities , by end 1990 (in MWe)

	ELECNUC	SOEC	UNIPEDE
1. Belgium	5500	5501	5500
2. France	55873	55808	55720
3. Germany	22479	22469	22427
4. Italy	0	1120	0
5. Netherlands	516	507	508
6. Spain	7074	7509	7000
7. UK	13534	12082	11036
TOTAL	104975	104996	102191



B. Assumed modifications of net generating capacity (in MWe)

	New units	MWe	Decommissioning	MWe	Total net capacity
4 Q 89					102717
1 Q 90			UK : Hunterston A-1	150	102567
2 Q 90	F : Penly-1	1330	F : St.Laurent A-1	480	104727
3 Q 90	F : Golfech-1	1310			
	F : Cattenom-3	1300	F : Chinon A-3	480	104975
			S : Vandellós-1	480	
			UK : Winfrith	92	
4 Q 90					104975
1 Q 91					104975
2 Q 91	F : Cattenom-4	1300	F : Chooz A-1	305	105970
3 Q 91					105970
4 Q 91	F : Penly-2	1330			107300
1 Q 92					107300
2 Q 92			F : St.Laurent A-2	515	106785
3 Q 92	G : Kalkar (?)	295	UK : Bradwell-1	163	106918
4 Q 92			UK : Bradwell-2	163	106755
1 Q 93	F : Golfech-2	1310			108065
2 Q 93	F : Chooz B-1	1455			109520
3 Q 93					109520
4 Q 93					109520
1 Q 94	F : Chooz B-2	1455			110975
2 Q 94			F : Bugey-1	540	110435
3 Q 94					110435
4 Q 94	UK : Sizewell B	1175			111610
1 Q 95			UK : Trawsfynydd	508	110546
			UK : Hinkley Point A	556	110546
2 Q 95					110546
3 Q 95			UK : Dungeness A-1	276	110271
4 Q 95			UK : Dungeness A-2	276	109995

Sources: ELECNUC, SOEC, UNIPEDE

