Supplement

ENERGY
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Short term energy outlook for the European Community

NOVEMBER 1989

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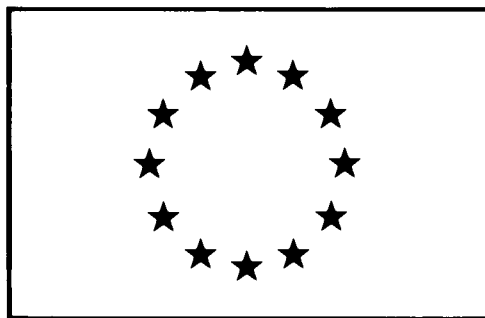
Short term energy outlook for the European Community

NOVEMBER 1989

Short-term energy outlook for the European Community[1]

Energy demand increased substantially during the second quarter of 1989. According to provisional data, total primary energy demand increased by 4.9% compared to the second quarter of 1988. This increase occurred in spite of good weather conditions and rising oil prices.

With a return to «normal» weather conditions, continuing economic growth (3.4% during 1989 and 3.1% for 1990) and stable real energy prices, global energy demand could grow by 2.5% in 1989 and by more than 3% in 1990.

However, given the rise in crude oil prices (the average price of imported crude could be 20% higher, in real ECU terms, in 1989 than in 1988) and the mild weather conditions during the first half of the year, total oil deliveries could increase by less than 1% in 1989 and then by about 2% in 1990. Demand for natural gas, down by 3.9% in 1988, is expected to increase considerably this year (4.5%) and by more than 5% in 1990.

In spite of the mild weather conditions during the first quarter of 1989, electricity consumption is likely to increase by more than 3% in 1989 and by over 4% next year. This could lead to a slight increase in hard coal deliveries (about 1%) after two consecutive years of important decline. Nuclear production which increased by 7.2% in 1988, is also expected to grow significantly this year (about 10%) before slowing somewhat in 1990.

A summary of the main assumptions used in the preparation of this short term energy outlook (STEO) and the main results are presented in Table 1.

Table 1: EUR-12
Summary of main assumptions and results
(Last revision: 20 Oct 1989)

	1985	1986	1987	1988	1989	1990	Annual percentage change 1985	1986	1987	1988	1989	1990
I. Main assumptions												
GDP (1985=100)	100.0	102.7	105.5	109.3	113.0	116.5	2.5	2.7	2.7	3.6	3.4	3.1
Private consumption (1985=100)	100.0	104.1	108.1	112.3	115.8	119.3	2.6	4.1	3.9	3.9	3.1	3.0
Industrial production (1985=100)	99.8	102.1	104.2	108.7	113.0	118.1	3.4	2.3	2.1	4.3	4.0	4.5
Consumer prices (1985=100)	100.0	103.5	106.9	110.7	116.1	121.3	6.0	3.5	3.2	3.5	4.9	4.5
Exchange rate ECU/USD	0.762	0.983	1.154	1.184	1.087	1.070	-3.5	29.0	17.4	2.5	-8.2	-1.6
Imported crude oil price												
(USD/bbl)	27.54	14.51	17.87	14.78	17.44	17.75	-5.0	-47.3	23.2	-17.3	18.0	1.8
(ECU/bbl)	36.40	14.91	15.50	12.48	16.06	16.59	-1.0	-59.0	3.9	-19.5	28.7	3.3
II. Main results												
Oil												
Total inland deliveries (Mt)	429.2	441.1	442.3	450.4	453.8	463.4	-3.7	2.8	0.3	1.8	0.8	2.1
Hard coal												
Total inland deliveries (Mt)	327.5	327.3	320.0	305.5	308.8·	310.7	21.0	-0.1	-2.2	-4.5	1.1	0.6
Total solids												
Gross inl. consumption (Mtoe)	239.0	231.5	230.0	225.2	227.3	230.2	8.8	-3.2	-0.6	-2.1	0.9	1.3
Natural gas												
App. gross consumption (Mtoe)	184.5	186.8	198.9	191.2	199.8	210.5	4.7	1.3	6.5	-3.9	4.5	5.4
Electricity												
Consumpt. intern. market (Twh)	1376.4	1416.3	1465.3	1506.6	1554.4	1624.9	4.1	2.9	3.5	2.8	3.2	4.5
Nuclear heat												
Production (Twh)	1440.3	1537.5	1580.4	1694.9	1869.8	1947.4	29.6	6.8	2.8	7.2	10.3	4.1
Total energy												
Gross inl. consumption (Mtoe)	1029.6	1044.1	1062.5	1066.7	1093.1	1127.8	3.9	1.4	1.8	0.4	2.5	3.2
Energy ratio (1984 = 100)												
Total gr. inl. consumption/GDP	101.3	100.1	99.2	96.1	95.2	95.3	1.3	-1.2	-0.9	-3.1	-0.9	0.1

1) Manuscript completed on 31 October 1989.

Energy in the first half of 1989

Continuing economic growth, rising oil prices, and good weather conditions have influenced the European energy scene during the first half of 1989. The first quarter of the year was even warmer than 1988 and demand grew by only 0.7%. In the second quarter energy demand increased quickly (to 4.9%) leading to an overall growth of 2.6% for the first half of the year.

Complete temperature data for the first quarter of 1989 show that this was the warmest first quarter in Europe for more than 15 years (see Table 2 and Graph 1). This situation influenced energy consumption, which increased by only 0.7%, and the electricity demand growth (0.6%).

The climatic conditions in the second quarter were similar to those of 1988 (72 degree-days less than average, against 93 degree-days less in the second quarter of 1988) and consumption of all forms of energy, with the notable exception of heating oil, increased significantly (see Table 8). Demand for electricity, in particular, was up by more than 5%, leading to an important increase in the consumption of solid fuels (6.4%). Such an increase had not been observed during the last three years. Demand for natural gas also increased by more than 10%, while nuclear production was more than 15% higher than during the the same quarter of last year.

The rapid growth in energy demand was to be expected given the continuing high level of economic activity in the Community. It was predicted in the last STEO (May 1989). However, demand for solid fuels were higher than expected because of the important fall in primary electricity production (a decrease of 34% for the first part of the year as opposed to an expected decrease of 14%).

Graph 1 - Eur 12
Degree-days
Difference from «normal»

Graph 2 - EUR 12
Macroeconomic indicators
Annual percentage change

NOTE: This report is based on statistical data available at 16 October 1989 and covering, with some minor exceptions, the first two quarters of 1989. In all tables observed data are presented in bold characters and forecasts in italic.

Working assumptions for 1989 and 1990

Macroeconomic assumptions are based on the latest forecasts by the Commission's Directorate-General for Economic Affairs (DG II). These are now more optimistic than earlier this year, predicting a GDP growth of 3.4% in 1989 and of 3.1% in 1990. The average crude oil price is assumed to be 17.4 USD/bbl in 1989 and 17.8 USD/bbl in 1990. «Normal» weather conditions are assumed after the third quarter of 1989.

Table 2 presents the main working assumptions underlying the 1989 and 1990 forecasts.

Following the Commission's latest economic forecasts, which have been revised upwards, an average GDP growth for EUR-12 of 3.4% in 1989 and of 3.1% in 1990 is assumed. The new estimate of the 1989 growth figure is the fifth successive upward revision made in as many forecasts (starting from 1.8% in mid-1988). These revisions have had an important impact on our short term energy outlook (STEO).

An inflation rate of 4.9% in 1989 (compared with 3.5% in 1988), brought about mainly by increases in import prices, could affect private consumption. This

Graph 3 - EUR12
Average crude oil import price (cif)

had been growing fast during the last three years. Its rate of growth should slow down to 3.1% this year and to 3% in 1990 (Graph 2).

The assumption is made that the USD/ECU nominal exchange rate will remain constant throughout the forecasting period.

Following the increase in oil prices during the first half of 1989, an average price of 17.4 USD/bbl in 1989 and a 17.8 USD/bbl in 1990 is assumed (see next section).

Finally, it is assumed that «normal» weather conditions will prevail after the the third quarter of 1989.
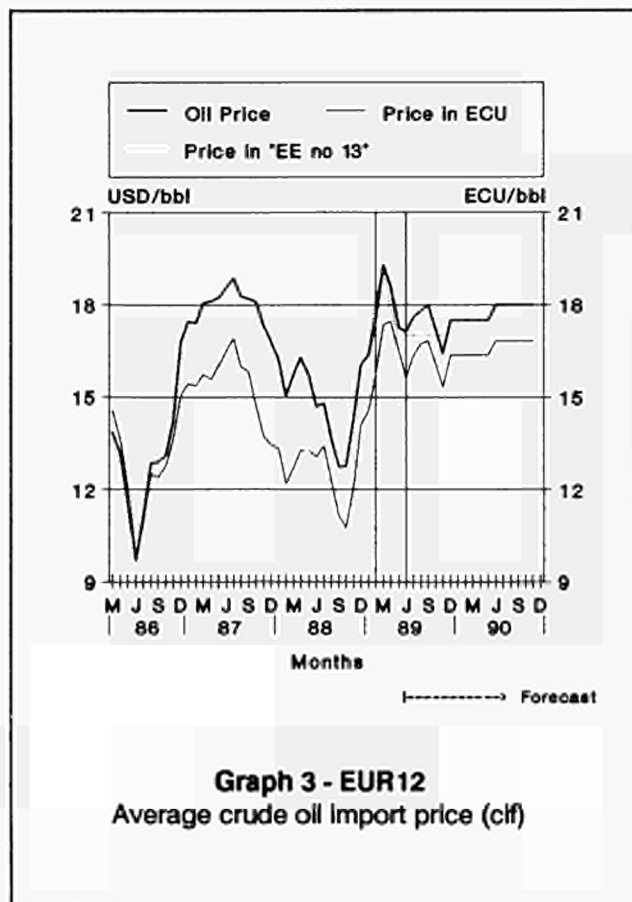
Energy prices

The oil price

Crude oil prices strengthened gradually after the November 1988 OPEC meeting which decided new production quotas. In April, a series of accidents sent the oil price at its highest level since February 1986. Import prices eased by June, staying within the 17 to 18 USD/bbl range.

After a peak in April (average import price of 19.3 USD/bbl), crude oil prices started to ease returning into the 17 to 18 USD/bbl range during the third quarter of 1989. A new, slight, increase in spot prices was observed by mid-October.

In this forecast (last revision: 20 October 1989), the relatively high level of prices observed in mid-October do not persist, leading to an average import price of 17.2 USD/bbl during the fourth quarter and an average price of 17.44 USD/bbl for the year as a whole (Tables 2 and 3 and Graph 3). However, in annual terms, this means a substantial increase over 1988 (18% in USD terms). If we also consider the revaluation of the dollar, the average import price of crude oil in ECU could be 29% higher in 1989 than in 1988.

A slight increase is expected in crude oil prices in 1990 (Tables 2 and 3 and Graph 3). Expressed in current terms, this is an average increase of 1.8% in USD and 3.3% in ECU in 1990.

In the last STEO (May 1989), two alternative oil price scenarios were examined. In the first, prices collapsed to 13 USD/bbl and stayed low until the end of 1990. In the second, prices were assumed to stay at high levels (21 to 22 USD/bbl) during the whole forecasting period. The main results and conclusions for the scenarios are still valid.

Final energy prices

Following the increase in the price of imported crude oil, final energy prices of oil products are expected to rise during 1989 and 1990.

During the first half of 1989, following the rise in crude oil prices, the prices of oil products increased considerably.

Table 3 illustrates the evolution of final consumer prices for different fuels.

Based on our assumption on imported crude oil prices, average final prices of oil products could increase in 1989, in annual terms, by 9% (diesel) to 13% (heavy fuel oil). These are significantly less than the increase in price of imported crude oil (Graph 4). Given the dynamics of the price formation mechanism, average final prices could increase by another 5% to 9% in 1990.

Considering the usual lags in the transmission of the impact of oil prices on other fuel prices, the final prices of other forms of energy could also increase slightly over the forecast period.

## Overall energy in 1989 and 1990

Given continuing economic growth, and in spite of higher oil prices and weather conditions in the first half of 1989, a growth of global energy demand of 2.5% is forecast for 1989 with even faster growth (3.2%) next year.

Faster economic growth will result in a greater increase in overall energy demand (2.5%) in 1989 than was forecast in the STEO in May (2.1%). The main difference is due to the oil sector and more precisely to a higher demand for transportation fuels. Stable oil prices and a return to «normal» weather conditions could lead to a faster growth in 1990 (3.2%) - see Tables 4, 8 and 9 and Graph 5.

Electricity demand which has risen rapidly during the last five years is expected to grow by 3.2% this year and by 4.5% in 1990.

One of the main uncertainties in this forecast is related to the possible differences in consumption which might arise as a result of a colder than average winter. Following the long period of warm weather experienced in Europe (Graph 1), with its positive impact on consumers' income, it is difficult to predict if the consumers would accept the higher cost incurred in returning to previous comfort standards.

Graph 4 - EUR12
Oil products
Average final prices in ECU

Gasoline (L) Diesel (L)
Heating Oil (L) Fuel Oil (R)
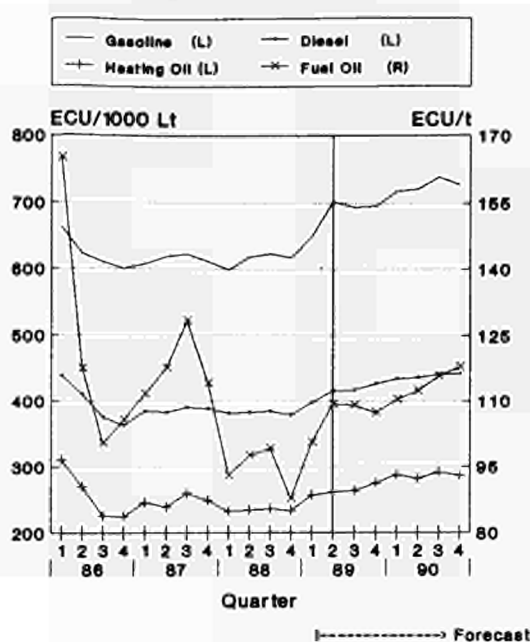
Graph 5 - EUR12
Total energy: Gross inland consumption
(Millions of toe)

Solids Oil Natural Gas
Heat Other
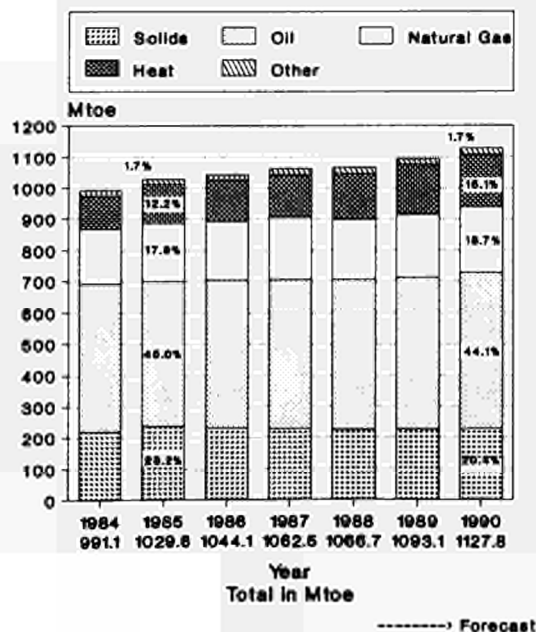
On the basis of historical experience, this outlook assumes that a return to «normal» weather conditions will be translated into an increase in demand. This would be equivalent to an additional consumption of 4.5 Mtoe in the last quarter of 1989 (plus 0.4% in annual terms) and 16 Mtoe in 1990 (plus 1.4%). In

other words, the weather corrected growth of gross inland consumption for 1990, would only be 1.7% (for a more detailed discussion on the impact of climatic conditions on energy consumption see the STEO of May 1989).

On this basis, total oil demand could increase by less than 1% this year and by more than 2% in 1990. Demand for natural gas would probably return during 1989 to its high levels of 1987 and could grow even faster in 1990. After a decline in recent years, coal deliveries could slightly increase in both 1989 and 1990 due mainly to increased demand by the power sector. Finally, the nuclear sector, after slowing down in 1987 and a considerable growth in 1988 (7.2%), could grow even faster in 1989 (more than 10%). However, with a limited number of new power stations scheduled to come on line next year, generation of nuclear electricity could grow by only 4% in 1990.

Oil

Due to weak heating oil deliveries, demand for oil, in terms of total inland deliveries, increased by only 0.7% during the first half of 1989. With higher oil prices in 1989, deliveries are now expected to grow by only 0.9% this year. However, demand could grow by more than 2% next year. Production decreased in 1988 and during the first half of 1989 as it was seriously affected by accidents.

Deliveries of heating oil declined by almost 15% during the first half of 1989 as a result of the combined effect of good weather, increasing prices and continuing penetration of competitive fuels (mainly natural gas).

Because of this decline, there was a decrease in the deliveries of substitutable oil products (heating oil and heavy fuel oil) of 5.3% during the first half of 1989. Non-sustitutable product deliveries, on the other hand, increased by 4.1% during the same period. In spite of a substantial increase in the quantities of oil burned in power stations (see section on electricity), overall inland deliveries only increased by 0.7% (Table 5, 8 and 9 and Graph 6 and 7).

The same pattern of behavior will probably continue during the second part of 1989 and during 1990.

Graph 6 - EUR 12
Inland deliveries of oil products
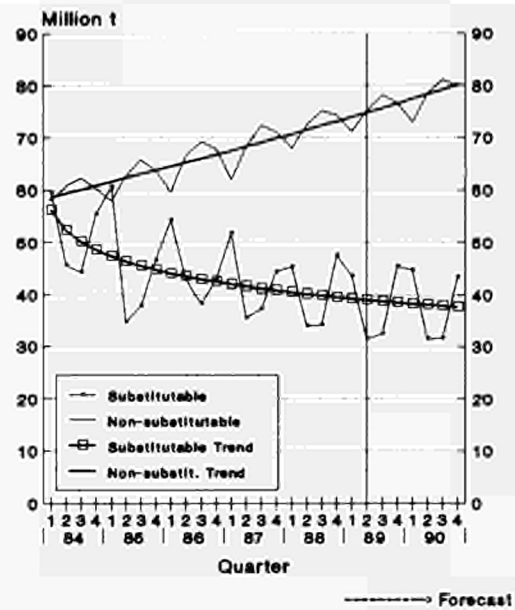
Graph 7 - EUR 12
Oil products - Total inland deliveries and growth rates in %
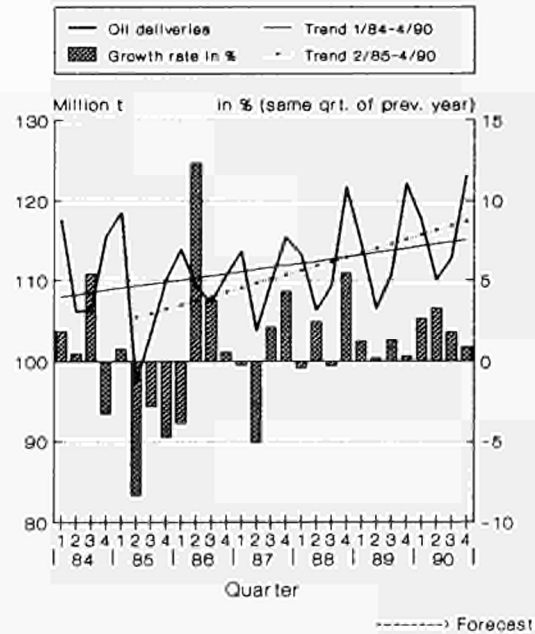
Although higher prices could lead to a slowing down of demand when compared with 1988, deliveries for motor gasoline, automotive diesel oil, kerosenes and «other» oil products, will probably continue to increase. Total growth for non-substitutable fuels in 1989 is expected to be in the order of 4%, while

substitutable fuels could decline by about 5%. Overall, oil deliveries in 1989 could grow by 3.5 million tones (0.9%).

By 1990, the price effect could be less important and, with strong economic activity, demand for non-sustitutable fuels could grow by 3.8%. On the basis of «normal» weather conditions, demand for substi-tutable fuels could decline by only 1.2%, leading to a global increase in oil deliveries in the order of 2.1%.

Oil production, which was affected in 1988 by the loss of Piper Alpha (being 7.6 million tones less than in 1987), was further reduced following the Cormorant Alpha accident in mid-April 1989. Production in 1989 is now expected to be about 19 million tonnes lower than in 1988, before recovering in 1990 to close to its 1988 level.

Given the patterns of production and demand, net imports could increase by 25 million tonnes in 1989 (an increase of 7%) and stay at the same level in 1990.

Natural gas

Demand for natural gas was seriously affected by the climate in the first quarter of 1989 but recovered in the second quarter. With «normal»weather condition, demand for natural gas could increase substantially in both 1989 and 1990.

Total consumption of natural gas decreased by 2% in the first quarter of 1989 but increased by 10.5% during the second. On the basis of partial information, it appears that the power sector increased considerably its use of natural gas during the second quarter of 1989.

With «normal» weather conditions during the forecast period, final demand could increase by 3.8% in 1989 and by 5.2% in 1990.

Due to poor available statistical information, there is great uncertainty concerning the evolution of natural gas prices to big industrial users and to power generation. It is expected that natural gas will probably increase its part in conventional power generation. Total demand for natural gas could increase by 4.5% this year and by 5.4% next year (Tables 5, 8 and 9 and Graph 8).

Solids

Total demand for solid fuels decreased in 1988 for the third consecutive year. However, with increasing demand from the power generating sector, total demand for solids could grow in both 1989 and 1990.

Demand for solid fuels increased during the first half of 1989 and was 3.3% higher than for the same period of 1988.

Total inland deliveries of hard coal could increase by about 1% in both 1989 and 1990 following an increase in deliveries to power plants, but without reaching the level of 1987 (Tables 6,8 and 9 and Graph 9).

However, there is uncertainty as to the capacity of hard coal to increase its relative part in power generation in the short-term. This is in spite of the rise in oil prices. Given the present attitude in some Member States, it is possible that natural gas will penetrate the power sector faster than previously expected. This will slow the growth of coal demand.

Production of hard coal in 1988 was 7.2 million tones less than in 1987. Net imports increased by 3.7 million tonnes. During the first half of 1989, production remained at the same level as last year. According to recent forecasts by Member States, production could decrease by 3 million tonnes by the end of 1989.

Graph 8 - EUR 12
Natural gas - Gross inland consumption and growth rates in %
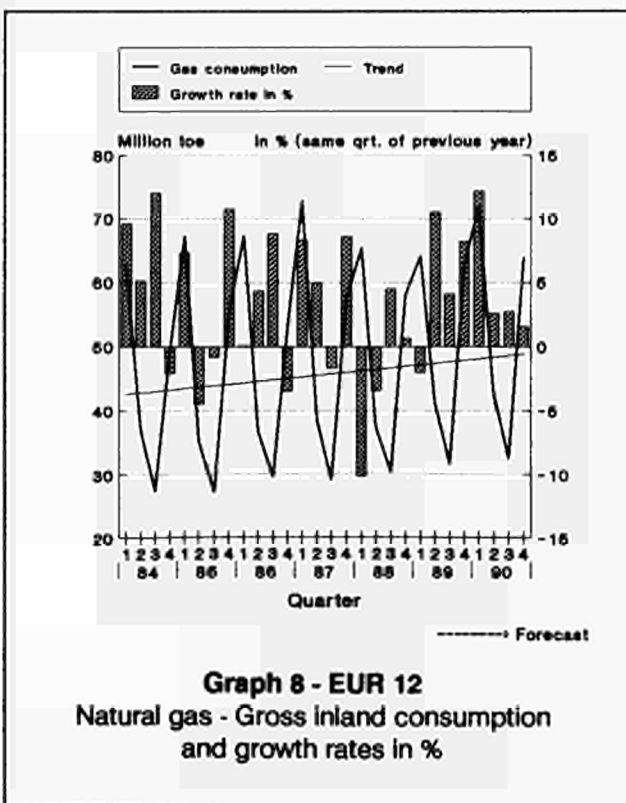
Graph 9 - EUR 12
Hard coal - Total inland deliveries and growth rates in %

Legend:
— Hard coal deliveries — Trend 1/84-4/90
▨ Growth rate in % --- Trend 2/86-4/90

Million t / In % (same qrt. of previous year)

Left axis: 90, 85, 80, 75, 70, 65, 60, 55
Right axis: 40, 30, 20, 10, 0, -10, -20, -30

Quarter
1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4
84 | 85 | 86 | 87 | 88 | 89 | 90

----------> Forecast
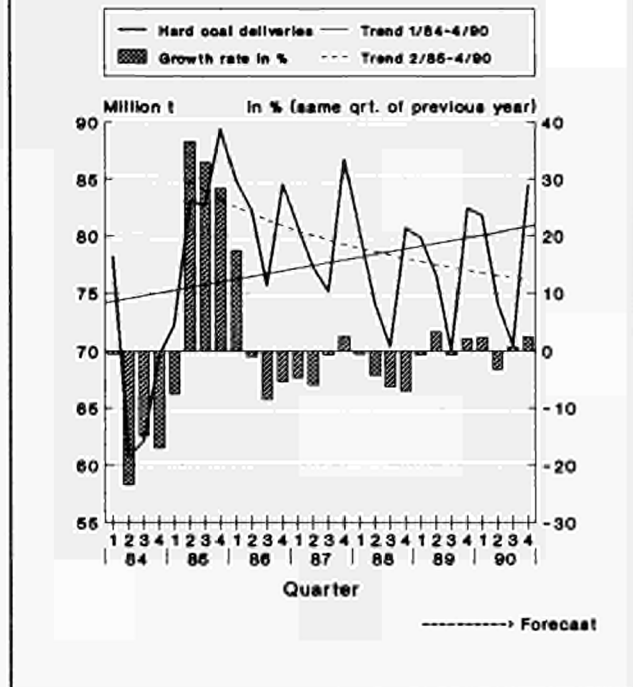
Graph 10 - EUR 12
Electricity - Production and consumption and growth rates in % (consumption)

Legend:
— Generation — Trend gen. — Consumption
--- Trend cons. ▨ Consumption - in %

Twh / In % (same qrt. of previous year)

Left axis: 600, 500, 400, 300, 200, 100, 0
Right axis: 15, 12, 9, 6, 3, 0, -3

Quarter
1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4
84 | 85 | 86 | 87 | 88 | 89 | 90

--------> Forecast
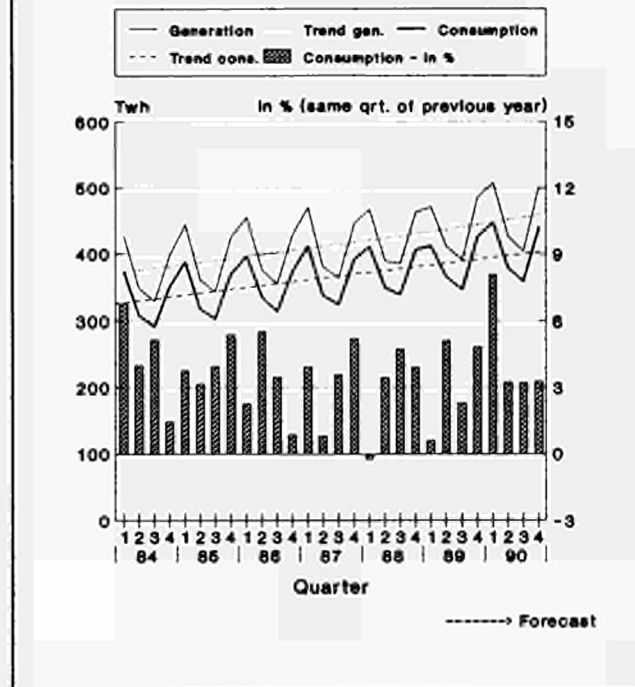
Electricity

Electricity demand was affected by the mild weather during the first quarter of 1989 but increased sharply in the second quarter. By mid-1989 it was by 2.7% higher than in the same period of 1988. Demand could increase by 3.2% in 1989 and by 4.5% in 1990.

Electricity demand in the Community continues to be very strong, even if the observed figures during the last two to three years were moderated by mild weather conditions. (For an estimation of the weather impact, see the May STEO).

Demand growth in 1989 and 1990 is forecast to be 3.2% and 4.5% respectively. This means that electricity intensity in the Community will continue to grow during the forecast period (Tables 7, 8 and 9; Graph 10). The underlying weather corrected growth for 1990 is 3.1%, equal to the GDP growth rate.

The biggest part of this additional demand will probably be satisfied by the nuclear sector. Production of nuclear heat during the first half of 1989 increased by 13.6% and could increase by more than 10% for 1989. However, given that only two new French power plants are expected to become operational in the short term (Penly-1 by the end of 1989 and Golfech-1 in the beginning of 1990), the growth of nuclear production next year could be in the order of 4%.

Hydroelectric production during the 1988/89 winter suffered as a result of low rainfall. By the middle of 1989 it was by 36% lower than in 1988. This production gap was partly covered by conventional thermal power generation (+6.3%). This led to a substantial increase in consumption of all types of fossil fuels: solids (+5.8%), oil (+18.4%) and natural gas (+7.8%).

Given that even with «normal» rainfall, production of hydroelectricity in 1990 could not reach the levels of 1988 (Table 7), production of electricity by conventional thermal power stations could continue to increase and could rise by 4.3% by the end of 1989 and by 3% in 1990. All sources of energy, including oil, will probably increase their contribution to the power sector in 1990, with natural gas growing the fastest.

Total supply

Total primary production of energy decreased by 2.8% during the first half of 1989. This was due mainly to the decreases in the production of hydroelectricity and crude oil. It occurred in spite of the high growth in the nuclear sector. Both indigenous production and net imports could increase in 1990. Dependency on imports, which increased sharply in 1989, could diminish slightly next year.

Due to the important decline of crude oil production (-19.1 Mtoe) and primary electricity (-3.7 Mtoe) and in spite of an increase in the production of other sectors (solids: +0.7 Mtoe, natural gas: +4.6 Mtoe, nuclear: +15.0 Mtoe) total inland primary production could drop in 1989 by 2 to 3 Mtoe (about 0.4%). For this reason net imports could increase by more than 30 Mtoe (6%). (See Table 4 and Graph 11).

With a restored oil production in 1990, total production could increase by 30 Mtoe and net imports by only 8 Mtoe.

Net imports are forecast to represent about 47.5% of total primary energy consumption (including bunkers) in 1989 and 46.8% in 1990, compared to 43.2% in 1985, 44.9% in 1987 (latest observed annual figure) and an estimated 45.9% in 1988.

This evolution shows that since 1986 energy dependency of the Community is increasing as net imports are following a stable upward trend. In 1990 net oil imports could represent a similar percentage of total energy consumption as in 1986 (33.9% against 33.1%, Table 4).

Graph 11 - EUR 12
Energy supply
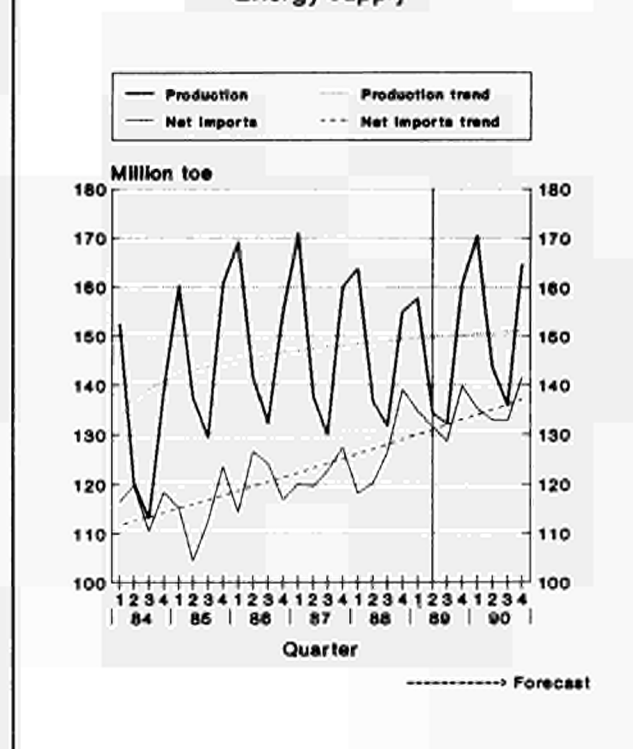
Data and definitions

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). These 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.

Table 4 to Table 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 these tables are discussed in an annex.

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.

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

For more information please contact the editor.

Table 2 - EUR 12
Macroeconomic, oil price, and weather assumptions
(Data available 16 October 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	1987	1988	1989	1990
A. Macroeconomic variables																			
1. Gross Domestic Product (GDP)																			
(1985=100)	108.0	108.7	109.8	110.6	112.2	112.7	113.1	113.9	114.9	116.0	117.1	118.0	97.8	100.0	102.7	105.5	109.3	113.0	118.5
Percentage change																			
from prior year	4.1	3.6	3.6	3.2	3.9	3.7	3.0	3.0	2.4	2.9	3.5	3.8	2.4	2.5	2.7	2.7	3.6	3.4	3.1
from prior quarter(x4)	3.0	2.6	4.0	2.9	5.2	1.9	1.3	2.9	3.4	3.8	3.7	3.3							
2. Private consumption																			
(1985=100)	111.1	111.3	112.9	114.0	114.5	115.3	115.8	117.5	118.4	119.0	119.5	120.1	97.5	100.0	104.1	108.1	112.3	115.8	119.3
Percentage change																			
from prior year	5.0	3.4	3.8	3.4	3.1	3.6	2.8	3.1	3.4	3.2	3.2	2.2	1.6	2.6	4.1	3.9	3.9	3.1	3.0
from prior quarter(x4)	3.3	0.7	5.8	3.9	1.2	2.8	1.8	5.9	2.9	2.0	1.8	1.9							
3. Industrial production																			
(1985=100)	110.7	109.9	99.0	115.1	114.6	114.2	103.5	119.9	119.2	118.8	108.6	125.9	96.6	99.8	102.1	104.2	108.7	113.0	118.1
Percentage change																			
from prior year	4.1	3.6	5.1	4.5	3.5	3.9	4.5	4.2	4.0	4.0	5.0	5.0	2.3	3.4	2.3	2.1	4.3	4.0	4.5
from prior quarter(x4)	2.2	-2.9	-39.7	65.1	-1.7	-1.4	-37.8	63.7	-2.5	-1.4	-34.2	63.7							
4. Steel Production																			
(1985=100)	102.1	102.0	96.3	105.1	106.1	107.2	98.9	105.6	107.7	110.1	102.3	109.9	99.1	99.9	92.7	93.0	101.4	104.5	107.5
Percentage change																			
from prior year	11.1	4.3	11.2	9.9	3.9	5.1	2.7	0.5	1.5	2.7	3.4	4.0	22.6	0.8	-7.2	0.3	9.0	3.0	2.9
from prior quarter(x4)	27.2	-0.4	-22.4	36.6	3.2	4.1	-31.0	27.2	7.8	8.9	-28.5	29.7							
5. Chemical indus.,NACE 25																			
(1985=100, SA)	108.5	109.4	111.2	113.0	114.4	113.8	115.1	115.8	117.3	118.7	120.2	121.4	97.1	99.7	100.4	104.2	110.5	114.8	119.4
Percentage change																			
from prior year	7.1	5.8	5.5	5.9	5.4	4.0	3.5	2.5	2.5	4.3	4.4	4.8	6.1	2.6	0.7	3.8	6.1	3.8	4.0
from prior quarter(x4)	7.0	3.3	6.6	6.3	5.1	-2.1	4.7	2.3	5.1	4.9	5.0	3.9							
6. Consumer price index																			
(1985=100)	108.8	110.1	111.2	112.5	114.2	116.0	116.6	117.6	119.2	120.8	122.1	123.1	94.3	100.0	103.5	106.9	110.7	116.1	121.3
Percentage change																			
from prior year	3.0	3.3	3.7	4.1	5.0	5.4	4.9	4.5	4.4	4.1	4.7	4.7	7.5	6.0	3.5	3.2	3.5	4.9	4.5
from prior quarter(x4)	2.6	4.8	4.0	4.7	6.0	6.3	2.2	3.1	5.7	5.1	4.6	3.1							
7. Exchange rate																			
(1 ECU = xx USD)	1.234	1.216	1.114	1.170	1.126	1.074	1.078	1.070	1.070	1.070	1.070	1.070	0.790	0.762	0.983	1.154	1.184	1.087	1.070
Percentage change																			
from prior quarter	1.6	-1.5	-8.4	5.0	-3.8	-4.6	0.4	-0.7	0.0	0.0	0.0	0.0	-11.4	-3.5	29.0	17.4	2.5	-8.2	-1.6
B. Oil prices																			
Imported crude oil																			
(caf, USD/barrel)	15.92	15.77	14.34	13.08	16.65	18.40	17.50	17.20	17.50	17.50	18.00	18.00	28.96	27.54	14.51	17.87	14.78	17.44	17.75
Percentage change																			
from prior quarter	-10.5	-0.9	-9.1	-8.8	27.3	10.5	-4.9	-1.7	1.7	0.0	2.9	0.0	-3.7	-5.0	-47.3	23.2	-17.3	18.0	1.8
C. Weather																			
Degree days	1134	339	0	936	1069	360	0	1011	1254	432	0	1011	2746	2803	2710	2774	2409	2440	2697
Difference from average	-120	-93	0	-75	-185	-72	0	0	0	0	0	0	49	106	13	77	-288	-257	0

Sources: EUROSTAT, DG XVII

Table 3 - EUR 12
Energy prices
(Last revision: 20 October 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	1987	1988	1989	1990
1. Imported crude oil (cif)																			
USD/barrel	15.92	15.77	14.34	13.08	16.85	18.40	17.5	17.2	17.5	17.5	18.0	18.0	28.98	27.54	14.51	17.87	14.78	17.4	17.8
ECU/barrel	12.90	12.97	12.87	11.18	14.79	17.13	16.2	16.1	16.4	16.4	16.8	16.8	36.77	36.40	14.91	15.50	12.48	16.1	16.6
Growth rate from previous quarter, in %																			
USD/barrel	-10.5	-0.9	-9.1	-8.8	27.3	10.5	-4.9	-1.7	1.7	0.0	2.9	0.0	-3.7	-5.0	-47.3	23.2	-17.3	18.0	1.8
ECU/barrel	-11.9	0.5	-0.7	-13.2	32.3	15.9	-5.2	-1.0	1.7	0.0	2.9	0.0	8.8	-1.0	-59.0	3.9	-19.5	28.7	3.3
Real prices in ECU																			
(in 1985 prices)	11.9	11.8	11.6	9.9	12.9	14.8	13.9	13.7	13.7	13.5	13.8	13.7	39.0	36.4	14.4	14.5	11.3	13.8	13.7
(in 1988 prices)	13.1	13.0	12.8	11.0	14.3	16.3	15.4	15.1	15.2	15.0	15.2	15.1	43.1	40.3	16.0	16.0	12.5	15.3	15.1
Growth rate from previous quarter, in %																			
(in real ECU)	-12.5	-0.7	-1.7	-14.2	30.3	14.1	-5.8	-1.7	0.3	-1.3	1.7	-0.8	1.2	-6.5	-60.4	0.5	-22.2	22.5	-1.1
2. Imported steam coal																			
USD/tce	43.9	47.2	47.1	47.3	47.7	46.7	49.9	50.0	49.7	51.4	51.8	50.9	51.0	51.6	48.3	43.1	46.4	49.1	51.0
ECU/tce	35.5	38.8	42.3	40.4	42.4	45.4	46.3	46.7	46.5	48.1	48.4	47.8	64.7	68.2	49.3	37.4	39.3	45.2	47.6
Growth rate from previous quarter, in %																			
USD/tce	3.0	7.6	-0.2	0.4	0.8	2.2	2.3	0.3	-0.6	3.4	0.7	-1.8	-11.5	1.2	-6.4	-10.8	7.6	5.9	3.8
ECU/tce	1.3	9.2	8.9	-4.4	4.8	7.1	2.0	1.0	-0.6	3.4	0.7	-1.8	-0.0	5.3	-27.7	-24.2	5.1	15.1	5.4
3. Oil products - final consumer prices																			
Gasoline (ECU/1000 lt)	599	618	623	617	650	702	693	695	717	720	738	727	722.2	752.4	624.5	615.2	614.6	684.9	725.6
Diesel (ECU/1000 lt)	381	382	384	378	397	416	417	426	434	436	441	442	481.4	506.1	396.8	386.0	381.1	414.2	438.3
Heating oil (ECU/1000lt)	232	234	236	233	256	261	263	275	288	281	292	287	370.3	395.8	258.0	246.3	234.0	263.8	286.7
Residual Fuel Oil (ECU/t)	93	97	99	88	101	109	109	107	110	112	116	118	242.4	243.4	122.1	117.8	94.3	106.8	114.1
Growth rate from previous quarter, in %																			
Gasoline	-2.1	3.2	0.8	-1.0	5.2	8.0	-1.2	0.2	3.2	0.4	2.6	-1.5	4.6	4.2	-17.0	-1.5	-0.1	11.4	6.0
Diesel	-1.8	0.3	0.6	-1.5	5.1	4.7	0.3	2.2	1.7	0.5	1.1	0.3	5.5	5.1	-21.6	-2.7	-1.3	8.7	5.6
Heating oil	-6.7	0.7	0.9	-1.4	9.9	2.0	0.8	4.5	4.6	-2.1	3.6	-1.7	5.5	6.9	-34.8	-3.8	-5.8	12.8	8.7
Residual Fuel Oil	-18.5	4.9	1.6	-11.4	14.5	8.8	-0.3	-1.5	2.8	1.9	2.9	1.8	17.9	0.4	-49.8	-3.6	-19.9	13.0	7.1
4. Natural gas - final consumer prices																			
Households (1984 =100)	80.5	80.7	84.0	84.8	82.0	84.0	86.7	83.9	86.6	89.9	93.4	90.0	100.0	105.5	96.6	80.9	82.5	84.1	90.0
Industry (1984 =100)	57.2	54.8	53.8	53.1	55.4	56.1	56.1	58.0	62.8	61.7	61.9	62.4	100.0	104.6	74.0	57.6	54.7	56.4	62.2
Growth rate from previous quarter, in %																			
Households	1.7	0.2	4.2	0.9	-3.3	2.5	3.2	-3.3	3.4	3.8	4.0	-3.6	4.4	5.5	-8.4	-16.3	2.0	2.0	7.0
Industry	-1.2	-4.3	-1.8	-1.3	4.4	1.2	-0.0	3.4	6.3	-1.6	0.3	0.6	10.8	4.6	-29.3	-22.1	-5.0	3.1	10.2
5. Coal - final consumer prices																			
Households (ECU/t)	204.8	202.3	202.6	209.5	210.5	208.9	210.0	213.1	215.5	212.1	212.7	215.6	193.8	203.6	199.1	200.0	204.8	210.6	214.0
Industry (ECU/t)	92.5	89.5	89.7	89.3	89.6	89.4	89.3	89.2	90.1	89.9	89.9	89.6	94.1	96.6	92.7	91.8	90.3	89.4	89.9
Growth rate from previous quarter, in %																			
Households	1.0	-1.2	0.2	3.4	0.4	-0.6	0.5	1.5	1.1	-1.6	0.3	1.4	10.1	5.1	-2.2	0.5	2.4	2.8	1.6
Industry	0.8	-3.2	0.2	-0.4	0.2	-0.2	0.0	-0.2	1.1	-0.2	0.0	-0.2	1.7	2.7	-4.1	-0.9	-1.7	-1.0	0.7
6. Electricity - final consumer prices																			
Households (ECU/100 Kwh)	10.5	10.6	10.9	10.8	10.9	11.1	11.4	11.5	11.7	11.9	12.2	12.3	10.2	10.6	10.5	10.5	10.7	11.2	12.0
Industry (ECU/100 Kwh)	6.0	5.8	5.8	6.0	6.1	6.1	6.2	8.3	6.5	6.5	6.6	6.7	5.8	6.0	5.9	5.8	5.9	6.2	6.6
Growth rate from previous quarter, in %																			
Households	-1.7	1.1	2.3	-0.4	1.0	1.7	2.9	0.5	1.7	1.6	2.8	0.7	6.0	3.8	-0.6	-0.2	1.8	5.0	6.9
Industry	-0.8	-3.1	1.0	3.5	1.5	-0.3	1.8	2.3	3.0	-1.0	1.4	2.3	4.2	4.2	-2.2	-1.0	1.4	5.1	6.1

Sources: IEA, DG XVII estimates

Table 4 - EUR 12
Primary energy balance (million toe)
(Last revision: 20 October 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	Year 1984	1985	1986	1987	1988	1989	1990
Primary production																			
Solid fuels:	41.5	39.0	38.0	43.1	43.0	39.6	37.4	42.3	42.4	38.5	36.7	41.9	145.2	169.7	173.7	166.8	161.8	162.3	159.5
Hard coal	33.5	31.8	30.1	34.2	34.1	31.2	29.2	33.3	33.1	30.4	28.3	32.3	107.5	133.8	139.6	134.1	129.7	127.8	124.2
Lignite	8.0	7.2	7.9	8.9	8.8	8.4	8.2	9.0	9.3	8.1	8.4	9.6	37.7	35.9	34.0	32.7	32.0	34.5	35.3
Oil	38.2	35.8	33.3	32.9	29.3	26.1	31.9	33.7	34.3	32.7	33.8	35.6	145.5	149.2	150.1	148.0	140.1	121.0	136.3
Natural gas	40.1	23.2	20.0	35.3	38.9	26.3	20.1	37.8	43.7	26.7	21.3	39.4	119.4	126.7	123.6	128.5	118.5	123.1	131.2
Heat	38.9	33.2	36.2	39.9	43.5	38.2	38.6	42.7	45.8	40.6	39.9	43.7	97.8	126.0	134.4	138.3	148.2	163.3	169.9
Nuclear	38.3	32.6	35.6	39.3	42.9	37.6	38.2	42.1	45.1	40.0	39.2	43.1	95.5	123.9	132.2	135.9	145.8	160.8	167.5
Geothermy	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	2.2	2.1	2.2	2.3	2.4	2.5	2.5
Primary electricity	4.6	4.9	3.7	3.3	2.5	3.6	3.3	3.4	3.6	4.4	3.5	3.4	15.0	14.6	14.3	15.0	16.5	12.8	14.9
Other	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.7	1.8	1.7	2.2	2.2	2.3	2.4
TOTAL	163.9	136.6	131.6	155.1	157.8	134.3	132.1	160.6	170.5	143.4	135.7	164.7	524.5	587.8	597.8	598.7	587.2	584.9	614.3
Recovered Production																			
Hard Coal	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.5	0.6	2.4	3.3	3.1	2.3	2.3	2.2	2.3
Oil	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	1.6	1.2	1.3	1.3	1.3
TOTAL	0.9	1.0	0.9	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	2.7	3.6	4.7	3.5	3.6	3.5	3.6
Net imports																			
Solid fuels:	15.7	15.0	15.1	15.7	16.2	17.0	13.6	15.5	17.3	16.4	15.5	17.7	56.9	62.4	59.7	59.2	61.6	62.3	66.9
Hard coal	15.3	15.0	15.1	15.7	16.2	16.7	13.7	15.3	17.2	16.0	15.3	17.9	55.8	62.3	59.3	58.5	61.2	61.9	66.4
Oil	83.2	86.8	94.8	102.8	97.1	94.9	99.1	102.2	95.0	96.5	100.8	101.4	349.8	333.3	356.2	357.3	367.7	393.3	393.8
Natural gas	19.0	17.7	16.0	20.2	21.0	19.0	15.2	21.7	22.8	19.3	15.8	22.2	57.0	59.1	64.8	71.8	72.9	77.0	79.8
Electricity	0.3	0.7	0.5	0.3	0.2	0.6	0.7	0.3	0.3	0.8	0.7	0.3	1.5	1.2	1.2	1.6	1.8	1.9	1.9
TOTAL	118.2	120.3	126.4	139.1	134.6	131.5	128.6	139.7	135.2	132.8	132.7	141.6	465.3	456.0	481.9	489.9	503.9	534.4	542.3
Change in stocks																			
Solid fuels:	-3.9	3.3	2.1	-1.8	-2.4	2.6	2.5	-3.2	-3.5	2.0	2.9	-3.0	-15.2	-4.1	5.8	-2.6	-0.3	-0.6	-1.5
Hard coal	-4.0	3.5	2.6	-1.0	-1.4	3.3	2.5	-2.7	-2.8	2.5	3.0	-2.4	-12.4	-0.4	4.4	-4.2	1.2	1.7	0.2
Coke	-0.0	-0.2	-0.5	-0.8	-1.0	-0.7	-0.2	-0.6	-0.6	-0.6	-0.2	-0.6	-3.5	-2.6	1.5	0.9	-1.5	-2.5	-2.2
Oil	-6.8	3.8	3.5	-1.9	-2.2	0.9	3.6	-2.3	-4.3	3.1	5.3	-2.8	-3.5	0.7	3.7	2.1	-1.4	0.2	1.5
Natural gas	-6.4	3.6	5.7	-2.6	-4.2	4.0	3.6	-3.4	-5.7	3.7	4.7	-2.3	0.1	1.3	1.6	1.4	0.2	0.3	0.4
TOTAL	-17.2	10.7	11.3	-6.2	-8.8	7.4	10.1	-8.6	-13.4	8.7	12.9	-7.8	-18.5	-2.1	11.1	0.9	-1.5	-0.2	0.4
Bunkers	7.3	7.4	8.2	8.0	7.2	7.8	8.6	8.1	7.8	8.0	8.3	7.8	23.8	26.2	30.5	29.5	31.0	31.7	32.0
Apparent gross consumption																			
Solid fuels:	61.7	51.3	51.5	61.2	62.1	54.5	49.1	61.7	63.8	53.5	49.7	63.2	219.7	239.5	230.7	230.8	225.7	227.3	230.2
Hard coal	53.3	43.9	43.1	51.5	52.2	45.1	40.8	52.0	53.7	44.4	41.1	53.3	178.2	199.8	197.6	198.9	191.8	190.2	192.6
Coke	0.1	0.1	0.3	0.5	0.7	0.7	0.2	0.3	0.6	0.6	0.2	0.3	2.7	1.3	-2.5	-1.2	1.0	1.9	1.8
Lignite	8.3	7.3	8.0	9.2	9.1	8.7	8.0	9.4	9.4	8.4	8.4	9.6	38.8	38.4	35.6	33.1	32.9	35.3	35.8
Oil	121.3	111.8	116.8	129.8	121.8	112.7	118.8	130.4	126.0	118.4	121.3	132.1	475.3	455.9	473.7	474.9	479.6	483.8	497.8
Natural gas	65.5	37.3	30.3	58.1	64.2	41.3	31.6	62.8	72.0	42.3	32.4	63.8	176.2	184.5	186.8	198.9	191.2	199.8	210.5
Heat	38.9	33.2	36.2	39.9	43.5	38.2	38.6	42.7	45.8	40.6	39.9	43.7	97.8	126.0	134.4	138.3	148.2	163.3	169.9
Primary electricity	4.9	5.6	4.1	3.6	2.7	4.2	4.0	3.7	4.0	5.0	4.2	3.6	16.5	15.8	15.5	16.5	18.3	14.7	16.9
Other	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.6	0.6	0.6	1.7	1.8	1.7	2.2	2.2	2.3	2.4
TOTAL	292.9	239.8	239.4	293.2	294.9	251.5	242.8	302.0	312.2	260.4	248.0	307.1	987.2	1023.4	1042.8	1061.5	1065.2	1091.1	1127.8
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	0.0	-0.5	0.7	-0.7	-0.5	0.0	0.0
Oil	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	-3.3	8.7	0.3	1.8	2.0	2.0	0.0
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.0	-0.6	0.0	0.0	0.0
Heat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	-0.2	0.1	0.4	0.0	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	0.1	0.1	0.0	0.0	0.0
TOTAL	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	3.9	8.2	1.2	1.0	1.5	2.0	0.0
Gross inland consumption																			
Solid fuels	61.6	51.2	51.3	61.1	62.1	54.5	49.1	61.7	63.8	53.5	49.7	63.2	219.7	239.0	231.5	230.0	225.2	227.3	230.2
Oil	121.8	112.3	117.3	130.3	122.3	113.2	118.3	130.9	126.0	118.4	121.3	132.1	472.0	462.6	474.0	476.7	481.6	485.8	497.8
Natural gas	65.5	37.3	30.3	58.1	64.2	41.3	31.6	62.8	72.0	42.3	32.4	63.8	176.7	184.7	186.8	198.3	191.2	199.8	210.5
Heat	38.9	33.2	36.2	39.9	43.5	38.2	38.6	42.7	45.8	40.6	39.9	43.7	104.5	125.7	134.5	138.6	148.2	163.3	169.9
Primary electricity	4.9	5.6	4.1	3.6	2.7	4.2	4.0	3.7	4.0	5.0	4.2	3.6	16.6	15.8	15.6	16.7	18.3	14.7	16.9
Other	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.8	0.8	0.6	0.6	0.6	1.7	1.8	1.7	2.2	2.2	2.3	2.4
TOTAL	293.3	240.1	239.8	293.6	295.4	252.0	243.3	302.5	312.2	260.4	248.0	307.1	991.1	1029.6	1044.1	1062.5	1066.7	1093.1	1127.8
Net imports as % of consumption																			
Hard Coal	28.7	34.3	35.1	30.8	31.1	37.1	33.4	29.5	32.0	35.9	37.3	33.8	31.4	31.2	30.0	29.5	31.9	32.8	34.5
Oil	64.5	72.5	75.6	74.3	75.0	78.4	77.4	73.5	70.9	76.3	77.7	72.5	70.6	68.2	70.6	70.6	71.7	76.0	74.3
Natural gas	28.9	47.5	52.9	34.8	32.8	46.1	48.3	34.5	31.4	45.6	48.6	34.7	32.3	32.0	34.7	36.2	38.1	38.5	37.9
TOTAL	39.3	48.6	51.0	46.1	44.5	50.6	51.0	45.0	42.2	49.5	51.8	45.0	45.8	43.2	44.8	44.9	45.9	47.5	46.8
Oil imports as % of total energy consumption																			
	27.7	35.1	38.2	34.1	32.1	36.5	39.3	32.9	29.7	35.9	39.3	32.2	34.5	31.6	33.1	32.7	33.5	35.0	33.9

TABLE 5 - EUR 12
Oil and natural gas: Supply and disposal
(Last revision: 20 October1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	1987	1988	1989	1990
1. Oil (Million tonnes)																			
Primary production	37.8	35.4	32.9	32.5	29.0	25.9	31.6	33.4	34.0	32.3	33.4	35.2	144.0	147.7	148.5	146.4	138.8	119.8	135.0
of which:																			
Crude	36.6	34.5	32.0	31.3	27.9	25.0	30.8	32.4	33.0	31.6	32.7	34.4	140.3	144.2	143.7	141.2	134.4	116.1	131.7
Oil products	1.1	1.0	0.9	1.2	1.0	0.8	0.8	1.0	0.9	0.7	0.7	0.9	3.7	3.5	4.8	5.2	4.2	3.6	3.2
Recovered production	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	1.5	1.1	1.2	1.2	1.2
Change in stocks	-7.0	3.9	3.6	-1.9	-2.3	0.9	3.8	-2.3	-4.3	3.1	5.3	-2.8	-3.5	0.7	3.8	2.2	-1.4	0.1	1.5
Net imports	83.1	86.6	94.6	102.8	96.9	94.6	98.9	102.0	94.8	96.3	100.8	101.2	349.5	332.6	355.4	356.6	366.8	392.4	392.9
Bunkers	7.5	7.7	8.4	8.3	7.4	8.0	8.9	8.4	8.1	8.3	8.8	8.1	24.5	27.0	31.4	30.4	31.9	32.7	33.0
Apparent consumption	120.8	110.9	115.8	128.9	121.0	111.8	118.0	129.8	125.2	117.8	120.5	131.2	472.7	452.9	470.2	471.4	476.2	480.5	494.6
Adjustment	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	-2.3	7.3	0.7	1.6	2.0	2.0	0.0
Gross inland consumption	121.1	111.4	116.3	129.4	121.5	112.3	118.5	130.1	125.2	117.6	120.5	131.2	470.4	460.1	470.9	473.1	478.2	482.5	494.6
Transformation input	125.0	124.3	134.4	142.2	132.1	125.4	133.8	140.7	133.3	129.5	138.1	144.8	517.7	492.3	515.6	506.7	525.9	532.1	545.6
of which:																			
Refineries	115.0	116.0	125.4	130.6	119.9	116.1	125.4	129.3	120.7	120.7	129.3	132.9	462.3	448.9	476.1	467.0	487.0	490.7	503.6
Power generation	9.6	7.9	8.5	11.3	11.8	8.9	8.0	11.0	12.1	8.4	8.4	11.5	52.9	41.3	37.3	38.0	37.2	39.7	40.4
Refineries gross output	114.5	115.3	124.3	130.4	118.8	115.4	124.8	128.8	120.5	120.1	128.8	132.5	456.6	444.6	473.1	464.2	484.5	487.7	501.9
Refineries consumption	7.0	6.7	7.0	7.3	7.2	7.0	7.2	7.5	7.4	7.1	7.3	7.7	25.7	24.8	27.4	27.2	28.1	28.9	29.4
Refineries net output	107.5	108.5	117.3	123.1	111.5	108.4	117.6	121.3	113.1	113.0	121.5	124.8	430.9	419.8	445.7	437.0	456.4	458.8	472.4
Avail.final consumption	103.6	95.6	99.2	110.3	101.0	95.3	102.3	110.6	105.0	101.2	104.0	111.3	383.5	387.6	401.0	403.4	408.7	409.2	421.4
Final consumption (est)	103.1	98.0	100.4	110.0	102.3	97.2	102.3	110.6	105.0	101.2	104.0	111.3	390.1	385.8	401.6	402.7	411.5	412.5	421.4
Statistical difference	0.5	-2.4	-1.2	0.3	-1.4	-1.9	0.0	0.0	0.0	0.0	0.0	0.0	-6.6	1.9	-0.7	0.8	-2.8	-3.3	0.0
Inland Deliveries:																			
Motor gasoline	23.5	25.5	26.8	25.2	24.1	26.0	27.7	25.5	24.3	27.1	28.3	26.4	91.6	91.2	95.5	97.9	101.0	103.4	106.1
Kerosenes	5.7	6.3	7.2	6.3	5.8	6.5	7.5	6.7	6.2	6.8	7.7	6.8	21.0	21.7	22.8	24.0	25.5	26.5	27.5
Gas/diesel oil-total	45.8	37.4	38.4	47.8	43.1	36.2	38.7	47.9	45.4	38.4	39.4	47.1	155.9	162.3	169.9	168.5	169.3	165.8	170.3
of which:																			
Autom.Diesel	17.9	18.9	19.1	20.2	19.2	20.3	20.4	21.0	20.1	21.7	22.0	22.4	49.6	60.8	65.8	69.9	76.1	81.0	86.2
Heating Gas oil	27.9	18.4	19.4	27.5	23.8	15.9	18.3	26.9	25.3	16.7	17.4	24.7	106.3	101.4	104.1	98.5	93.2	84.8	84.1
Heavy fuel oil	17.4	15.5	14.8	19.9	19.7	15.6	14.3	18.6	19.4	14.7	14.2	18.6	98.2	78.1	74.2	70.4	67.6	68.1	66.9
Other products	20.7	21.7	22.0	22.6	21.9	22.2	22.7	23.4	22.4	23.0	23.1	24.2	78.9	76.0	78.8	81.6	87.0	90.1	92.7
TOTAL	113.1	106.3	109.3	121.7	114.5	106.5	110.7	122.0	117.6	110.0	112.7	123.1	445.6	429.2	441.1	442.3	450.4	453.8	463.4
Total Oil Stocks (end of period)	120.5	124.4	128.0	126.1	123.7	124.7	128.5	126.2	122.0	125.0	130.3	127.7	120.9	121.5	125.4	127.5	126.1	126.2	127.7
2. Natural gas (Million toe)																			
Primary production	40.1	23.2	20.0	35.3	38.9	26.3	20.1	37.8	43.7	26.7	21.3	39.4	119.4	126.7	123.6	128.5	118.5	123.1	131.2
Change in stocks	-6.4	3.6	5.7	-2.6	-4.2	4.0	3.8	-3.4	-5.7	3.7	4.7	-2.3	0.1	1.3	1.6	1.4	0.2	0.3	0.4
Net imports	19.0	17.7	16.0	20.2	21.0	19.0	15.2	21.7	22.6	19.3	15.8	22.2	57.0	59.1	64.8	71.8	72.9	77.0	79.8
Apparent consumption	65.5	37.3	30.3	58.1	64.2	41.3	31.6	62.8	72.0	42.3	32.4	63.8	176.2	164.5	186.8	198.9	191.2	199.8	210.5
Adjustment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.2	0.0	-0.6	0.0	0.0	0.0
Gross inland consumption	65.5	37.3	30.3	58.1	64.2	41.3	31.6	62.8	72.0	42.3	32.4	63.8	176.7	164.7	186.8	198.3	191.2	199.6	210.5
of which:																			
Power generation	6.4	5.1	4.8	6.5	6.4	6.0	5.3	7.3	7.5	5.6	5.7	7.7	24.8	22.7	21.9	23.8	22.8	25.0	26.5
Final consumption (est)	56.4	30.7	24.2	49.2	55.1	33.8	25.0	52.9	61.5	35.0	25.4	53.5	145.4	155.1	156.8	186.3	160.8	166.6	175.4

Table 6 - EUR 12
Solid fuels: Supply and disposal (*)
(Last revision: 20 October 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	1987	1988	1989	1990
1. Hard coal (Million tonnes)																			
Primary production	55.4	52.7	49.8	56.8	56.4	51.8	48.3	55.1	54.8	50.2	48.8	53.4	172.6	217.5	228.2	221.8	214.8	211.6	205.3
Recovered production	1.3	1.3	1.3	1.3	1.1	1.1	1.2	1.4	1.4	1.3	1.2	1.3	5.4	7.4	6.8	5.0	5.0	4.8	5.1
Change in stocks:																			
Collieries	-0.4	1.0	1.3	-0.7	2.5	2.1	0.3	-2.6	0.6	1.9	0.9	-2.4	-8.0	-10.3	0.3	-2.8	1.2	2.3	0.9
Power plants	-6.2	5.2	3.1	-1.5	-5.2	3.8	4.1	-2.2	-5.6	2.5	4.4	-1.8	-13.0	8.2	8.2	-4.3	0.6	0.5	-0.5
Coking plants	0.2	-0.1	-0.2	0.4	-0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	1.4	-0.8	-0.1	0.2	-0.1	0.0
Total	-6.4	6.1	4.2	-1.8	-2.7	5.8	4.4	-4.8	-4.9	4.4	5.3	-4.3	-21.5	-0.7	7.6	-7.2	2.1	2.7	0.4
Net imports	23.2	22.9	22.9	24.0	24.7	25.5	20.9	23.4	26.3	24.4	23.4	27.3	88.4	96.4	91.8	89.3	93.0	94.4	101.4
Apparent consumption	86.3	70.7	69.7	83.8	84.9	72.8	65.9	84.7	87.3	71.5	66.1	86.4	285.9	322.0	319.2	323.1	310.5	308.1	311.2
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	-0.5	-0.2	0.2	-1.6	-1.5	0.0	0.0
Gross inland consumption	85.9	70.4	69.3	83.4	84.9	72.8	65.9	84.7	87.3	71.5	66.1	86.4	285.4	321.8	319.4	321.6	309.0	308.1	311.2
Transformation input	75.8	59.5	58.2	71.2	76.1	63.4	57.2	74.2	78.0	62.4	57.6	76.0	245.7	272.9	276.9	279.8	264.7	271.0	273.9
of which:																			
Power generation	57.3	42.2	40.3	53.1	57.8	45.1	39.8	56.4	60.6	44.8	40.3	58.6	167.9	188.2	195.4	204.9	193.0	199.0	204.3
Coke	17.8	16.6	17.2	17.4	17.8	17.8	17.0	17.0	16.7	17.0	16.7	16.7	75.1	81.3	78.1	71.9	69.1	69.6	67.1
Production patent fuels	0.6	0.6	0.6	0.7	0.4	0.4	0.5	0.7	0.6	0.5	0.5	0.7	3.1	3.8	3.2	3.0	2.5	2.1	2.2
Avail.final consumption	10.7	11.4	11.7	12.9	9.2	9.7	9.1	11.1	9.9	9.8	9.0	11.0	42.7	52.5	45.6	44.7	46.7	39.2	39.5
Final consumption (est)	11.4	9.8	9.7	11.6	9.4	9.7	9.1	11.1	9.9	9.6	9.0	11.0	41.1	50.0	45.4	47.5	42.6	39.3	39.5
Industry	6.6	6.2	6.0	7.1	5.6	6.1	5.9	6.8	5.6	6.1	5.8	6.8	22.0	28.1	24.1	27.6	25.9	24.5	24.4
Domestic	4.9	3.6	3.7	4.5	3.8	3.6	3.2	4.3	4.3	3.5	3.1	4.2	19.0	21.9	21.3	19.9	16.7	14.9	15.1
Statistical difference	-0.7	1.6	2.0	1.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.7	2.5	0.2	-2.7	4.1	-0.2	0.0
Deliveries of hard coal to:																			
Power plants	49.4	45.8	41.8	49.7	51.1	47.2	42.2	52.4	53.6	45.7	43.1	54.9	146.5	189.2	195.3	194.9	186.7	192.9	197.2
Coking plants	17.8	16.6	17.2	17.4	17.8	17.8	17.0	17.0	16.7	17.0	16.7	16.7	75.1	81.3	78.1	71.9	69.1	69.6	67.1
Patent plants	0.6	0.7	0.6	0.7	0.5	0.6	0.6	0.8	0.6	0.6	0.5	0.7	2.8	3.4	3.4	3.0	2.7	2.4	2.5
All industries	7.9	7.6	7.4	8.7	6.8	7.5	7.2	8.4	6.8	7.5	7.1	8.4	28.8	33.6	30.9	31.9	31.5	29.8	29.8
Households	4.3	3.0	3.1	3.8	3.4	3.2	2.7	3.6	3.7	3.0	2.7	3.5	16.0	18.3	18.1	16.9	14.3	12.8	12.9
Other	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.6	1.8	1.4	1.5	1.2	1.2	1.2
TOTAL	80.4	74.0	70.4	80.7	79.8	76.5	70.0	82.4	81.7	74.0	70.5	84.5	270.7	327.5	327.3	320.0	305.5	308.8	310.7
Power sector:																			
Deliv. to power plants	49.4	45.8	41.8	49.7	51.1	47.2	42.2	52.4	53.6	45.7	43.1	54.9	146.5	189.2	195.3	194.9	186.7	192.9	197.2
Industry	1.7	1.7	1.6	1.9	1.5	1.8	1.6	1.8	1.5	1.6	1.6	1.8	8.4	7.2	8.3	5.8	6.9	6.6	6.6
Total	51.1	47.4	43.5	51.6	52.6	48.9	43.8	54.2	55.1	47.3	44.7	56.7	154.9	196.4	203.6	200.6	193.6	199.5	203.8
Change in stocks	-6.2	5.2	3.1	-1.5	-5.2	3.8	4.1	-2.2	-5.8	2.5	4.4	-1.8	-13.0	8.2	8.2	-4.3	0.6	0.5	-0.5
Consumption in power stations	57.3	42.2	40.3	53.1	57.8	45.1	39.6	56.4	60.6	44.8	40.3	58.6	167.9	188.2	195.4	204.9	193.0	199.0	204.3
2. Hard coke (Million tonnes)																			
Coking plants																			
Production	13.4	13.1	13.0	12.9	12.8	12.9	12.9	12.9	12.7	12.9	12.7	12.7	56.2	60.8	58.4	53.8	52.5	51.5	50.9
Change in stocks	0.0	-0.3	-0.7	-1.2	-1.5	-1.1	-0.3	-0.8	-1.2	-0.9	-0.2	-0.9	-5.2	-3.9	2.2	1.4	-2.2	-3.7	-3.3
Deliveries to the iron and steel industry	11.7	11.7	11.7	12.1	12.2	11.9	11.4	11.8	11.8	11.9	11.3	11.5	52.1	53.2	47.9	45.0	47.1	47.1	46.5
3. Lignite (Million tonnes)																			
Production	44.9	39.8	44.2	49.3	49.3	46.6	46.3	50.7	52.2	45.4	47.0	53.9	196.4	186.8	183.0	180.6	178.2	192.9	198.5
Gross inland consumption	45.9	40.5	44.6	50.2	50.1	47.4	45.6	51.3	52.3	46.1	46.8	53.6	197.9	195.6	187.5	180.9	181.1	194.4	198.8
Consumption in power stations	37.8	34.5	38.5	44.1	42.4	40.9	39.7	45.3	44.6	39.9	41.0	47.7	174.1	170.9	162.7	157.2	154.8	168.3	173.4

(*) Notes:

1) Final demand figures for hard coal include patent fuels

2) From 1987 Spanish black lignite ("negro") is included in hard coal figures

Table 7 - EUR 12
Electricity : Generation and disposal
(Last revision: 20 October 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	1987	1988	1989	1990

1. Electrical power (TWh)

A. Generation

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	1987	1988	1989	1990
Total gross generation	446.6	390.1	385.9	463.5	470.9	413.2	391.7	485.8	508.1	427.0	404.1	501.4	1499.9	1571.1	1612.0	1659.3	1706.1	1761.6	1840.7
(Produced by pumping)	3.1	3.1	3.1	3.1	3.1	3.3	3.1	3.3	3.1	3.1	2.9	3.1	12.2	13.6	11.6	11.9	12.4	12.8	12.3
net of pumping	463.5	387.1	382.8	460.4	467.8	409.8	388.6	482.5	505.0	423.9	401.2	498.3	1487.7	1557.5	1600.4	1647.4	1693.8	1748.8	1828.4
of which:																			
Primary (hydro):	54.0	56.8	42.5	38.9	29.2	41.7	38.1	39.9	42.4	50.9	40.4	40.0	174.1	169.9	166.3	173.9	192.3	149.0	173.6
Derived:	409.5	330.3	340.2	421.5	438.6	368.1	350.5	442.7	462.6	373.0	360.9	458.3	1313.6	1387.6	1434.1	1473.4	1501.5	1599.8	1654.8
Nuclear	152.8	130.2	138.8	159.1	171.7	149.6	150.8	167.6	180.3	159.1	155.1	171.9	399.0	483.2	522.6	538.2	580.9	639.9	666.4
Conventional thermal	255.9	199.3	200.7	261.6	266.1	217.7	198.9	274.1	281.5	213.1	205.0	285.6	911.7	901.7	908.7	932.2	917.6	956.8	985.3
Geothermal	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	2.8	2.7	2.8	3.0	3.1	3.1	3.1
Total net production	441.1	369.3	362.9	437.1	444.9	390.1	368.7	458.2	479.5	402.8	380.3	472.8	1419.5	1486.3	1523.5	1567.7	1610.4	1661.9	1735.4
net of pumping	438.1	366.3	359.7	434.0	441.8	386.8	365.6	454.9	476.4	399.6	377.4	469.7	1407.3	1472.7	1511.9	1555.8	1598.1	1649.1	1723.1

B. Disposal

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	1987	1988	1989	1990
Total gross generation	446.6	390.1	385.9	463.5	470.9	413.2	391.7	485.8	508.1	427.0	404.1	501.4	1499.9	1571.1	1612.0	1659.3	1706.1	1761.6	1840.7
Net Imports	3.4	8.3	5.5	3.3	2.7	7.4	7.9	3.5	3.7	7.2	7.9	3.7	18.0	14.3	13.7	18.5	20.5	21.5	22.5
Gross inland consuption	470.0	398.5	391.4	466.8	473.6	420.6	399.6	489.3	511.9	434.2	412.0	505.1	1517.9	1585.4	1625.6	1677.8	1726.7	1783.1	1863.2
Absorbed by Pumping	4.2	4.1	4.2	4.3	4.5	4.7	4.3	4.5	4.3	4.3	4.1	4.3	17.0	18.8	17.3	16.4	16.8	16.1	17.1
Production Losses	25.5	20.8	23.0	26.5	26.0	23.0	23.0	27.6	28.6	24.2	23.8	28.7	80.4	64.8	88.5	91.6	95.7	99.7	105.3
Available for int.market	440.4	373.5	364.1	436.1	443.1	392.8	372.2	457.2	478.9	405.6	384.2	472.1	1420.5	1481.8	1519.9	1569.8	1614.1	1665.4	1740.9
Distribution losses	29.4	24.6	24.3	29.2	29.7	26.0	24.7	30.6	32.0	26.9	25.5	31.6	98.3	105.4	103.5	104.5	107.5	111.0	116.0
Consumption int.market	411.0	349.0	339.8	406.9	413.5	366.8	347.6	426.6	446.9	378.7	358.7	440.5	1322.1	1376.4	1416.3	1465.3	1506.6	1554.4	1624.9
Energy branch consumption	19.6	16.4	16.2	19.5	19.8	17.4	16.5	20.4	21.3	17.9	17.0	21.1	59.3	64.8	71.8	69.8	71.7	74.0	77.3
Final consumption (est)	391.4	332.6	323.6	387.4	393.7	349.4	331.1	406.1	425.6	360.8	341.7	419.5	1263.7	1310.5	1345.7	1397.1	1435.0	1480.4	1547.6

2. Input to conventional thermal power stations (Million toe)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	1987	1988	1989	1990
Hard coal	33.0	24.3	23.3	30.6	33.3	26.0	22.9	32.5	34.9	25.6	23.2	33.8	96.7	107.2	112.4	117.5	111.3	114.7	117.8
Lignite	6.8	6.2	7.0	8.0	7.7	7.4	7.2	8.2	8.1	7.2	7.4	8.6	33.4	32.5	30.7	28.5	28.0	30.5	31.4
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	0.0	0.7	0.6	0.6	0.3	0.3	0.3	0.2
Petroleum products	9.2	7.6	8.1	10.8	11.3	8.5	7.7	10.5	11.6	8.1	8.0	11.0	50.7	39.4	35.8	36.3	35.7	38.1	38.7
Natural gas	6.4	5.1	4.8	6.5	6.4	6.0	5.3	7.3	7.5	5.6	5.7	7.7	24.8	22.7	21.9	23.8	22.8	25.0	26.5
Derived gas	1.4	1.4	1.6	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	5.4	5.5	5.5	5.1	5.8	5.6	5.8
Other	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	1.7	1.8	1.7	2.2	2.2	2.3	2.4
TOTAL, excl Geothermal	57.5	45.3	45.5	57.9	60.8	49.9	45.1	60.7	64.3	48.8	46.4	63.3	213.4	209.8	208.8	213.8	206.2	216.4	222.8
Geothermal	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	2.2	2.1	2.2	2.3	2.4	2.5	2.5
TOTAL	58.1	45.9	46.1	58.5	61.4	50.5	45.7	61.3	64.9	49.5	47.0	63.9	215.6	211.9	210.9	216.1	208.6	218.9	225.3

3. Heat (TWh)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	1987	1988	1989	1990
Production nuclear heat	445.0	379.2	413.7	457.1	499.0	437.1	444.1	489.6	525.0	465.0	456.3	501.1	1111.0	1440.3	1537.5	1580.4	1694.9	1869.8	1947.4
Production geoth. heat	7.0	7.0	7.0	7.0	7.3	7.3	7.2	7.1	7.4	7.1	7.1	7.1	25.8	24.3	25.1	27.2	28.1	28.8	28.8
Production total heat	452.0	386.3	420.7	464.1	506.3	444.4	451.3	496.7	532.4	472.1	463.4	508.3	1136.8	1464.6	1562.6	1607.6	1723.1	1898.6	1976.1
Adjustment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	77.9	-2.6	0.9	4.2	0.0	0.0	0.0
Gross consumption	452.0	386.3	420.7	464.1	506.3	444.4	451.3	496.7	532.4	472.1	463.4	508.3	1214.7	1462.0	1563.5	1611.7	1723.1	1898.6	1976.1
Nuclear Capacity (GW)	95.9	98.7	99.6	101.3	103.1	103.1	104.4	105.7	107.0	106.5	106.6	106.4	70.6	79.1	89.0	94.6	101.3	105.7	106.4

Table 8 - EUR 12
Main variables : Growth rates from same quarter of previous year - in %
(Last revision : 20 October 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90
A. Specific units												
1. Hard coal												
Primary production	-4.5	-4.5	-1.8	-1.9	2.0	-1.7	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
Net imports	8.1	3.1	1.3	4.5	6.1	11.3	-9.0	-2.2	6.6	-4.4	12.3	16.7
Apparent consumption	-3.5	-5.3	-1.2	-5.3	-1.6	2.7	-5.5	1.0	2.8	-1.6	0.4	2.0
Gross inland consumption	-3.5	-5.3	-1.2	-5.3	-1.1	3.2	-5.0	1.5	2.8	-1.6	0.4	2.0
Deliveries power plants	-0.3	-2.6	-8.3	-5.7	3.5	3.2	0.8	5.3	4.8	-3.2	2.1	4.8
Deliveries coking plants	-1.6	-6.4	-3.8	-4.0	-0.2	6.8	-1.0	-1.9	-5.9	-4.6	-1.7	-2.1
Deliveries all industries	9.2	-3.5	-3.5	-5.4	-13.8	-1.6	-2.2	-3.7	0.3	0.5	-1.1	-0.1
Deliveries domestic	-9.9	-15.7	3.9	-30.3	-21.6	5.7	-14.0	-6.6	10.0	-6.1	-0.7	-1.7
Deliveries TOTAL	-0.6	-4.2	-6.2	-7.0	-0.7	3.4	-0.6	2.2	2.4	-3.3	0.7	2.5
Transform. power gener.	-5.1	-8.2	-3.9	-6.2	0.9	6.7	-1.8	6.3	4.8	-0.5	1.6	3.8
2. Coke												
Production	-1.5	-3.6	-2.3	-2.7	-4.5	-1.5	-1.0	-0.4	-1.3	-0.4	-1.2	-1.6
Deliv. to iron and steel	2.8	0.4	8.2	7.0	4.2	2.1	-2.2	-4.3	-3.2	-0.3	-1.0	-1.0
3. Lignite												
Primary production	-5.2	-10.1	-4.2	15.3	9.9	17.0	4.7	2.7	5.9	-2.6	1.5	6.3
Transform. power gener.	-10.5	-9.5	-1.5	16.5	12.3	18.7	2.9	2.8	5.7	-2.5	3.3	5.3
4. Oil												
Primary production	1.4	2.1	-10.1	-14.0	-23.4	-27.1	-4.1	2.7	17.3	25.1	5.9	5.5
Net imports	-3.4	0.8	1.5	12.1	16.6	9.3	4.6	-0.5	-2.1	1.8	1.7	-0.8
Apparent consumption	-0.9	-0.4	0.1	5.1	0.4	0.8	2.0	0.5	3.5	5.2	2.1	1.2
Gross inland consumption	-0.9	-0.4	0.1	5.2	0.4	0.8	1.9	0.5	3.0	4.7	1.6	0.9
Deliveries												
Motor gasoline	7.2	2.0	2.6	1.4	2.6	1.9	3.2	1.4	0.5	4.1	2.1	3.5
Gas/diesel oil	-2.5	-0.9	-2.0	6.9	-6.0	-3.2	0.6	0.5	5.4	6.3	1.9	-1.7
Autom. diesel oil	12.8	8.0	6.3	8.3	7.4	7.3	7.0	4.4	4.6	6.8	7.7	6.5
Heating gas oil	-10.3	-8.6	-9.0	5.8	-14.6	-13.9	-5.8	-2.3	6.1	5.6	-4.6	-8.1
Heavy fuel oil	-15.9	0.7	-7.7	8.9	13.1	0.8	-3.4	-6.9	-1.5	-5.7	-0.3	0.4
Kerosenes	5.4	6.2	8.7	4.5	1.1	3.9	3.0	6.4	6.2	3.8	3.1	2.1
Other products	11.3	9.6	2.0	4.6	5.8	2.5	2.9	3.3	2.3	3.5	2.0	3.4
TOTAL	-0.4	2.5	-0.3	5.5	1.2	0.2	1.3	0.3	2.6	3.3	1.8	0.9
Transform. power gener.	-15.0	-2.0	-1.7	12.8	23.2	12.6	-5.4	-2.2	2.6	-5.3	4.1	4.2
Input to refineries	1.5	4.8	4.2	6.4	4.3	0.1	0.0	-0.9	0.7	3.9	3.1	2.7
Refineries gross output	1.6	4.8	4.0	7.0	3.7	0.1	0.3	-1.2	1.4	4.1	3.3	2.9
5. Natural gas												
Primary production	-14.0	-9.7	2.2	-3.8	-2.9	13.3	0.6	7.2	12.2	1.8	6.1	4.2
Net imports	-3.5	-3.3	16.3	0.8	11.1	7.2	-5.0	7.2	7.3	1.5	3.3	2.2
Apparent consumption	-10.4	-3.8	3.9	0.4	-2.0	10.5	4.1	8.2	12.2	2.6	2.7	1.6
Gross inland consumption	-10.2	-3.4	4.5	0.7	-2.0	10.5	4.1	8.2	12.2	2.6	2.7	1.6
Transform. power gener.	-12.1	-9.9	-0.4	6.8	-0.2	17.9	9.7	13.1	17.9	-5.5	7.3	4.9
Final consumption	-10.0	-2.2	5.5	-0.1	-2.2	9.3	3.0	7.5	11.5	4.0	1.8	1.1
6. Heat												
Production nuclear heat	-0.2	7.7	19.0	5.2	12.1	15.3	7.4	7.1	5.2	6.4	2.7	2.4
7. Electricity												
Total gross generation	-0.5	2.3	6.1	4.1	0.9	5.9	1.5	4.8	7.9	3.4	3.2	3.2
Total net production	-0.5	2.6	5.8	3.8	0.8	5.6	1.6	4.8	7.8	3.2	3.1	3.2
Generation primary	34.8	20.5	5.8	-16.4	-45.9	-26.6	-10.3	2.4	45.1	21.9	5.8	0.3
Generation derived	-3.9	-0.3	6.1	6.6	7.1	11.4	3.0	5.0	5.5	1.3	3.0	3.5
Generation nuclear	-0.4	8.9	17.9	7.8	12.4	14.9	8.7	5.5	5.0	6.4	2.8	2.4
Generation conv.thermal	-5.9	-5.5	-0.7	5.9	4.0	9.2	-0.9	4.8	5.8	-2.1	3.1	4.2
Gross inland consumption	-0.1	3.1	5.1	4.2	0.8	5.6	2.1	4.8	8.1	3.2	3.1	3.2
Available internal market	-0.3	3.4	4.8	3.9	0.6	5.2	2.2	4.8	8.1	3.3	3.2	3.3
Consumption intern.market	-0.2	3.4	4.8	3.9	0.6	5.1	2.3	4.8	8.1	3.3	3.2	3.3
Final consumption	-0.3	3.4	4.6	3.8	0.6	5.1	2.3	4.8	8.1	3.2	3.2	3.3
B. TOE												
Primary production	-4.2	-0.8	1.3	-3.1	-3.7	-1.7	0.4	3.6	8.0	6.8	2.7	2.5
Net imports	-1.6	0.6	3.0	9.2	13.9	9.3	1.7	0.5	0.4	1.0	3.2	1.4
Apparent consumption	-2.9	-0.5	3.1	2.3	0.7	4.9	1.5	3.1	6.0	3.7	2.2	1.7
Gross inland consumption	-2.9	-0.4	3.2	2.3	0.7	4.9	1.6	3.1	5.8	3.5	2.0	1.5
of which:												
Solids	-2.2	-4.8	1.0	-2.1	0.8	6.4	-4.4	0.9	2.7	-1.8	1.4	2.5
Oil	-0.9	-0.4	0.1	5.1	0.4	0.8	2.0	0.7	3.3	4.9	1.6	0.8
Natural gas	-10.2	-3.4	4.5	0.6	-2.0	10.5	4.1	8.2	12.2	2.6	2.7	1.6
Heat	-0.4	7.3	18.3	4.9	12.0	15.0	7.3	7.0	5.2	6.2	2.7	2.3
Primary electricity	35.8	23.2	-2.0	-15.3	-44.4	-24.5	-4.2	2.8	44.4	18.1	4.9	0.7

Table 9 - EUR 12
Main variables : Year to date growth rates - in %
(Last revision : 20 October 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90
A. Specific units												
1. Hard coal												
Primary production	-4.5	-4.5	-3.7	-3.2	2.0	0.2	-0.8	-1.4	-3.0	-3.0	-3.0	-3.0
Net imports	8.1	5.5	4.1	4.2	6.1	8.7	2.8	1.5	6.6	1.0	4.3	7.4
Apparent consumption	-3.5	-4.3	-3.4	-3.9	-1.6	0.3	-1.4	-0.8	2.8	0.8	0.7	1.0
Gross inland consumption	-3.5	-4.3	-3.4	-3.9	-1.1	0.8	-1.0	-0.3	2.8	0.8	0.7	1.0
Deliveries power plants	-0.3	-1.4	-3.6	-4.2	3.5	3.3	2.6	3.3	4.8	0.9	1.3	2.3
Deliveries coking plants	-1.6	-4.0	-3.9	-3.9	-0.2	3.1	1.8	0.8	-5.9	-5.3	-4.1	-3.6
Deliveries all industries	9.2	2.6	0.5	-1.2	-13.8	-7.8	-6.0	-5.4	0.3	0.4	-0.1	-0.1
Deliveries domestic	-9.9	-12.4	-8.1	-15.3	-21.6	-10.3	-11.4	-10.1	10.0	2.2	1.3	0.5
Deliveries TOTAL	-0.6	-2.4	-3.6	-4.5	-0.7	1.2	0.7	1.1	2.4	-0.4	0.0	0.6
Transform. power gener.	-5.1	-6.4	-5.7	-5.8	0.9	3.4	1.9	3.1	4.8	2.5	2.3	2.7
2. Coke												
Production	-1.5	-2.5	-2.5	-2.5	-4.5	-3.0	-2.3	-1.9	-1.3	-0.8	-1.0	-1.1
Deliv. to iron and steel	2.8	1.6	3.7	4.5	4.2	3.2	1.4	-0.1	-3.2	-1.8	-1.5	-1.4
3. Lignite												
Primary production	-5.2	-7.6	-6.5	-1.3	9.9	13.3	10.3	8.2	5.9	1.8	1.7	2.9
Transform. power gener.	-10.5	-10.0	-7.2	-1.5	12.3	15.3	11.0	8.7	5.7	1.7	2.2	3.1
4. Oil												
Primary production	1.4	1.8	-2.2	-5.3	-23.4	-25.1	-18.6	-13.6	17.3	21.0	15.5	12.7
Net imports	-3.4	-1.3	-0.3	2.9	16.6	12.9	9.9	7.0	-2.1	-0.2	0.4	0.1
Apparent consumption	-0.9	-0.7	-0.4	1.0	0.4	0.6	1.0	0.9	3.5	4.3	3.6	2.9
Gross inland consumption	-0.9	-0.6	-0.4	1.1	0.4	0.6	1.0	0.9	3.0	3.9	3.1	2.5
Deliveries												
Motor gasoline	7.2	4.5	3.8	3.2	2.6	2.3	2.6	2.3	0.5	2.4	2.3	2.6
Gas/diesel oil	-2.5	-1.8	-1.8	0.5	-6.0	-4.7	-3.1	-2.0	5.4	5.8	4.5	2.7
Autom. diesel oil	12.8	10.3	8.9	8.7	7.4	7.3	7.2	6.5	4.6	5.7	6.4	6.4
Heating gas oil	-10.3	-9.6	-9.4	-5.4	-14.6	-14.3	-11.8	-9.0	6.1	5.9	2.6	-0.8
Heavy fuel oil	-15.9	-8.8	-8.5	-4.0	13.1	7.3	4.0	0.7	-1.5	-3.4	-2.5	-1.7
Kerosenes	5.4	5.8	6.9	6.3	1.1	2.6	2.7	3.7	6.2	4.9	4.2	3.7
Other products	11.3	10.4	7.4	6.6	5.8	4.1	3.7	3.6	2.3	2.9	2.6	2.8
TOTAL	-0.4	1.0	0.5	1.8	1.2	0.7	0.9	0.8	2.6	2.9	2.6	2.1
Transform. power gener.	-15.0	-9.6	-7.1	-1.9	23.2	18.4	10.6	6.7	2.6	-0.8	0.6	1.6
Input to refineries	1.5	3.1	3.5	4.3	4.3	2.2	1.4	0.8	0.7	2.3	2.6	2.6
Refineries gross output	1.6	3.1	3.5	4.4	3.7	1.9	1.4	0.7	1.4	2.7	2.9	2.9
5. Natural Gas												
Primary production	-14.0	-12.4	-9.3	-7.7	-2.9	3.1	2.5	3.9	12.2	8.1	7.6	6.6
Net imports	-3.5	-3.4	1.9	1.6	11.1	9.2	4.9	5.5	7.3	4.6	4.2	3.7
Apparent consumption	-10.4	-8.1	-5.6	-3.9	-2.0	2.5	2.9	4.5	12.2	8.4	7.1	5.4
Gross inland consumption	-10.2	-7.8	-5.3	-3.6	-2.0	2.5	2.9	4.5	12.2	8.4	7.1	5.4
Transform. power gener.	-12.1	-11.1	-8.2	-4.4	-0.2	7.8	8.4	9.7	17.9	6.6	6.8	6.2
Final consumption	-10.0	-7.4	-4.9	-3.5	-2.2	1.8	2.1	3.8	11.5	8.7	7.2	5.2
6. Heat												
Production nuclear heat	-0.2	3.3	8.0	7.2	12.1	13.6	11.5	10.3	5.2	5.8	4.8	4.1
7. Electricity												
Total gross generation	-0.5	0.8	2.4	2.8	0.9	3.2	2.7	3.3	7.9	5.8	5.0	4.5
Total net production	-0.5	0.9	2.3	2.7	0.8	3.0	2.6	3.2	7.8	5.7	4.9	4.4
Generation primary	34.8	27.1	20.4	10.5	-45.9	-36.0	-28.8	-22.5	45.1	31.5	22.5	16.6
Generation derived	-3.9	-2.3	0.2	1.9	7.1	9.0	7.1	6.5	5.5	3.6	3.4	3.4
Generation nuclear	-0.4	3.7	8.0	7.9	12.4	13.6	11.9	10.2	5.0	5.6	4.7	4.1
Generation conv.thermal	-5.9	-5.7	-4.2	-1.6	4.0	6.3	4.1	4.3	5.8	2.2	2.5	3.0
Gross inland consumption	-0.1	1.3	2.5	2.9	0.8	3.0	2.7	3.3	8.1	5.8	5.0	4.5
Available internal market	-0.3	1.4	2.4	2.8	0.6	2.7	2.6	3.2	8.1	5.8	5.0	4.5
Consumption intern.market	-0.2	1.4	2.4	2.8	0.6	2.7	2.6	3.2	8.1	5.8	5.0	4.5
Final consumption	-0.3	1.3	2.3	2.7	0.6	2.6	2.5	3.2	8.1	5.8	5.0	4.5
B. TOE												
Primary production	-4.2	-2.7	-1.5	-1.9	-3.7	-2.8	-1.8	-0.4	8.0	7.5	6.0	5.0
Net imports	-1.6	-0.5	0.6	2.9	13.9	11.6	8.2	6.0	0.4	0.7	1.5	1.5
Apparent consumption	-2.9	-1.9	-0.4	0.4	0.7	2.6	2.3	2.5	6.0	4.9	4.1	3.4
Gross inland consumption	-2.9	-1.8	-0.3	0.4	0.7	2.6	2.3	2.5	5.8	4.7	3.9	3.2
of which:												
Solids	-2.2	-3.4	-2.1	-2.1	0.8	3.3	0.9	0.9	2.7	0.6	0.8	1.3
Oil	-0.9	-0.7	-0.4	1.0	0.4	0.6	1.1	1.0	3.3	4.1	3.3	2.6
Natural gas	-10.2	-7.8	-5.3	-3.6	-2.0	2.5	2.9	4.5	12.2	8.4	7.1	5.4
Heat	-0.4	3.0	7.7	6.9	12.0	13.4	11.4	10.2	5.2	5.7	4.7	4.1
Primary electricity	35.8	28.8	18.3	9.7	-44.4	-33.8	-25.5	-19.9	44.4	28.5	19.9	15.0

Annex: 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). These 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:

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

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:

$$Gross\ Inland\ Consumption = Apparent\ Consumption + Adjustment. \tag{2}$$

The latest known annual balance sheet covers 1987. When this outlook was prepared (last revision: 20 October 1989) only partial and preliminary information for 1988 was available.

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 1988: 1.7 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:

$$Available\ to\ Final\ Consumption = Gross\ Inland\ Consumption - Transformation\ Input + Refineries\ net\ Output \tag{3}$$

d) The line «Final consumption» is estimated:

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

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

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

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:

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

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:

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

e) The line «Available to final consumption» is estimated:

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

f) The line «Final consumption» is estimated:

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

where:

$$\text{Final Consumption of Industry} =$$
$$\text{Deliveries to all Industries} + \text{'Other' Deliveries} - \text{Transformation for Power Generation in Industry} \qquad (10)$$
$$\text{Final Consumption Domestic} = \text{Deliveries to Households} + \text{Patent Fuels} \qquad (11)$$

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

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

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) From this issue primary production is treated in the same way as in SOEC's annual balance sheet.

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

b) Geothermal electricity is now 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.

II. Data in Toe

Table 4 presents a complete quartely 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. The time series run from January 1987. This new information is directly used in the case of hard coal and lignite.

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

Historic	1979 to 83	1984	1985	1986	1987-88
Hard coal					
Production	0.615	0.623	0.615	0.612	SOEC/MBS
Recov. production	0.450	0.450	0.450	0.450	SOEC/MBS
Imports	0.660	0.650	0.650	0.650	SOEC/MBS
Exports	0.675	0.675	0.675	0.675	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	1.008	1.008	1.008	1.008
Imports	1.004	1.004	1.004	1.004	1.004
Exports	1.010	1.010	1.010	1.010	1.010
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
Hard coal	0.605	0.450	0.655	0.570	
Patent fuels			0.700		
Coke			0.681	0.681	
Lignite	0.178		0.400	0.220	
Crude oil	1.008				
Oil products	1.100	1.100			
Total oil			1.002	1.000	0.970
Natural gas	0.0215	0.0215	0.0215		
Heat and electricity	0.086		0.086		

The main differences with the SOEC balance sheet can be summarized as follows:
a) Coke: A slightly different conversion factor is used (0.681 in place of 0.7)
b) Lignite: Our primary production figures are slightly adjusted.
c) Oil: SOEC uses a 1:1 conversion factor. In addition, recovered production is ignored. These factors can lead to considerable differences for EUR-12. For example the difference in apparent consumption for 1988 is 6.3 Mtoe (479.6 against 473.3 Mtoe, or 1.3%).
d) Annual, rather than monthly data, are used for geothermal heat and other fuels.

The following table compares the 1987 and 1988 apparent consumption by source:

1987	SOEC	STEO	difference	in %	for memory annual balance
1. Hard coal	199.06	199.06	0.00	0.0%	198.168
2. Patent fuels	-0.11	-0.11	0.00	0.0%	-0.118
3. Coke	-1.28	-1.24	-0.03	2.7%	-1.317
4. Lignite	32.90	32.85	0.05	0.1%	33.023
5. Briquettes	0.21	0.21	0.00	0.0%	0.277
6. Oil	468.82	474.86	-6.04	-1.3%	476.686
7. Natural gas	199.03	198.92	0.11	0.1%	198.280
8. Nuclear heat	135.92	135.92	0.01	0.0%	136.279
9. Geothermal heat	1.76	2.34	-0.57	-32.4%	2.336
10. Electricity	16.55	16.55	0.00	0.0%	16.684
11. Other	2.29	2.17	0.12	5.4%	2.168
TOTAL	1055.15	1061.51	-6.37	-0.6%	1062.467

1988	SOEC	STEO	difference	in %	for memory annual balance
1. Hard coal	191.93	191.93	0.00	0.0%	191.693
2. Patent fuels	-0.08	-0.08	0.00	0.0%	-0.133
3. Coke	1.04	1.01	0.03	3.0%	1.234
4. Lignite	32.59	32.58	0.01	0.0%	32.120
5. Briquettes	0.28	0.28	0.00	0.0%	0.306
6. Oil	473.30	479.61	-6.31	-1.3%	NA
7. Natural gas	191.20	191.23	-0.02	0.0%	NA
8. Nuclear heat	145.77	145.77	0.01	0.0%	NA
9. Geothermal heat	1.76	2.42	-0.66	-37.2%	NA
10. Electricity	18.30	18.30	0.00	0.0%	NA
11. Other	2.29	2.20	0.09	4.0%	NA
TOTAL	1058.38	1065.23	-6.85	-0.6%	NA

Source: SIRENE, October 1989

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

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