Supplement

ENERGY
IN EUROPE

Short term energy outlook for the European Community

MAY 1989

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Short term energy outlook for the European Community

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

First provisional data for 1988 show a growth of total primary energy demand of only 0.3%. This result is explained by the strong impact of exceptional weather conditions during 1988, estimated at about 2.3%.

By assuming a return to "normal" weather conditions after the first quarter of 1989, which was also warmer than the average, and on the basis of a continuing economic growth (3% during both 1989 and 1990), global energy could grow by more than 2% in both years.

However, given the recent rise in oil prices, there could be a stagnation of oil deliveries in 1989 and only a small increase is forecast for 1990.

Demand for natural gas, which was down by 3.7% in 1988, is expected to increase considerably in 1989 (3.7%) and even more in 1990 (more than 5%).

Electricity consumption is also likely to increase substantially (3.7% in both years) leading to a slight increase in hard coal deliveries (about 1%) after two consecutive years of important decline.

Nuclear production which was up by 7.2% in 1988, is also expected to grow significantly this year (more than 9%) before slowing somewhat in 1990.

A summary of the main assumptions used in the preparation of this outlook together with the main results are presented in Table 1.

TABLE 1: EUR-12
Summary of main assumptions and results
(Last revision: 28 April 1989)

	1985	1986	1987	1988	1989	1990	Annual percentage change 1985	1986	1987	1988	1989	1990
I. MAIN ASSUMPTIONS												
GDP (1980 = 100)	108.0	110.9	113.9	118.1	121.6	125.3	2.5	2.6	2.7	3.7	3.0	3.0
Private Consumption (1980 = 100)	107.9	112.2	116.6	121.0	124.2	127.9	2.4	4.0	4.0	3.7	2.7	3.0
Industrial Production (1985 = 100)	99.8	101.9	104.0	108.4	112.3	116.2	3.4	2.1	2.1	4.2	3.7	3.5
Consumer Prices (1985 = 100)	100.0	103.6	107.0	110.8	115.5	120.0	6.2	3.6	3.3	3.6	4.2	3.9
Exhange rate ECU/US $	0.762	0.983	1.154	1.184	1.129	1.130	-3.5	29.0	17.4	2.5	-4.6	0.1
Imported Crude Oil Price (US $ / bbl)	27.54	14.51	17.87	14.90	17.23	17.75	-5.0	-47.3	23.2	-16.6	15.6	3.0
(ECU / bbl)	36.40	14.91	15.50	12.58	15.26	15.71	-1.0	-59.0	3.9	-18.8	21.3	3.0
II. MAIN RESULTS												
OIL												
Total Inland Deliveries (Mt)	429.2	441.1	442.3	450.4	449.7	455.9	-3.7	2.8	0.3	1.8	-0.2	1.4
HARD COAL												
Total Inland Deliveries (Mt)	327.5	327.3	320.0	307.0	309.8	313.7	21.0	-0.1	-2.2	-4.1	0.9	1.2
NATURAL GAS												
App. Gross Consumption (Mtoe)	184.5	186.8	198.9	191.5	198.6	209.1	4.7	1.3	6.5	-3.7	3.7	5.3
ELECTRICITY												
Consumpt. Intern.Market (Twh)	1377.9	1417.8	1466.5	1507.2	1563.6	1620.7	4.0	2.9	3.4	2.8	3.7	3.7
NUCLEAR HEAT												
Production (Twh)	1440.3	1537.5	1580.4	1694.9	1851.6	1914.0	29.6	6.8	2.8	7.2	9.2	3.4
TOTAL ENERGY												
Gross Inl.Consumption (Mtoe)	1029.4	1043.6	1062.3	1065.7	1087.8	1116.7	3.9	1.4	1.8	0.3	2.1	2.7
ENERGY RATIO												
Total Gr.Inl.Consumption/GDP (1984 = 100)	101.3	100.1	99.2	96.0	95.1	94.8	1.3	-1.2	-0.9	-3.2	-0.9	-0.3

[1] Manuscript completed on 8 May 1989

Energy in 1988

In spite of high economic growth and falling oil prices, the first available data for 1988 show only a slight increase of total energy demand (about 0.3%), mainly as a result of exceptional weather conditions. Weather corrected energy demand growth is estimated at 2.6%.

Economic growth in 1988 was higher than expected. According to provisional estimates by DG II, GDP growth for the twelve Member States in 1988 reached 3.7%, the strongest growth recorded since 1976 (Graph 1).

At the same time, the crude oil price collapsed, falling to 11 USD/bbl at the beginning of October which gave an annual average price 3 USD below its 1987 average level.

Those conditions would have led to an important increase of energy demand had the climate been "normal". However, the weather in 1988 was exceptionally warm (Graph 2). In the absence of weather corrected data, the global weather impact was estimated to be in the order of 25 mtoe, or 2.3% of total primary energy consumption, leading to a weather corrected growth of primary energy demand of about 2.6% (see Box A).

Graph 1 - EUR 12:
Macroeconomic indicators
Annual percentage change
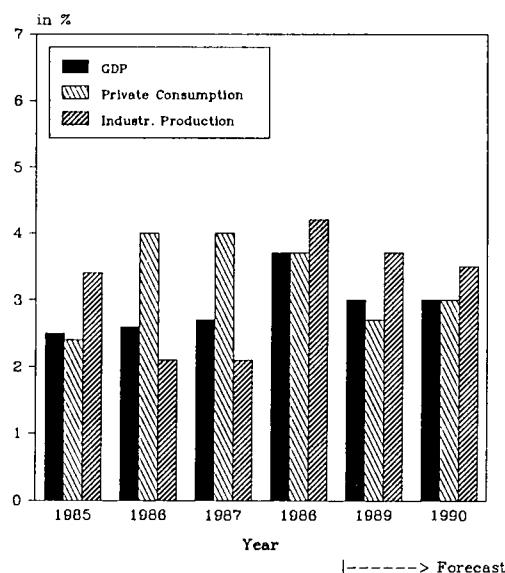
Graph 2 - EUR 12:
Degree-days
Difference from "normal"
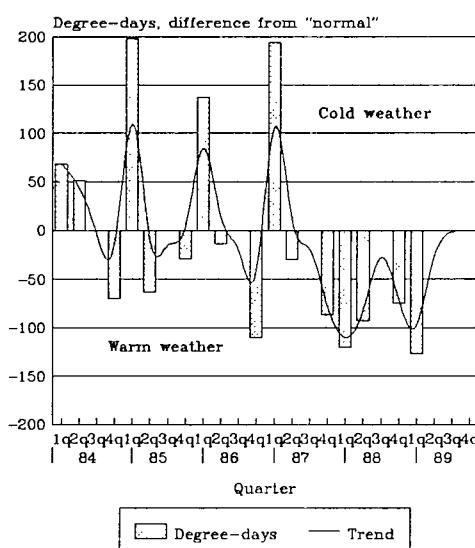
NOTE: This report is based on statistical data available at 18 April 1989 and covering, with some minor exceptions, the four quarters of 1988. In all tables observed data are presented in bold characters and forecasts in italic.

Box A

The impact of weather conditions

The exceptionally warm weather of 1988 (see Table 2 and Graph 2) had an important impact on energy demand. Unfortunately the Statistical Office of the European Community (SOEC) and the majority of countries do not publish weather corrected data. Using the "ERASME" computer model (see Box C), attempts have been made to identify the weather impact for 1988. Results are shown in the following table:

1988: Weather impact in Mtoe and in % of 1987 levels

in Mtoe	1987	1988 observed	1988 if normal weather	Diff.from normal weather	1988 with 1987 weather	Impact of 1987 weather	Total weather impact
	(1)	(2)	(3)	(4) = (3)-(2)	(5)	(6) = (5)-(3)	(7) = (4) + (6)
Solids	230.2	225.9	230.5	4.6	232.4	1.9	6.5
Oil	476.6	479.6	483.4	3.8	484.9	1.5	5.3
Natural Gas	198.2	191.5	200.3	8.8	204.5	4.2	13.0
Heat	138.6	148.3	148.4	0.1	148.4	0.0	0.1
Other	18.7	20.4	20.3	-0.1	20.1	-0.2	-0.3
TOTAL Gr.Inl.Consumption	1062.3	1065.7	1082.9	17.2	1090.3	7.4	24.6

in % of 1987 levels	(8) = ((2)-(1))/ (1)	(9) = ((3)-(1))/ (1)	(10) = (4)/(1)	(11) = ((5)-(1))/ (1)	(12) = (6)/(1)	(13) = (10) + (12)
Solids	-1.9	0.1	2.0	1.0	0.8	2.8
Oil	0.6	1.4	0.8	1.7	0.3	1.1
Natural Gas	-3.4	1.1	4.4	3.2	2.1	6.6
Heat	7.0	7.1	0.1	7.1	0.0	0.1
Other	9.1	8.6	-0.5	7.5	-1.1	-1.6
TOTAL Gross Inland Consumption	0.3	1.9	1.6	2.6	0.7	2.3

Source: ERASME Model

In other words, the global weather effect on total primary energy, from comparing observed growth (3.4 Mtoe or 0.3%) and weather corrected growth (28 Mtoe or 2.6%) is of 24.6 Mtoe or 2.3%. This is compatible with French provisional data for 1988 that give a -0.6% drop in real consumption and a 2.7% growth for weather corrected data.

Correction for weather changes and the profile of intensity gains:

	1987	1988	1989	1990
GDP - (1980 = 100)	113.9	118.1	121.6	125.3
GDP - (in%)	2.7	3.7	3.0	3.0
Total Energy-real (Mtoe)	1062.3	1065.7	1087.8	1116.7
Total Energy-real (in%)	1.8	0.3	2.1	2.7
Total Energy-corrected (Mtoe)	1054.9	1082.9	1096.6	1116.8
Total Energy-corrected (in%)		2.6	1.3	1.8
Energy Ratio - (1987 = 100)	100.0	99.0	97.4	96.2
Energy Ratio - (in%)		-1.0	-1.6	-1.2

Working assumptions for 1989 and 1990

Macroeconomic assumptions are based on the latest DG II forecasts, assuming a GDP growth of 3% in 1989 and 1990. The average crude oil price is assumed to be 17.2 USD/bbl in 1989 and 17.8 USD/bbl in 1990. As usual, a return to "normal" weather conditions is assumed after the first quarter of 1989.

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

Following DG II's economic forecasts, an average growth rate for EUR-12 GDP of 3% is assumed. A higher inflation rate (4.2% in 1989 compared to 3.6% in 1988), due largely to import prices, could affect private consumption which was growing fast during the last two years. Its rate of growth should slow down to 2.7% this year and 3% in 1990 (Graph 1).

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

Following the recent evolutions in the world oil market and the recent increase in oil prices, an average price of 17.2 USD/bbl in 1989 and a 17.8 USD/bbl in 1990 (see next section) is assumed.

Finally, it is assumed (as usual) that "normal" weather conditions will prevail after the first quarter of 1989, which was warmer than normal.

Given the uncertainties regarding the exogenous variables, different simulations are also presented: Low and high oil prices and a slower growth of GDP. The assumptions and results are presented in Box B.

Box B — Alternative scenarios

As mentioned in the main text, given the uncertainties in the main exogenous variables, some alternative simulations were prepared:

a) Scenario 1 - "Slow growth":

In this case GDP growth is considered to be 2% during the entire forecasting period, compared to 3% in the reference case. All other exogenous variables related to the economic activity (private consumption, industrial production, etc.) grow by 1% less than in the reference case.

b) Scenario 2 - "Low Oil Prices"

and c) Scenario 3 - "High Oil Prices":

For these cases the quarterly profile of the price of imported crude oil was modified as follows (see also Graph 3):

	1q89	2q89	3q89	4q89	1q90	2q90	3q90	4q90
Reference case:	16.9	18.0	17.0	17.0	17.5	17.5	18.0	18.0
Low Oil Prices:	16.9	16.0	13.0	13.0	13.5	13.5	14.0	14.0
High Oil Prices:	16.9	20.0	21.0	21.0	21.5	21.5	21.5	22.0

The following table displays the main results from the "ERASME" model (see Box C). Short term demand elasticities are very important and, globally, higher than unity. According to the model, a slowing down in growth by 1% could lead to a 1.2% decrease in primary energy. The results are explained mainly by the coal and oil sectors where there is evidence of high income elasticities in the short term.

On the contrary, price elasticities in the short term are very low. In Mtoe terms the difference in total primary energy consumption between the "Low Oil Price" scenario and the "High Oil Price" scenario in the first year, is not more than 6.7 Mtoe (0.6%).

These results are not really surprising if we consider the limited impact of crude oil price variations on final prices (see section on "Energy Prices" and Graph 5) and recent experience. For example, in 1986 the average import prices of oil, in ECU terms, were by 60% lower than in 1985 (see Table 3), GDP growth was more or less the same as in 1985, and the total increase of primary energy demand was not more than 1.4% (oil deliveries: +2.8%). Graph 8 shows the implied elasticities for the "Low Oil Price" scenario.

Finally it must be stressed that the results presented here are based mainly on short-term elasticities. As historical experience has shown, long-term elasticities can be considerably different, for example higher price elasticities and, sometimes, lower income elasticities. However, these are the result of structural changes (energy savings, fuel substitutions, efficiency gains, etc.) that take a long time to materialize.

(continued)

Box B (continued)   **Alternative simulations: Slow Growth, Low and High oil Prices**

	Difference from reference case					
	in specific units		in %		Elasticities	
	1989	1990	1989	1990	1989	1990
a) Slow growth						
GDP Growth rate - in %	-1.0	-1.0				
GDP - 1980 = 100	-1.2	-2.5	-1.0	-2.0		
b) Low Oil Price						
Price of Crude - $/bbl	-2.5	-4.0	-14.5	-22.5		
b) High Oil Price						
Price of Crude - $/bbl	2.5	4.0	14.5	22.5		
Oil: Total Inland Deliveries (Mt)						
a)Slow Growth	-6.9	-14.1	-1.5	-3.1	1.55	1.55
b)Low Oil Price	3.3	1.7	0.7	0.4	-0.05	-0.02
c)High Oil price	-2.7	-1.7	-0.6	-0.4	-0.04	-0.02
Hard coal: Total Inland Deliveries (Mt)						
a)Slow Growth	-4.5	-9.8	-1.5	-3.1	1.48	1.56
b)Low Oil Price	-1.0	-4.1	-0.3	-1.3	0.02	0.06
c)High Oil price	0.7	2.8	0.2	0.9	0.02	0.04
Natural gas: Final Consumption (Mtoe)						
a)Slow Growth	-1.1	-2.3	-0.7	-1.3	0.67	0.68
b)Low Oil Price	0.1	0.5	0.0	0.3	-0.00	-0.01
c)High Oil price	-0.1	-0.4	-0.0	-0.3	-0.00	-0.01
Electricity: Consumption Int.Market (Twh)						
a)Slow Growth	-15.0	-32.3	-1.0	-2.0	0.97	1.00
b)Low Oil Price	1.8	4.4	0.1	0.3	-0.01	-0.01
c)High Oil price	-1.8	-4.3	-0.1	-0.3	-0.01	-0.01
Gross inland consumption (Mtoe)						
a) Slow Growth						
Solids	-3.8	-7.9	-1.7	-3.4	1.68	1.70
Oil	-7.3	-15.0	-1.5	-3.1	1.54	1.54
Natural Gas	-1.6	-3.4	-0.8	-1.6	0.82	0.81
Other	-0.2	-0.5	-0.1	-0.3	0.13	0.13
TOTAL	-12.9	-26.7	-1.2	-2.4	1.20	1.20
b) Low Oil Prices						
Solids	-1.3	-4.1	-0.6	-1.8	0.04	0.08
Oil	3.6	1.9	0.8	0.4	-0.05	-0.02
Natural Gas	1.3	4.0	0.7	1.9	-0.05	-0.08
Other	0.0	0.0	0.0	0.0	-0.00	-0.00
TOTAL	3.7	1.8	0.3	0.2	-0.02	-0.01
c) High Oil Prices						
Solids	0.9	2.9	0.4	1.2	0.03	0.06
Oil	-2.8	-1.9	-0.6	-0.4	-0.04	-0.02
Natural Gas	-1.1	-2.9	-0.6	-1.4	-0.04	-0.06
Other	-0.0	-0.0	-0.0	-0.0	-0.00	-0.00
TOTAL	-3.0	-1.8	-0.3	-0.2	-0.02	-0.01

Energy prices

The oil price

Crude prices strengthened gradually after the November 1988 OPEC meeting deciding new production quotas. In April 1989, a series of accidents sent the oil price to its highest level since 1986.

The price of imported crude oil (cif) increased steadily after the end-November OPEC meeting in Vienna, driven by high world demand (+ 5.2% during the fourth quarter of 1988). Nevertheless, the average 1988 import price was 14.9 USD/bbl, compared with 17.9 USD/bbl in 1987.

During the first months of 1989 the oil price continued to increase. The average import price for the first quarter of 1989 is estimated to be 16.9 USD/bbl, against the 13.0 USD/bbl assumed in the previous forecast ("Energy in Europe", N° 12). During April, and after two serious accidents in Alaska and the North Sea, the price of Brent reached 22 USD/bbl.

In this forecast (last revision: 28 April 1989), the high level of prices, which was due to exceptional factors, is not expected to persist. However, a substantial increase of world demand and a strengthened discipline of producers, could lead to an average price for 1989 and 1990 considerably higher than in 1988.

Therefore, an average price of 18.0 USD/bbl for the second quarter of 1989 and 17 USD/bbl for the rest of the year is assumed. A slight increase is expected for 1990 (Table 3 and Graph 3). Expressed in current ECU, those assumptions mean an average increase of 21.3% in 1989 and 3% in 1990.

Graph 3 – EUR 12:
Average crude oil import price

Graph 4 – EUR 12:
Oil Products
Average final prices in ECU
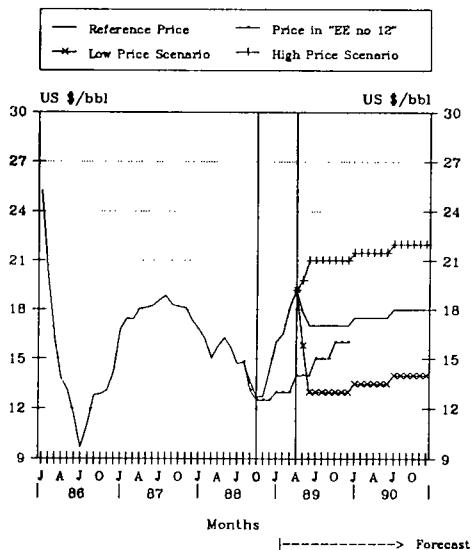
Nevertheless, given the recent volatility of oil prices, two alternative scenarios are examined. In the first, prices collapse again to 13 USD/bbl and stay low until the end of 1990. In the second, prices stay at high levels (21 to 22 USD/bbl) during the whole forecasting period.

A summary of results for these scenarios are given at Box B.

Final energy prices

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

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

Average 1988 prices of oil products remained almost stable with the exception of residual fuel oil which followed the drop in crude oil prices.

Following the new assumption on imported crude oil prices, final prices of oil products could increase in 1989, mainly during the first half of the year. However, with the exception of residual fuel oil, those rises are significantly lower than the increase in price of imported crude oil (Graphs 4 and 5).

Graph 5 – EUR 12:
Final prices of oil products
Crude oil price elasticities in %
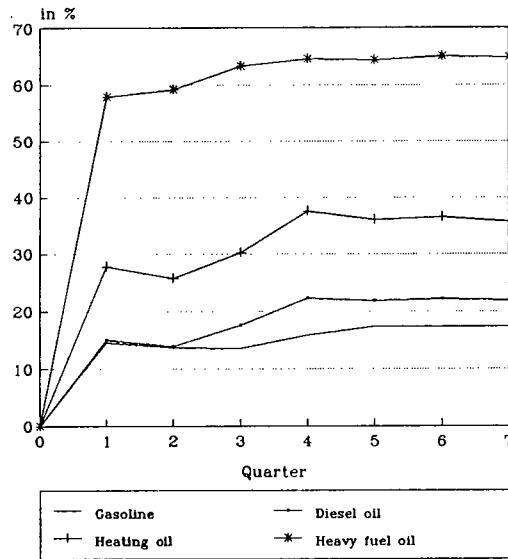
Source: ERASME model

The data in Graph 5 reveal that, following recent patterns in final price behaviour, a 10% permanent increase in prices of imported crude oil (in ECU terms) leads after 7 quarters only to a 1.7% increase in the price of gasoline, a 2.2% increase in the price of diesel, a 3.6% increase in the price of heating oil and a 6.6% increase in the price of heavy fuel oil.

Considering the delays in the impact of oil prices on the other fuels, the final prices of other forms of energy could also increase slightly over the forecast period.

Overall energy in 1989 and 1990

Due to higher oil prices and weather conditions in the first quarter of 1989, the forecast for this year predicts a growth of global energy demand of 2.1%. Under the assumptions used, overall energy demand could grow somewhat faster next year (2.7%). Electricity demand is now expected to increase by 3.7% in both years.

This forecast for 1989 has some significant differences from the one published in "Energy in Europe" N° 12.

First of all, for the second consecutive year, the winter was exceptionally mild, affecting the consumption during the first quarter. In addition to that, the rise in oil prices could negatively influence the demand for oil products. Globally, due to the combination of these two factors, the forecast for total energy demand in 1989 is about 1% less than in the previous forecast: (2.1% compared with 3.2%).

The stabilization of oil prices assumed for 1990 and a return to "normal" weather conditions, could lead to a slightly faster growth in 1990, in the order of 2.7% (Tables 4, 8 and 9, Graph 6).

Graph 6 – EUR 12:
Total Energy: Gross Inland Consumption
(Million of toe)

Year
Total in Mtoe

Solids	Oil	Natural Gas
Heat	Other	

--------> Forecast
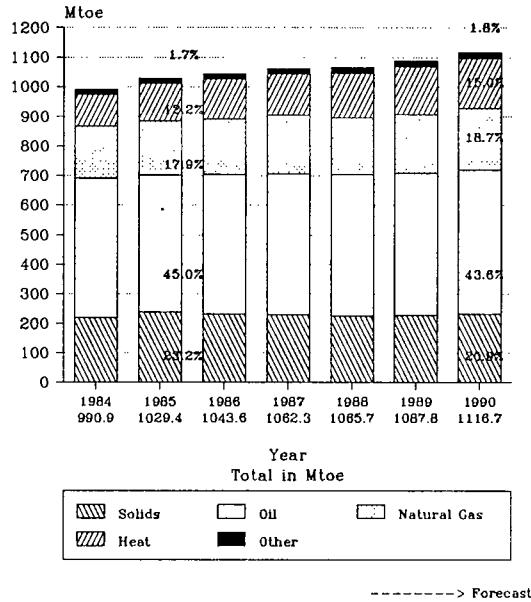
Electricity demand which has been rising rapidly during the last five years is expected to grow by another 3.7% in both 1989 and 1990.

Under the reference case, total oil demand in 1989 stays at its 1988 levels and then increases slightly in 1990, while demand for natural gas returns during 1989 to its high level of 1987 and grows even faster in 1990. After a

decline during the last 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. However, given the limited number of new power stations anticipated to come on line in 1990, it is possible that growth will slow again during that year.

Box C
The ERASME model

A new model has been used in the preparation of this short-term outlook, replacing our old "STEM" model. This new model, called "ERASME" (Energy Relations in an Aggregate Short-term Model for Europe-12), has been recently developed in DG XVII.

The "ERASME" model is a quarterly, short-term, econometric model, using EUR-12 aggregated data. Its main sources of data are:

a)   Energy data: For 1979 to 1983: The historical monthly data base of the SOEC, covering EUR-10 plus national data for Spain and Portugal. From 1984, the monthly data series in the "SIRENE" data base, published also in the "Energy Monthly Statistics", by Eurostat.

b)   Price data: IEA quarterly statistics and DG XVII data.

c)   Climate data: SOEC data.

d)   Macroeconomic variables: SOEC data (CRONOS database).

The ERASME model, based on national data input, produces historical series for average EUR-12 final prices, creates complete historical EUR-12 quarterly balance sheets in specific units and toe, generates a detailed forecast for a large number of variables and forms automatically all the tables presented in the short-term outlook.

The forecasting block of the model has 56 behavioural econometric equations estimated, in general, over the period from the first quarter 1979 to the third or fourth quarter of 1988 (39 to 40 observations).

The model is run on a microcomputer, using commercial software. A detailed description of the ERASME model will soon be available from DG XVII.

As noted before, given the actual uncertainty in the oil market, alternative simulations are presented based on three oil price scenarios (low oil price scenario, reference case, high oil price scenario). Another alternative scenario is also considered, based on a slower GDP growth (2% rather than 3% in the reference case).

A summary of assumptions and results is given in Box B. It can be seen from these results that the overall effect of different levels of oil prices is not very important, given the low short-term price elasticities of demand. On the contrary, the level of economic activity has a very strong impact on total energy demand.

Oil

Demand for oil, in terms of total inland deliveries, increased in 1988 by 8.1 million tonnes, or 1.8%. However, due to the rise in imported prices of crude oil, a stagnation of demand in 1989 and a possible slight revival in 1990 is forecasted. Production decreased in 1988 and again at the beginning of 1989 as it was seriously affected by accidents.

Despite good weather conditions, demand for oil products increased significantly during the fourth quarter of 1988 (5.5% against a 2.9% forecast made in "Energy in Europe", No 12), following soaring economic activity and falling oil prices.

Nevertheless, the distinction in behavior between non-substitutable fuels (transportation fuels and products for non-energy uses) and substitutable products (heating oil and heavy fuel oil) was clear once again during 1988. Deliveries of the first group increased by 5.9% (faster than in the previous forecast), while those of the latter diminished by 4.8%, with overall inland deliveries increasing finally by 1.8% (Tables 5, 8 and 9 and Graph 7).

The same pattern of behavior will probably continue during this and the next year. Although higher prices could lead to a stabilization of demand for motor gasoline during 1989, deliveries for automotive diesel oil, kerosenes and "other" oil products, will probably increase. Total growth for non-substitutable fuels in 1989 could be 2.4%, while substitutable fuels, which are more sensitive to prices and were affected by the weather in the first quarter, could decline by another 4.8%. Overall, oil deliveries in 1989 could remain, more or less, at their level of 1988.

By 1990, the price effect could be less important and demand for the first group could grow by 3.7%, while the second could decline by 2.9%, leading to a global increase in deliveries in the order of 1.4%.

Graph 7 — EUR 12:
Inland deliveries of oil products
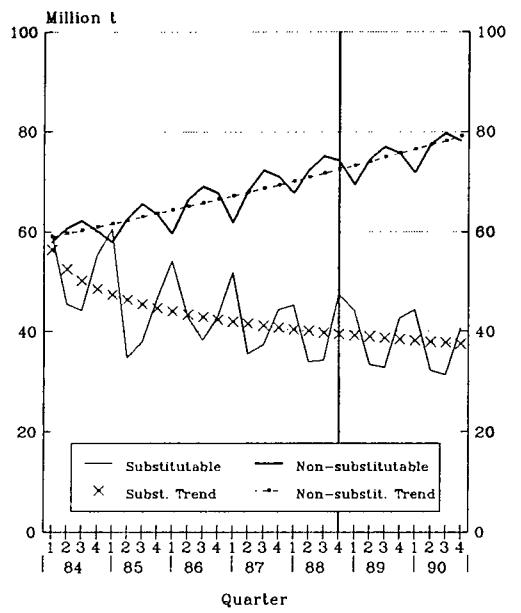
Graph 8 — EUR 12:
Crude oil price elasticities
(Low Oil Price Scenario)
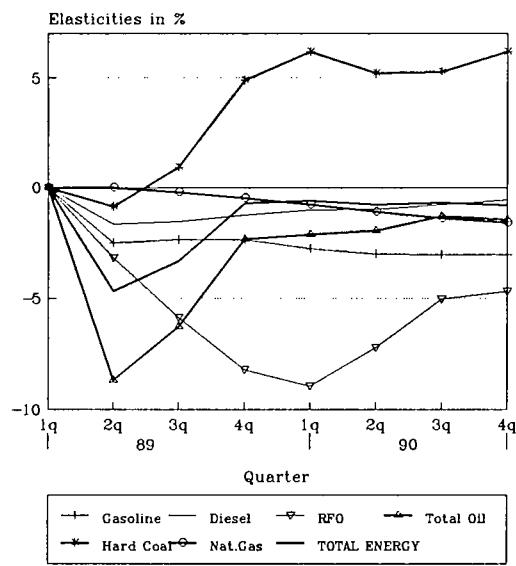
Source: ERASME Model

As can be seen from the simulations presented in Box B, price elasticities of demand are quite low. For example, in the scenario of "low oil prices" (2.5 USD less, on average, in 1989), total inland deliveries in 1989 are only 3.3 million tones, or 0.7%, higher than in the reference case. A more detailed analysis of the results shows that a permanent rise in the crude oil price has an important effect during only the first two quarters (Graph 8).

Production was affected in 1988 by the Piper Alpha loss and was 7.6 million tonnes down on 1987. Because of the Cormorant Alpha accident in mid-April of this year, production is expected to be even lower this year, before recovering next year to its 1988 levels.

Given the expected stability of demand, net imports could increase by another 7 to 8 million tonnes in 1989 and stay at the same level in 1990.

Natural gas

Demand for natural gas in 1988 was seriously affected by the climate. With a return to "normal" weather conditions, demand for natural gas could increase substantially in both 1989 and 1990.

As can be seen in Box A, natural gas was the fuel the most affected by the weather in 1988. Final consumption of natural gas in 1988 decreased by 3.2%, less than anticipated in the previous forecast (Tables 5, 8 and 9). Given the usual assumption of "normal" weather conditions during the forecast period, final demand could increase by 2.9% in 1989 and 4.6% in 1990.

Graph 9 − EUR 12:
Natural gas − Gross inland consumption
and growth rates in %
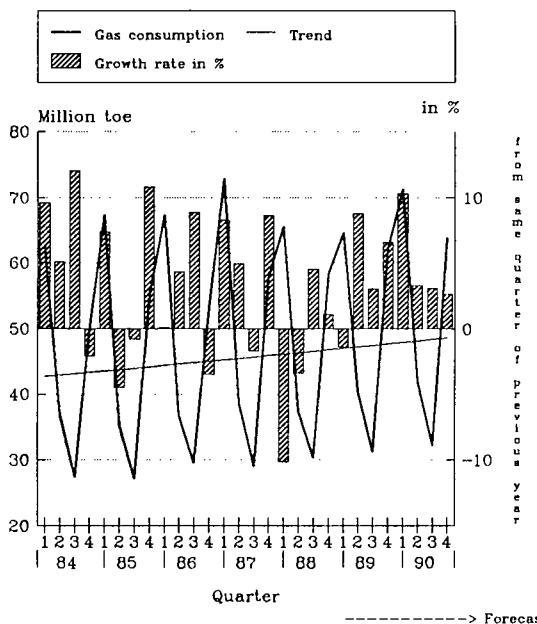
> Forecast

Given the poor quality of available data, there is great uncertainty concerning the evolution of natural gas prices to big industrial users and for power generation. In this forecast it is considered that, following the evolution of relative prices, natural gas will probably increase its rôle in conventional power generation.Therefore, total demand for natural gas is expected to increase by 3.7% this year and by 5.3% next year (Graph 9).

Solids

Total demand for solid fuels was down by 1.8% in 1988. Following increased demand by the power generating sector, total demand for solids could increase in both 1989 and 1990.

Total inland deliveries of hard coal could increase by about 1% in both 1989 and 1990 following an increase in deliveries to the power plants, but not reach the level of 1987 (Table 6, 8 and 9, Graph 10).

Graph 10 − EUR 12:
Hard coal − Total inland deliveries
and growth rates in %
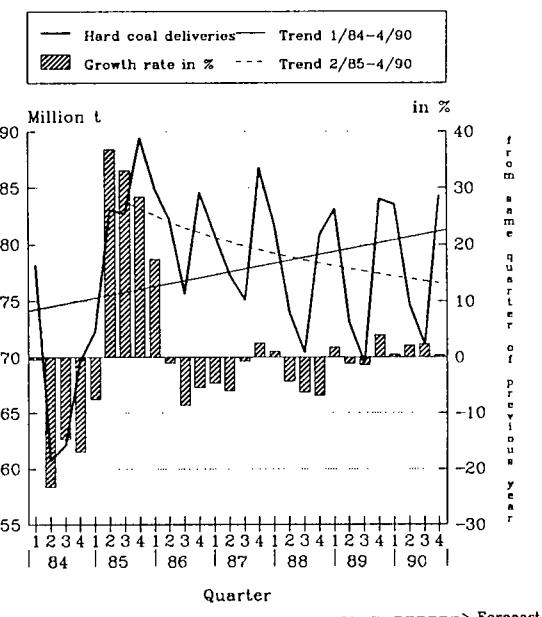
> Forecast

However, there is a significant uncertainty as to the ability of hard coal to increase its relative share in power generation, following the rise in oil prices and the movements of relative prices. As mentioned above, in this forecast, it is assumed that natural gas will penetrate faster in the power sector, slowing the growth of coal demand.

Production of hard coal in 1988 was 7.2 million tonnes less than 1987, while net imports increased by 3 million tonnes. According to recent forecasts by Member States, production could decrease by another 6 to 7 million tonnes in 1989.

Electricity

Electricity demand in 1988 was also affected by the weather but it increased, nevertheless, by 2.8%. Following our assumption for economic growth, demand in 1989 and 1990 could increase by 3.7%.

Electricity demand continues to be very strong. The last forecast, assuming "normal" weather conditions in the fourth quarter of 1988, was for an increase of 2.4% for 1988. The outcome, even with the warmer than normal fourth quarter, was 2.8%. An estimated weather corrected figure gives an underlying growth of demand of 4.9% (weather effect: 2.1%, compared to the French figure of 2.6%).

Demand growth in 1989 and 1990 is forecast to be 3.7%, meaning that electricity intensity in the Community will continue to grow during the forecast period (tables 7, 8 and 9, graph 11).

Graph 11 – EUR 12:
Electricity – Production and consumption
and growth rates in % (consumption)
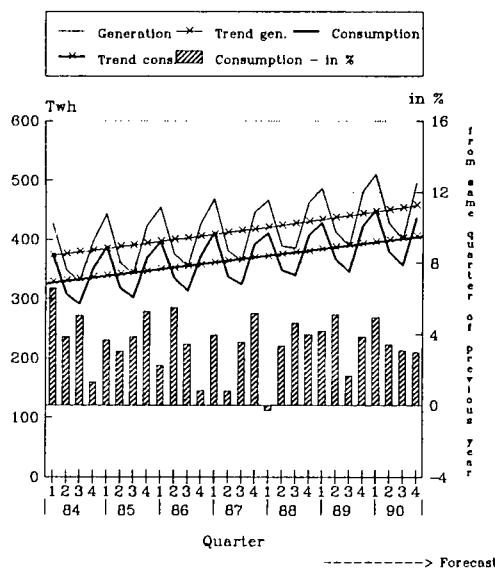
The biggest part of this increased demand will probably be satisfied by the nuclear sector. Production of nuclear heat increased by 7.2% in 1988 and could increase by more than 9% in 1989 if all the power plants planned for 1989 become operational in time (5 new units). On the contrary, only two new power plants (in France) are expected to become operational in 1990, limiting the growth of nuclear production next year to less than 4%.

However, production of electricity by conventional thermal power stations could also rise by 2.5% in 1989 and by 3.7% in 1990. All sources of energy, including oil, will probably increase their contribution to the power sector, with natural gas being the faster fuel growing.

Total supply

Both indigenous production and net imports could increase during the forecast period. Dependency on imports could continue to grow.

Due mainly to nuclear production, overall indigenous production of energy could increase by 8 Mtoe in 1989 and another 10 Mtoe in 1990.

However, on the basis of this outlook, net imports could increase by 12 Mtoe in 1989 and another 14 Mtoe in 1990 (Table 4, Graph 12). Net imports are forecast to represent about 46.1% of total primary energy consumption in 1989 and 46.2% in 1990, as compared to 43.2% in 1985, 44.8% in 1987 (latest observed annual figure) and an estimated 45.9% in 1988.

Graph 12 – EUR 12:
Energy supply
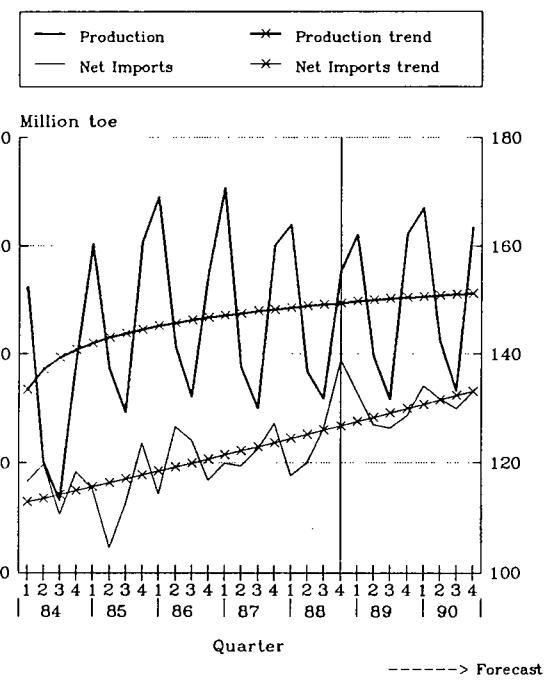
This evolution shows that since 1986 the energy dependency of the Community is increasing as net imports are following a stable upward trend, although net oil imports in 1990 could represent a smaller part of total energy consumption than in 1986.

Table 2 – EUR 12
Macroeconomic, oil price, and weather assumptions
(Data available the 10 April 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	Year 1987	1988	1989	1990
A.MACROECONOMIC VARIABLES																			
1.Gross Domestic Product	(GDP)																		
(1980=100)	116.5	117.2	117.6	121.1	121.3	121.4	121.6	122.2	124.9	125.1	125.2	125.8	105.4	108.0	110.9	113.9	118.1	121.6	125.3
Percentage change																			
from prior year	3.6	3.4	2.5	5.1	4.1	3.6	3.4	0.9	3.0	3.0	3.0	3.0	2.4	2.5	2.6	2.7	3.7	3.0	3.0
from prior quarter(x4)	4.5	2.4	1.4	11.8	0.7	0.5	0.6	1.9	9.0	0.5	0.6	1.9							
2.Private consumption																			
(1980=100)	119.6	120.0	121.7	122.5	123.1	123.8	124.5	125.5	126.8	127.6	128.2	129.2	105.3	107.9	112.2	116.6	121.0	124.2	127.9
Percentage change																			
from prior year	4.7	3.2	3.7	3.3	2.9	3.2	2.3	2.4	3.0	3.0	3.0	3.0	1.7	2.4	4.0	4.0	3.7	2.7	3.0
from prior quarter(x4)	3.4	1.3	5.7	2.7	1.8	2.5	2.1	3.1	4.2	2.5	2.1	3.1							
3.Industrial production																			
(1985=100)	110.3	109.4	98.9	114.8	115.8	115.4	102.1	115.9	118.7	118.9	106.2	121.0	96.6	99.8	101.9	104.0	108.4	112.3	116.2
Percentage change																			
from prior year	4.0	3.3	5.0	4.5	5.0	5.5	3.2	1.0	2.5	3.0	4.1	4.4	2.3	3.4	2.1	2.1	4.2	3.7	3.5
from prior quarter(x4)	1.5	-3.3	-38.4	64.3	3.5	-1.4	-46.3	54.4	9.5	0.6	-42.5	55.7							
4.Steel Production																			
(1985=100)	101.9	101.8	96.1	105.0	108.0	107.4	98.5	106.1	109.1	110.3	101.9	110.5	99.1	100	92.7	93.0	101.2	105.0	107.9
Percentage change																			
from prior year	10.9	4.1	11.0	9.8	6.0	5.5	2.5	1.0	1.0	2.7	3.4	4.2	22.6	0.8	-7.2	0.3	8.8	3.7	2.8
from prior quarter(x4)	26.4	-0.4	-22.4	37.0	11.5	-2.3	-33.1	30.6	11.5	4.4	-30.6	34.0							
5.Chemical Industry, SA																			
(1980=100)	123.3	124.5	127.4	127.9	128.8	129.5	130.7	131.7	132.3	133.8	135.8	136.9	111.0	113.9	114.6	118.6	125.8	130.2	134.7
Percentage change																			
from prior year	6.5	6.0	6.4	5.5	4.5	4.0	2.6	2.9	2.7	3.3	3.9	4.0	6.0	2.6	0.6	3.5	6.1	3.5	3.5
from prior quarter(x4)	6.6	4.1	9.2	1.7	2.7	2.2	3.7	2.9	2.0	4.5	6.1	3.3							
6.Consumer Price Index																			
(1985=100)	109.0	110.2	111.3	112.7	113.6	114.8	116.0	117.4	118.0	119.3	120.5	122.0	94.2	100.0	103.6	107.0	110.8	115.5	120.0
Percentage change																			
from prior year	3.1	3.3	3.7	4.2	4.2	4.2	4.2	4.2	3.9	3.9	3.9	3.9	7.4	6.2	3.6	3.3	3.6	4.2	3.9
from prior quarter(x4)	3.0	4.4	4.0	5.0	3.1	4.4	4.0	5.0	2.0	4.4	4.0	5.0							
7.Exchange Rate																			
(1 ECU = xx US $)	1.234	1.216	1.114	1.170	1.126	1.130	1.130	1.130	1.130	1.130	1.130	1.130	0.790	0.762	0.983	1.154	1.184	1.129	1.130
B.OIL PRICE																			
Imported Crude Oil																			
(caf, US $/barril)	16.02	15.91	14.39	13.27	16.90	18.00	17.00	17.00	17.50	17.50	18.00	18.00	28.98	27.54	14.51	17.87	14.90	17.23	17.75
C.WEATHER																			
Degree Days	1134	339	0	936	1127	432	0	1011	1254	432	0	1011	2746	2803	2710	2774	2409	2570	2687
Difference from average	-120	-93	0	-75	-127	0	0	0	0	0	0	0	49	106	13	77	-288	-127	0

Sources: EUROSTAT, DG XVII

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For more information please contact the editor.

Table 3 – EUR 12
Energy prices
(Last revision: 28 April 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	Year 1987	1988	1989	1990
1.Imported crude oil (cif)																			
US $/barrel	16.0	15.9	14.39	13.27	16.9	18.0	17.0	17.0	17.5	17.5	18.0	18.0	28.98	27.54	14.51	17.87	14.90	17.2	17.8
ECU/barrel	13.0	13.1	12.92	11.34	15.0	15.9	15.0	15.0	15.5	15.5	15.9	15.9	36.77	36.40	14.91	15.50	12.58	15.3	15.7
Growth rate from previous quarter, in %																			
US $/barrel	-9.9	-0.7	-9.6	-7.8	27.4	6.5	-5.6	0.0	2.9	0.0	2.9	0.0	-3.7	-5.0	-47.3	23.2	-16.6	15.6	3.0
ECU/barrel	-11.4	0.8	-1.3	-12.2	32.3	6.1	-5.6	0.0	2.9	0.0	2.9	0.0	8.8	-1.0	-59.0	3.9	-18.8	21.3	3.0
Real prices in ECU																			
(in 1985 prices)	11.9	11.9	11.6	10.1	13.2	13.9	13.0	12.8	13.1	13.0	13.2	13.1	39.0	36.4	14.4	14.5	11.4	13.2	13.1
(in 1988 prices)	13.2	13.2	12.9	11.2	14.6	15.4	14.4	14.2	14.5	14.4	14.6	14.5	43.2	40.4	16.0	16.1	12.6	14.6	14.5
Growth rate from previous quarter, in %																			
(in real ECU)	-12.0	-0.3	-2.2	-13.3	31.3	5.0	-6.5	-1.2	2.4	-1.1	1.8	-1.2	1.3	-6.6	-60.4	0.5	-21.6	16.3	-0.9
2.Imported Steam Coal																			
US $/tce	43.8	47.2	47.1	46.8	48.1	49.3	50.0	49.9	50.3	51.9	52.1	51.7	51.0	51.6	48.3	43.1	46.2	49.3	51.5
ECU/tce	35.5	38.8	42.3	40.0	42.7	43.6	44.2	44.2	44.5	45.9	46.1	45.8	64.7	68.2	49.3	37.4	39.1	43.7	45.6
3.Oil Products - Final consumer prices																			
Gasoline (ECU/1000 lt)	599	618	623	617	652	661	669	674	671	686	705	705	722.2	752.4	624.5	615.2	614.6	663.9	691.7
Diesel (ECU/1000 lt)	379	382	384	377	400	406	414	421	419	427	433	438	481.4	506.1	396.8	384.6	380.5	410.5	429.3
Heating oil (ECU/1000lt)	232	234	236	232	257	257	263	271	262	273	277	283	370.3	395.8	258.0	248.3	233.7	261.9	274.1
Residual Fuel Oil (ECU/t)	92	97	99	87	101	115	113	113	115	115	117	118	242.4	243.4	122.1	117.3	93.9	110.3	116.2
Growth rate from previous quarter, in %																			
Gasoline	-2.1	3.2	0.8	-1.0	5.6	1.3	1.2	0.7	-0.4	2.3	2.8	-0.1	4.6	4.2	-17.0	-1.5	-0.1	8.0	4.2
Diesel	-1.8	0.6	0.6	-1.7	6.2	1.5	1.8	1.8	-0.6	2.0	1.3	1.3	5.5	5.1	-21.6	-3.1	-1.1	7.9	4.6
Heating oil	-6.7	0.7	0.9	-1.9	10.9	0.0	2.3	2.9	-3.0	4.2	1.4	2.2	5.5	6.9	-34.8	-3.8	-5.9	12.1	4.7
Residual Fuel Oil	-18.5	5.0	1.6	-11.4	15.9	13.2	-1.7	-0.1	1.8	0.4	1.8	0.4	17.9	0.4	-49.8	-3.9	-20.0	17.5	5.3
4.Natural gas - Final consumer prices																			
Households (1984 =100)	80.7	80.9	83.9	83.0	84.2	86.0	88.5	85.6	88.5	91.1	93.5	90.2	100.0	105.5	96.6	80.9	82.1	86.1	90.8
Industry (1984 =100)	58.1	55.6	54.5	52.5	56.6	58.5	57.0	56.9	61.5	63.2	62.7	61.6	100.0	104.6	74.0	57.4	55.2	57.3	62.2
Growth rate from previous quarter, in %																			
Households	2.0	0.2	3.8	-1.2	1.5	2.2	2.9	-3.3	3.4	2.9	2.6	-3.6	4.4	5.5	-8.4	-16.3	1.5	4.8	5.5
Industry	0.6	-4.3	-2.1	-3.5	7.8	3.2	-2.6	-0.1	8.0	2.9	-0.9	-1.7	10.8	4.6	-29.3	-22.3	-3.9	3.8	8.7
5.Coal - Final consumer prices																			
Households (ECU/t)	204.8	202.3	202.6	208.6	211.7	209.2	212.0	214.6	217.2	214.6	217.1	219.5	193.8	203.6	199.1	200.0	204.6	211.9	217.1
Industry (ECU/t)	92.5	89.4	89.5	90.0	90.7	90.3	90.1	89.8	90.6	90.5	90.3	90.2	94.1	96.6	92.7	91.8	90.4	90.2	90.4
Growth rate from previous quarter, in %																			
Households	1.0	-1.2	0.2	2.9	1.5	-1.2	1.3	1.2	1.2	-1.2	1.2	1.1	10.1	5.1	-2.2	0.5	2.3	3.6	2.4
Industry	0.8	-3.3	0.1	0.5	0.7	-0.4	-0.3	-0.3	0.9	-0.2	-0.2	-0.2	1.7	2.7	-4.1	-0.9	-1.6	-0.2	0.2
6.Electricity - Final consumer prices																			
Households (ECU/100 Kwh)	10.5	10.6	10.8	10.8	10.9	11.1	11.4	11.4	11.5	11.7	12.0	12.0	10.2	10.6	10.5	10.5	10.7	11.2	11.8
Industry (ECU/100 Kwh)	6.0	5.8	5.8	5.8	6.0	6.1	6.1	6.3	6.5	6.4	6.5	6.6	5.8	6.0	5.9	5.8	5.8	6.1	6.5
Growth rate from previous quarter, in %																			
Households	-1.5	1.1	2.0	-0.3	1.3	1.7	2.4	0.0	1.4	1.5	2.2	0.1	6.0	3.8	-0.6	-0.2	1.7	4.9	5.4
Industry	-0.3	-3.1	0.4	0.0	2.6	1.5	1.3	2.5	3.0	-1.4	1.1	2.6	4.2	4.2	-2.2	-1.0	0.6	4.5	6.1

Sources: IEA; DG XVII estimates

Table 4 – EUR 12
Primary energy balance (million toe)
(Last revision: 28 April 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	1987 (Year)	1988	1989	1990
Primary production																			
Solid fuels:	41.7	39.2	38.2	43.4	40.8	38.5	37.3	42.6	40.2	37.8	36.3	41.5	145.3	169.7	173.7	166.8	162.4	159.3	155.7
Hard coal	33.5	31.9	30.1	34.4	32.4	30.9	29.1	33.3	31.4	29.9	28.2	32.2	107.5	133.8	139.6	134.2	129.8	125.7	121.7
Lignite	8.2	7.3	8.1	9.0	8.4	7.7	8.2	9.4	8.9	7.9	8.1	9.3	37.7	35.9	34.1	32.6	32.6	33.6	34.1
Oil	38.2	35.8	33.3	32.9	34.4	32.2	32.7	34.5	35.0	33.3	34.3	36.1	145.5	149.2	150.1	148.0	140.1	133.8	138.7
Natural gas	40.1	23.2	20.0	35.4	40.4	25.0	19.2	38.7	43.5	25.6	18.6	38.4	119.4	126.7	123.6	128.5	118.6	123.2	126.1
Heat	38.9	33.2	36.2	39.9	42.7	38.6	38.3	42.2	43.4	40.6	40.0	43.1	97.8	126.0	134.4	138.3	148.3	161.8	167.2
Primary electricity	4.6	4.9	3.6	3.3	3.3	4.8	3.6	3.6	4.3	4.6	3.5	3.8	14.8	14.4	14.0	14.9	16.4	15.3	16.2
Other	0.6	0.6	0.6	0.6	0.6	0.6	0.5	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	164.0	136.8	131.8	155.4	162.2	139.7	131.7	162.2	167.1	142.4	133.2	163.5	524.3	587.6	597.6	598.5	588.0	595.7	606.2
Recovered Production																			
Hard Coal	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.5	0.6	2.4	3.3	3.1	2.1	2.3	2.3	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	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	2.7	3.6	4.7	3.3	3.6	3.7	3.6
Net imports																			
Solid fuels:	15.2	14.7	14.8	15.5	19.6	14.5	12.9	17.1	20.7	16.8	15.3	18.3	56.9	62.4	59.7	58.4	60.2	64.0	71.1
Hard coal	14.8	14.7	14.8	15.3	19.2	15.0	13.5	16.8	20.2	17.2	16.0	18.2	55.8	62.3	59.3	57.7	59.7	64.5	71.5
Oil	83.2	86.8	94.8	103.1	93.1	93.4	97.0	90.6	90.8	94.8	96.7	91.8	349.8	333.3	356.2	357.3	367.9	374.2	374.1
Natural gas	19.0	17.8	16.2	20.0	19.9	18.4	15.9	20.8	22.3	19.6	17.4	22.4	57.0	59.1	64.8	71.8	72.9	75.0	81.7
Electricity	0.3	0.7	0.5	0.3	0.3	0.6	0.6	0.3	0.3	0.5	0.6	0.4	1.5	1.2	1.2	1.6	1.8	1.7	1.9
TOTAL	117.7	120.0	126.3	138.8	132.9	126.9	126.4	128.7	134.1	131.7	130.0	132.9	465.3	456.0	481.9	489.1	502.8	514.9	528.8
Change in stocks																			
Solid fuels:	-3.8	3.2	2.1	-2.5	-3.2	2.0	2.0	-4.0	-4.7	2.1	3.0	-4.4	-15.2	-4.1	5.8	-2.9	-1.0	-3.2	-4.0
Hard coal	-3.8	3.4	2.5	-1.5	-2.3	2.6	2.0	-3.5	-4.0	2.6	3.0	-3.9	-12.4	-0.5	4.4	-4.4	0.6	-1.2	-2.2
Coke	-0.0	-0.2	-0.5	-1.0	-0.9	-0.6	-0.0	-0.5	-0.7	-0.5	0.0	-0.5	-3.5	-2.6	1.5	0.9	-1.7	-2.0	-1.7
Oil	-6.8	3.8	3.5	0.4	-1.0	3.3	5.4	-7.6	-5.0	3.9	5.6	-5.4	-3.5	0.7	3.7	2.1	0.8	0.1	-0.9
Natural gas	-6.4	3.6	5.9	-3.0	-4.3	2.8	3.9	-2.7	-5.4	3.3	3.8	-3.0	0.1	1.3	1.6	1.4	0.0	-0.4	-1.4
TOTAL	-17.1	10.6	11.4	-5.1	-8.5	8.1	11.3	-14.3	-15.1	9.3	12.3	-12.8	-18.5	-2.2	11.1	0.7	-0.2	-3.4	-6.2
Bunkers	7.3	7.4	8.2	8.0	7.5	7.6	7.6	7.2	7.0	7.2	7.1	6.8	23.8	26.2	30.5	29.5	31.0	29.8	28.1
Apparent gross consumption																			
Solid fuels:	61.3	51.3	51.5	61.9	64.2	51.6	48.7	64.3	66.2	52.9	49.1	64.8	219.7	239.5	230.7	230.1	225.9	228.8	233.1
Hard coal	52.6	43.8	42.9	51.8	54.5	43.8	41.2	5.3	56.2	45.0	41.7	54.9	178.2	199.8	197.6	198.4	191.2	193.7	197.7
Coke	0.1	0.0	0.3	0.9	0.8	0.3	-0.1	0.6	0.6	0.2	-0.1	0.6	2.7	1.3	-2.5	-1.3	1.4	1.5	1.4
Lignite	8.6	7.4	8.2	9.2	8.9	7.5	7.6	9.5	9.5	7.7	7.4	9.3	38.9	38.4	35.6	33.0	33.4	33.6	33.9
Oil	121.3	111.8	116.8	127.8	121.4	115.1	117.1	125.8	124.1	117.3	118.7	126.8	475.3	455.9	473.7	474.9	477.6	479.3	486.9
Natural gas	65.5	37.3	30.3	58.3	64.6	40.6	31.2	62.2	71.2	41.9	32.2	63.8	176.2	184.5	186.8	198.9	191.5	198.6	209.1
Heat	38.9	33.2	36.2	39.9	42.7	38.6	38.3	42.2	43.4	40.6	40.0	43.1	97.8	126.0	134.4	138.3	148.3	161.8	167.2
Primary electricity	4.9	5.6	4.1	3.7	3.6	5.4	4.2	3.9	4.6	5.1	4.2	4.2	16.3	15.6	15.2	16.4	18.2	17.1	18.1
Other	0.6	0.6	0.6	0.6	0.6	0.6	0.5	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	292.4	239.7	239.4	292.2	297.1	251.9	240.0	298.9	310.2	258.5	244.7	303.4	987.1	1023.2	1042.6	1060.8	1063.7	1087.8	1116.7
Adjustment to annual figures																			
Solid fuels	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	-0.6	0.7	0.0	0.0	0.0	0.0
Oil	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.4	6.6	0.2	1.7	2.0	0.0	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	-0.7	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	0.3	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	0.2	0.1	0.1	0.1	0.0	0.0	0.0
TOTAL	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8	6.1	1.0	1.5	2.0	0.0	0.0
Gross inland consumption																			
Solid fuels	61.3	51.3	51.5	61.9	64.2	51.6	48.7	64.3	66.2	52.9	49.1	64.8	219.7	239.0	231.4	230.2	725.9	228.8	233.1
Oil	121.8	112.3	117.3	128.3	121.4	115.1	117.1	125.8	124.1	117.3	118.7	126.8	471.9	462.5	473.9	476.6	479.6	479.3	486.9
Natural gas	65.5	37.3	30.3	58.3	64.6	40.6	31.2	62.2	71.2	41.9	32.2	63.8	176.6	184.7	186.8	198.2	191.5	198.6	209.1
Heat	38.9	33.2	36.2	39.9	42.7	38.6	38.3	42.2	43.4	40.6	40.0	43.1	104.4	125.7	134.4	138.6	148.3	161.8	167.2
Primary electricity	4.9	5.6	4.1	3.7	3.6	5.4	4.2	3.9	4.6	5.1	4.2	4.2	16.6	15.8	15.4	16.5	18.2	17.1	18.1
Other	0.6	0.6	0.6	0.6	0.6	0.6	0.5	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	292.9	240.2	239.9	292.7	297.1	251.9	240.0	298.9	310.2	258.5	244.7	303.4	990.9	1029.4	1043.6	1062.3	1065.7	1087.8	1116.7
Net imports as % of consumption																			
Hard Coal	28.1	33.6	34.5	29.6	35.3	34.1	32.9	30.9	36.0	38.2	38.3	33.1	31.4	31.2	30.0	29.1	31.2	33.3	36.2
Oil	64.5	72.5	75.6	75.6	72.3	76.2	77.8	68.1	69.3	76.1	76.9	68.7	70.6	68.2	70.6	70.6	72.1	73.5	72.6
Natural gas	28.9	47.7	53.4	34.2	30.8	45.4	50.8	33.4	31.3	46.8	54.1	35.1	32.3	32.0	34.7	36.2	38.1	37.7	39.1
TOTAL	39.2	48.5	50.9	46.2	43.6	48.9	51.0	42.0	42.3	49.6	51.6	42.9	45.9	43.2	44.9	44.8	45.9	46.1	46.2
Oil imports as % of total energy consumption	27.7	35.1	38.2	34.3	30.6	36.0	39.2	29.6	28.6	35.7	39.4	29.6	34.5	31.6	33.2	32.7	33.5	33.5	32.7

Table 5 – EUR 12
Oil and natural gas: Supply and disposal
(Last revision: 28 April 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	Year 1987	1988	1989	1990
1.OIL (Million tonnes)																			
Primary production	38.1	35.8	33.2	32.7	34.3	32.2	32.7	34.4	34.9	33.3	34.3	36.0	144.2	147.9	150.0	147.5	139.9	133.6	138.5
of which: crude	36.6	34.5	32.0	31.3	32.9	31.0	31.6	33.1	33.7	32.2	33.3	34.9	140.3	144.2	143.7	141.2	134.4	128.6	134.2
Change in stocks	-7.0	3.9	3.6	0.4	-1.0	3.3	5.4	-7.6	-5.0	3.9	5.6	-5.4	-3.5	0.7	3.8	2.2	0.8	0.1	-0.9
Net imports	83.1	86.6	94.6	102.8	92.9	93.2	96.8	90.4	90.6	94.6	96.5	91.6	349.5	332.6	355.4	356.6	367.0	373.4	373.3
Bunkers	7.5	7.7	8.4	8.3	7.7	7.8	7.8	7.4	7.2	7.4	7.3	7.0	24.5	27.0	31.4	30.4	31.9	30.8	29.0
Apparent consumption	120.6	110.9	115.8	126.9	120.6	114.3	116.3	125.0	123.3	116.6	117.9	126.0	472.7	452.9	470.2	471.4	474.1	476.1	483.7
Adjustment	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.3	7.3	0.7	1.6	2.0	0.0	0.0
Gross inland consumption	121.1	111.4	116.3	127.4	120.6	114.3	116.3	125.0	123.3	116.6	117.9	126.0	470.4	460.1	470.9	473.1	476.1	476.1	483.7
Transformation input	125.0	124.3	134.4	142.4	130.3	125.0	133.9	139.3	131.2	127.4	135.8	141.0	517.7	492.3	515.6	506.7	526.2	528.5	535.4
of which:																			
Refineries	115.0	116.0	125.4	130.6	117.9	116.7	126.1	128.4	119.4	119.1	127.5	129.5	462.3	448.9	476.1	467.0	487.0	489.1	495.5
Power generation	9.6	7.9	8.5	11.4	12.0	7.9	7.4	10.5	11.4	7.9	7.9	11.1	52.9	41.3	37.3	38.0	37.5	37.8	38.3
Refineries gross output	114.5	115.3	124.3	130.4	117.8	116.1	125.6	128.0	119.4	118.7	127.3	129.3	456.6	444.6	473.1	464.2	484.6	487.5	494.8
Refineries consumption	7.0	6.7	7.0	7.3	7.2	6.8	7.0	7.4	7.3	6.9	7.1	7.5	25.7	24.8	27.4	27.2	28.1	28.3	28.7
Refineries net output	107.5	108.5	117.3	123.1	110.6	109.4	118.6	120.7	112.2	111.8	120.2	121.9	430.9	419.8	445.7	437.0	456.5	459.2	466.1
Avail.final consumption	103.6	95.6	99.2	108.1	100.8	98.7	101.0	106.4	104.2	101.0	102.2	106.9	383.5	387.7	401.0	403.4	406.4	406.9	414.4
Final consumption (est)	103.0	98.0	100.4	109.9	101.2	99.7	102.0	107.4	104.3	101.5	102.8	107.3	390.1	385.8	401.6	402.7	411.3	410.3	416.0
Statistical difference	0.7	-2.4	-1.2	-1.9	-0.4	-1.0	-1.0	-1.0	-0.1	-0.5	-0.6	-0.4	-6.6	1.9	-0.7	0.8	-4.9	-3.4	-1.6
Inland Deliveries:																			
Motor gasoline	23.5	25.5	26.8	25.2	23.5	25.6	26.7	25.2	23.3	26.0	27.1	25.4	91.6	91.2	95.5	97.9	101.1	101.1	101.7
Kerosenes	5.7	6.3	7.2	6.3	6.1	6.5	7.4	6.5	6.3	6.8	7.7	6.8	21.0	21.7	22.8	24.0	25.5	26.4	27.5
Gas/diesel oil-total	45.7	37.4	38.4	47.7	43.2	38.7	39.2	45.2	45.5	39.3	39.0	44.3	155.9	162.3	169.9	168.5	169.2	166.2	168.1
of which:																			
Autom.Diesel	17.9	18.8	19.0	20.2	18.6	19.9	20.0	20.3	19.8	21.2	21.3	21.6	49.6	60.8	65.8	69.9	75.9	78.7	83.9
Heating Gas oil	27.9	18.5	19.4	27.5	24.6	18.8	19.1	24.9	25.7	18.1	17.8	22.7	106.3	101.4	104.1	98.5	93.3	87.5	84.2
Heavy fuel oil	17.4	15.4	14.8	19.9	19.6	14.7	13.6	17.7	18.6	14.2	13.6	17.8	98.2	78.1	74.2	70.4	67.5	65.6	64.3
Other products	20.6	21.7	22.1	22.7	21.4	22.5	22.9	23.6	22.5	23.5	23.6	24.5	78.9	76.0	78.8	81.6	87.1	90.4	94.2
TOTAL	113.0	106.3	109.4	121.8	113.6	108.0	109.8	118.2	116.2	109.8	111.1	118.8	445.6	429.2	441.1	442.3	450.4	449.7	455.9
2.NATURAL GAS (Million toe)																			
Primary production	40.1	23.2	20.0	35.4	40.4	25.0	19.2	38.7	43.5	25.6	18.6	38.4	119.4	126.7	123.6	128.5	118.6	123.2	126.1
Change in stocks	-6.4	3.6	5.9	-3.0	-4.3	2.8	3.9	-2.7	-5.4	3.3	3.8	-3.0	0.1	1.3	1.6	1.4	0.0	-0.4	-1.4
Net imports	19.0	17.8	16.2	20.0	19.9	18.4	15.9	20.8	22.3	19.6	17.4	22.4	57.0	59.1	64.8	71.8	72.9	75.0	81.7
Apparent consumption	65.5	37.3	30.3	58.3	64.6	40.6	31.2	62.2	71.2	41.9	32.2	63.8	176.2	184.5	186.8	198.9	191.5	198.6	209.1
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	0.4	0.2	0.0	-0.7	0.0	0.0	0.0
Gross inland consumption	65.5	37.3	30.3	58.3	64.6	40.6	31.2	62.2	71.2	41.9	32.2	63.8	176.6	184.7	186.8	198.2	191.5	198.6	209.1
of which:																			
Power generation	6.4	5.1	4.8	6.4	6.8	5.1	5.3	7.6	7.8	5.7	5.7	8.1	24.8	22.7	21.9	23.8	22.6	24.7	27.3
Final consumption (est)	56.2	30.6	24.1	49.4	54.9	33.7	24.6	51.9	60.3	34.4	25.1	52.8	145.6	154.8	155.8	165.7	160.4	165.1	172.6

Table 6 – EUR 12
Solid fuels: Supply and disposal
(Last revision: 28 April 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	Year 1987	1988	1989	1990
1.HARD COAL (Million tonnes)																			
Primary production	55.4	52.7	49.8	56.8	53.6	51.0	48.2	55.0	51.9	49.4	46.6	53.2	172.6	217.5	228.2	221.8	214.6	207.8	201.1
Recovered production	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.4	1.3	1.2	1.2	1.3	5.4	7.4	6.8	4.7	5.0	5.2	5.0
Change in stocks:																			
Collieries	-0.4	1.0	1.3	-0.7	0.9	1.8	0.4	-2.3	0.2	2.0	0.9	-2.2	-8.0	-10.3	0.3	-2.8	1.1	0.8	0.8
Power plants	-6.3	4.9	3.3	-4.1	-4.8	2.6	3.1	-3.8	-7.1	2.5	4.3	-4.5	-13.0	8.1	8.2	-4.7	-2.2	-2.9	-4.7
Total	-6.5	5.8	4.4	-2.6	-3.9	4.4	3.5	-6.1	-6.9	4.5	5.2	-6.7	-21.5	-0.8	7.6	-7.6	1.0	-2.0	-3.9
Net imports	22.9	22.8	22.9	23.7	29.1	22.7	20.5	25.4	30.6	26.1	24.2	27.5	86.4	96.4	91.8	89.3	92.2	97.7	108.4
Apparent consumption	86.0	71.0	69.5	84.4	88.0	70.6	66.3	87.9	90.6	72.2	66.8	88.8	285.9	322.1	319.2	323.3	310.8	312.7	318.4
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	-0.5	-0.3	0.1	-1.4	0.0	0.0	0.0
Gross inland consumption	86.0	71.0	69.5	84.4	88.0	70.6	66.3	87.9	90.6	72.2	66.8	88.8	285.4	321.8	319.4	321.9	310.8	312.7	318.4
Transformation input	76.8	59.7	57.7	73.9	77.7	60.7	56.6	76.1	80.0	62.3	57.0	76.9	245.7	272.8	277.0	279.9	268.1	271.1	276.1
of which:																			
Power generation	58.4	42.4	40.0	56.3	60.2	43.0	39.1	58.4	62.8	45.0	39.9	59.7	167.9	188.1	195.5	205.0	197.1	200.7	207.4
Coke	17.8	16.6	17.1	16.9	16.9	17.2	17.0	16.9	16.6	16.7	16.5	16.4	75.1	81.3	78.1	71.9	68.4	68.0	66.2
Production patent fuels	0.6	0.6	0.6	0.8	0.6	0.5	0.5	0.7	0.6	0.5	0.5	0.8	3.1	3.6	3.2	3.0	2.5	2.4	2.4
Avail.final consumption	9.7	11.9	12.4	11.2	10.8	10.3	10.3	12.5	11.2	10.4	10.4	12.7	42.7	52.6	45.5	45.0	45.2	43.9	44.6
Final consumption (est)	11.7	10.0	10.0	11.8	10.8	10.3	10.3	12.5	11.2	10.4	10.4	12.7	41.1	50.2	45.3	47.8	43.6	43.9	44.6
Industry	6.9	6.4	6.2	7.4	6.3	6.5	6.8	7.9	6.6	6.7	6.9	8.2	22.0	28.3	24.0	28.0	27.0	27.5	28.4
Domestic	4.8	3.6	3.8	4.5	4.6	3.8	3.5	4.6	4.6	3.7	3.4	4.5	19.0	21.9	21.3	19.9	16.6	16.4	16.3
Statistical difference	-2.0	1.9	2.4	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	2.4	0.2	-2.8	1.6	0.0	0.0
Deliveries of hard coal to																			
Power plants	50.9	46.0	42.1	50.7	54.2	44.4	40.9	53.0	54.4	46.3	42.9	53.6	146.5	189.2	195.3	194.9	189.7	192.5	197.2
Coking plants	17.8	16.6	17.1	16.9	16.9	17.2	17.0	16.9	16.6	16.7	16.5	16.4	75.1	81.3	78.1	71.9	68.4	68.0	66.2
Patent plants	0.6	0.7	0.6	0.7	0.6	0.5	0.6	0.8	0.6	0.5	0.6	0.8	2.8	3.4	3.4	3.0	2.7	2.5	2.5
All industries	7.9	7.4	7.2	8.5	7.2	7.5	7.8	9.1	7.6	7.6	8.0	9.4	28.8	33.6	30.9	31.9	31.0	31.6	32.6
Households	4.2	3.0	3.2	3.7	4.0	3.3	2.9	3.8	4.0	3.2	2.9	3.8	16.0	18.3	18.1	16.9	14.1	14.1	13.9
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	1.3	1.3
TOTAL	81.7	74.0	70.4	80.9	83.2	73.2	69.5	84.0	83.6	74.7	71.1	84.3	270.7	327.5	327.3	320.0	307.0	309.8	313.7
Power sector:																			
Deliv. to power plants	50.9	46.0	42.1	50.7	54.2	44.4	40.9	53.0	54.4	46.3	42.9	53.6	146.5	189.2	195.3	194.9	189.7	192.5	197.2
Industry	1.3	1.3	1.2	1.5	1.2	1.3	1.3	1.6	1.3	1.3	1.4	1.6	8.3	7.1	8.4	5.4	5.3	5.4	5.6
Total	52.2	47.3	43.3	52.2	55.4	45.6	42.2	54.6	55.7	47.6	44.2	55.2	154.9	196.2	203.7	200.3	195.0	197.8	202.7
Change in stocks	-6.3	4.9	3.3	-4.1	-4.8	2.6	3.1	-3.8	-7.1	2.5	4.3	-4.5	-13.0	8.1	8.2	-4.7	-2.2	-2.9	-4.7
Consumption in power stations	58.4	42.4	40.0	56.3	60.2	43.0	39.1	58.4	62.8	45.0	39.9	59.7	167.9	188.1	195.5	205.0	197.1	200.7	207.4
2.HARD COKE (Million tonnes)																			
Coking plants																			
Production	13.4	13.1	13.0	12.9	12.9	13.2	13.1	13.0	12.8	13.0	12.8	12.7	56.2	60.8	58.4	53.8	52.4	52.3	51.3
Change in stocks	0.0	-0.3	-0.7	-1.4	-1.4	-0.8	-0.0	-0.7	-1.0	-0.7	0.0	-0.8	-5.2	-3.9	2.2	1.4	-2.4	-2.9	-2.5
Deliveries to the iron and steel industry	11.5	11.5	11.7	11.6	12.0	11.9	11.3	11.5	11.7	11.7	11.1	11.3	52.1	53.2	47.9	45.0	46.3	46.7	45.8
3.LIGNITE (Million tonnes)																			
Production	45.5	40.4	44.9	50.1	46.5	42.7	45.3	52.0	49.2	43.8	44.8	51.4	196.5	186.9	183.1	180.6	180.9	186.5	189.3
Consumption in power stations	39.5	35.3	40.4	45.4	41.3	37.0	39.3	47.4	44.3	38.3	38.8	46.8	173.9	171.0	162.6	157.3	160.6	165.0	168.1

(*) 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: 28 April 1989)

	1Q88	2Q88	3Q88	4Q88	1Q89	2Q89	3Q89	4Q89	1Q90	2Q90	3Q90	4Q90	1984	1985	1986	Year 1987	1988	1989	1990
1.ELECTRICAL POWER (TWh)																			
A.GENERATION																			
Total gross generation	466.4	389.0	385.5	462.9	485.9	413.0	388.5	481.1	510.0	426.6	400.3	495.2	1499.9	1571.1	1612.0	1658.9	1703.8	1768.5	1832.1
net of pumping	462.3	385.0	381.3	458.7	481.8	408.7	384.5	476.9	505.8	422.4	396.3	490.9	1482.9	1552.3	1594.7	1642.8	1687.3	1751.9	1815.4
of which:																			
Primary:	53.4	56.5	42.2	38.6	38.2	56.0	42.3	41.9	49.9	52.9	40.9	44.2	172.1	167.4	163.3	172.8	190.7	178.5	187.9
Hydro(net of pumping)	52.6	55.7	41.4	37.9	37.5	55.3	41.5	41.2	49.1	52.2	40.1	43.4	169.3	164.7	160.6	169.8	187.6	175.4	184.8
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
Derived:	408.9	328.5	339.1	420.1	443.5	352.7	342.2	434.9	455.9	369.4	355.4	446.8	1310.8	1384.9	1431.3	1470.0	1496.6	1573.4	1627.4
Nuclear	152.8	130.2	138.6	159.1	168.9	151.5	148.6	165.5	170.3	159.1	155.6	169.3	399.0	483.2	522.6	538.2	580.7	634.6	654.3
Conventional thermal	256.1	198.3	200.5	261.0	274.6	201.2	193.7	269.4	285.6	210.4	199.8	277.5	911.7	901.7	908.7	931.8	915.9	938.8	973.2
Total net production	441.2	369.2	362.6	436.9	459.6	390.5	366.5	454.6	482.2	403.3	377.6	467.7	1419.5	1486.3	1523.5	1567.6	1609.9	1671.2	1730.8
net of pumping	437.1	365.2	358.4	432.8	455.5	386.2	362.5	450.4	478.0	399.0	373.5	463.5	1402.5	1467.5	1506.2	1551.5	1593.5	1654.6	1714.1
B.DISPOSAL																			
Total gross generation	466.4	389.0	385.5	462.9	485.9	413.0	388.5	481.1	510.0	426.6	400.3	495.2	1499.9	1571.1	1612.0	1658.9	1703.8	1768.5	1832.1
Net Imports	3.4	8.3	5.5	3.9	3.2	7.2	6.6	3.2	3.7	6.1	7.4	4.9	18.0	14.3	13.7	18.5	21.1	20.2	22.1
Gross inland consuption	469.8	397.3	391.0	466.8	489.1	420.2	395.1	484.3	513.6	432.7	407.7	500.1	1517.9	1585.4	1625.6	1677.4	1724.8	1788.7	1854.2
Pumping	4.1	4.0	4.2	4.2	4.1	4.3	4.0	4.2	4.2	4.3	4.0	4.2	17.0	18.8	17.3	16.1	16.5	16.6	16.7
Production Losses	25.2	19.8	22.9	26.0	26.3	22.5	22.0	26.5	27.8	23.4	22.7	27.4	80.4	84.8	88.5	91.3	93.9	97.3	101.3
Available for int. market	440.5	373.4	364.0	436.7	458.7	393.5	369.1	453.5	481.7	405.1	381.0	468.4	1420.5	1481.8	1519.9	1570.0	1614.5	1674.8	1736.2
Distribution losses	29.4	24.5	24.3	29.2	30.4	26.7	23.7	30.3	32.2	25.8	24.9	32.5	95.6	103.9	102.1	103.5	107.3	111.2	115.4
Consumption int. market	411.1	348.9	339.7	407.5	428.3	366.7	345.4	423.2	449.5	379.3	356.1	435.9	1324.9	1377.9	1417.8	1466.5	1507.2	1563.6	1620.7
Energy branch consumption	19.6	16.3	16.2	19.4	20.4	17.3	16.3	20.2	21.4	17.9	16.8	20.8	60.3	67.4	70.9	69.7	71.6	74.3	76.9
Final consumption (est)	391.5	332.6	323.5	388.1	407.9	349.4	329.0	403.0	428.1	361.3	339.2	415.1	1264.6	1310.5	1346.9	1396.9	1435.6	1489.3	1543.8
2.Input to conventional thermal																			
power stations (Million toe)																			
Hard coal	33.6	24.4	23.0	32.4	34.6	24.7	22.5	33.6	36.1	25.9	23.0	34.3	96.5	108.2	112.4	117.9	113.3	115.4	119.3
Lignite	7.2	6.4	7.3	8.2	7.5	6.7	7.1	8.6	8.0	6.9	7.0	8.5	33.4	32.5	30.7	28.5	29.1	29.9	30.4
Brown coal briquettes	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	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	10.9	11.5	7.5	7.1	10.0	10.9	7.6	7.6	10.6	50.6	39.5	35.7	36.3	35.8	36.2	36.6
Natural gas	6.4	5.1	4.8	6.4	6.8	5.1	5.3	7.6	7.8	5.7	5.7	8.1	24.8	22.7	21.9	23.8	22.6	24.7	27.3
Derived gas	1.5	1.5	1.7	1.6	1.5	1.5	1.5	1.6	1.5	1.5	1.5	1.6	5.4	5.5	5.5	5.1	6.3	6.0	6.1
Geothermal	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.7	0.6	0.6	0.6	2.2	2.1	2.2	2.3	2.5	2.5	2.6
Other	0.6	0.6	0.6	0.6	0.6	0.6	0.5	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	59.1	46.2	46.3	60.7	63.3	46.8	44.6	62.6	65.7	48.9	46.0	64.4	215.3	212.8	210.7	216.4	212.2	217.3	225.0
3.HEAT (TWh)																			
Production nuclear heat	445.0	379.2	413.7	457.1	489.0	441.2	438.0	483.4	497.0	465.1	457.9	494.1	1111.0	1440.3	1537.5	1580.4	1694.9	1851.6	1914.0
Production total neat	452.3	386.5	420.9	464.3	496.7	448.5	445.0	490.8	504.9	472.6	465.0	501.6	1136.8	1464.6	1562.6	1607.6	1724.0	1881.0	1944.1
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	452.3	386.5	420.9	464.3	496.7	448.5	445.0	490.8	504.9	472.6	465.0	501.6	1214.7	1462.0	1563.6	1611.7	1724.0	1881.0	1944.1
Nuclear Capacity (GW)	95.8	98.7	99.6	100.7	100.5	101.8	103.1	104.6	104.6	107.2	107.2	107.2	70.7	79.1	89.0	94.5	100.7	104.6	107.2

Table 8 – EUR 12
Main variables: growth rates from same quarter of previous year – in %
(Last revision: 28 April 1989)

	1 Q 88	2 Q 88	3 Q 88	4 Q 88	1 Q 89	2 Q 89	3 Q 89	4 Q 89	1 Q 90	2 Q 90	3 Q 90	4 Q 90
A.Specific units												
1.HARD COAL												
Production	-4.5	-4.5	-1.8	-1.9	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2
Net Imports	6.3	2.5	1.2	3.3	27.5	-0.5	-10.4	7.3	5.1	15.0	17.9	8.4
Apparent consumption	-4.0	-4.6	-1.7	-4.9	2.3	-0.6	-4.6	4.1	3.1	2.3	0.7	1.1
Gross inland consumption	-3.6	-4.1	-1.2	-4.5	2.3	-0.6	-4.6	4.1	3.1	2.3	0.7	1.1
Deliveries Power plants	2.7	-2.1	-7.8	-3.8	6.6	-3.6	-2.9	4.6	0.4	4.3	4.9	1.0
Deliveries Coking plants	-2.0	-6.7	-4.4	-6.6	-4.9	3.6	-0.7	0.2	-1.7	-2.6	-3.1	-3.2
Deliveries All industries	9.0	-6.0	-5.4	-7.0	-8.8	1.2	8.0	6.9	5.8	2.0	2.5	3.3
Deliveries Domestic	-11.2	-16.4	4.3	-32.7	-6.1	10.3	-6.8	4.0	0.1	-1.9	-1.5	-1.6
Deliveries TOTAL	1.0	-4.3	-6.2	-6.8	1.8	-1.1	-1.4	3.9	0.5	2.1	2.3	0.3
Transform. Power gener.	-3.3	-7.6	-4.9	-0.7	3.0	1.5	-2.4	3.8	4.3	4.6	2.2	2.2
2.COKE												
Production	-1.5	-3.6	-2.3	-3.2	-3.7	0.9	0.7	1.4	-0.8	-1.8	-2.4	-2.5
Deliv. to iron and steel	1.4	-1.0	8.0	3.0	4.2	4.0	-2.7	-1.4	-2.1	-2.0	-2.2	-1.7
3.LIGNITE												
Production	-3.8	-8.8	-2.8	17.0	2.2	5.5	0.9	3.8	5.8	2.7	-1.0	-1.1
Transform. Power gener.	-6.3	-7.4	3.1	19.8	4.7	4.8	-2.7	4.4	7.3	3.4	-1.3	-1.3
4.OIL												
Production	1.4	2.3	-9.9	-13.9	-9.8	-10.1	-1.6	5.1	1.7	3.4	4.9	4.6
Net Imports	-3.4	0.8	1.5	12.3	11.9	7.7	2.4	-12.0	-2.5	1.5	-0.3	1.3
Apparent Consumption	-0.9	-0.4	0.1	3.4	0.0	3.1	0.5	-1.5	2.2	2.0	1.4	0.8
Gross inland consumption	-0.9	-0.4	0.1	3.5	-0.4	2.6	0.0	-1.9	2.2	2.0	1.4	0.8
Deliveries												
Motor gasoline	7.2	2.0	2.6	1.8	-0.1	0.2	-0.3	0.1	-1.0	1.6	1.3	0.5
Gas/Diesel oil	-2.7	-0.8	-2.1	6.9	-5.5	3.5	2.0	-5.2	5.3	1.7	-0.3	-2.0
Autom. Diesel oil	12.6	7.5	6.1	8.3	4.0	5.5	5.3	0.5	6.7	6.8	6.3	6.5
Heating Gas oil	-10.5	-8.0	-8.9	5.9	-11.7	1.4	-1.3	-9.4	4.3	-3.8	-7.3	-8.9
Heavy fuel oil	-16.0	0.4	-7.6	8.7	12.6	-4.7	-7.7	-11.2	-4.8	-3.1	-0.2	0.8
Kerosenes	5.5	6.2	8.7	4.6	5.4	3.5	1.7	3.6	4.2	4.2	4.2	4.2
Other products	11.2	9.8	2.3	4.7	3.4	3.8	3.6	4.3	5.3	4.4	3.3	3.7
TOTAL	-0.5	2.5	-0.2	5.5	0.6	1.6	0.4	-2.9	2.2	1.7	1.2	0.4
Transform. Power gener.	-14.3	-2.1	-1.8	14.1	24.8	-0.3	-12.5	-8.3	-4.7	0.2	6.2	5.6
5.NATURAL GAS												
Production	-14.0	-9.7	2.2	-3.6	0.7	7.8	-3.7	9.4	7.7	2.3	-3.5	-0.6
Net Imports	-3.5	-2.9	17.5	-0.5	4.9	3.5	-2.0	4.0	12.1	6.6	9.7	7.8
Apparent Consumption	-10.4	-3.8	3.9	0.8	-1.4	8.8	3.0	6.5	10.3	3.3	3.1	2.6
Gross inland consumption	-10.2	-3.4	4.5	1.1	-1.4	8.8	3.0	6.5	10.3	3.3	3.1	2.6
Transform. Power gener.	-12.1	-10.0	-0.5	4.5	7.0	0.3	8.8	19.2	13.4	12.1	8.7	7.6
Final consumption	-9.9	-2.2	5.6	0.7	-2.3	10.2	1.9	4.9	9.9	1.9	1.9	1.9
6.HEAT												
Production nuclear heat	-0.2	7.7	19.0	5.2	9.9	16.4	5.9	5.8	1.6	5.4	4.5	2.2
7.ELECTRICITY												
Total gross generation	-0.5	2.0	6.0	4.0	4.2	6.2	0.8	3.9	5.0	3.3	3.0	2.9
Total net production	-0.5	2.5	5.7	3.8	4.2	5.8	1.1	4.0	4.9	3.3	3.0	2.9
Generation primary	34.2	20.7	5.7	-16.5	-28.4	-0.8	0.2	8.5	30.6	-5.5	-3.2	5.3
Generation derived	-3.8	-0.6	6.1	6.4	8.5	7.4	0.9	3.5	2.8	4.7	3.8	2.7
Generation nuclear	-0.4	8.9	17.8	7.8	10.5	16.4	7.2	4.0	0.8	5.0	4.7	2.3
Generation conv.thermal	-5.8	-5.9	-0.8	5.7	7.2	1.4	-3.4	3.2	4.0	4.6	3.2	3.0
Gross inland consumption	-0.2	2.8	5.1	4.2	4.1	5.8	1.0	3.7	5.0	3.0	3.2	3.3
Available internal market	-0.3	3.3	4.8	4.1	4.2	5.4	1.4	3.9	5.0	3.0	3.2	3.3
Consumption intern.market	-0.3	3.3	4.6	4.0	4.2	5.1	1.7	3.9	4.9	3.4	3.1	3.0
Final consumption	-0.3	3.4	4.5	4.0	4.2	5.0	1.7	3.9	4.9	3.4	3.1	3.0
B. Toe												
Primary Production	-4.0	-0.6	1.4	-2.9	-1.1	2.1	-0.1	4.3	3.0	2.0	1.2	0.8
Net Imports	-1.9	0.5	3.0	9.2	13.0	5.7	0.1	-7.3	0.9	3.8	2.9	3.3
Aparrent Consumption	-3.0	-0.4	3.0	2.1	1.6	5.1	0.3	2.3	4.4	2.6	1.9	1.5
Gross Inland consumption	-3.0	-0.3	3.1	2.1	1.4	4.8	0.0	2.1	4.4	2.6	1.9	1.5
of which:												
Solids	-2.7	-4.4	0.3	-0.4	4.8	0.6	-5.4	3.8	3.2	2.6	0.8	0.8
Oil	-0.9	-0.4	0.1	3.5	-0.3	2..	-0.2	-2.0	2.2	1.9	1.3	0.8
Natural gas	-10.2	-3.4	4.5	1.1	-1.4	8.8	3.0	6.5	10.3	3.3	3.1	2.6
heat	-0.3	7.4	18.4	5.0	9.8	16.1	5.7	5.7	1.7	5.4	4.5	2.2
Primary electricity	35.6	23.6	-1.8	-13.9	-27.0	-2.3	2.3	6.0	29.2	-6.7	-1.0	8.9

Table 9 - EUR 12

Main variables: year to date growth rates - in %

(Last revision: 28 April 1989)

	1 Q 88	2 Q 88	3 Q 88	4 Q 88	1 Q 89	2 Q 89	3 Q 89	4 Q 89	1 Q 90	2 Q 90	3 Q 90	4 Q 90
A. Specific units												
1. HARD COAL												
Production	-4.5	-4.5	-3.7	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2
Net Imports	6.3	4.3	3.3	3.3	27.5	13.5	5.5	6.0	5.1	9.4	11.8	10.9
Apparent consumption	-4.0	-4.3	-3.5	-3.9	2.3	1.0	-0.7	0.6	3.1	2.7	2.1	1.8
Gross inland consumption	-3.6	-3.9	-3.1	-3.4	2.3	1.0	-0.7	0.6	3.1	2.7	2.1	1.8
Deliveries Power plants	2.7	0.4	-2.2	-2.7	6.6	1.7	0.3	1.5	0.4	2.2	3.0	2.4
Deliveries Coking plants	-2.0	-4.3	-4.4	-4.9	-4.9	-0.8	-0.8	-0.5	-1.7	-2.2	-2.5	-2.7
Deliveries All industries	9.0	1.2	-1.0	-2.7	-8.8	-3.9	-0.1	1.8	5.8	3.9	3.4	3.4
Deliveries Domestic	-11.2	-13.4	-8.7	-16.5	-6.1	0.7	-1.6	-0.1	0.1	-0.8	-1.0	-1.2
Deliveries TOTAL	1.0	-1.5	-3.1	-4.1	1.8	0.4	-0.2	0.9	0.5	1.2	1.6	1.2
Transform. Power gener.	-3.3	-5.1	-5.1	-3.8	3.0	2.4	1.0	1.8	4.3	4.5	3.8	3.4
2. COKE												
Production	-1.5	-2.5	-2.5	-2.7	-3.7	-1.4	-0.7	-0.2	-0.8	-1.3	-1.7	-1.9
Deliv. to iron and steel	1.4	0.2	2.7	2.8	4.2	4.1	1.8	1.0	-2.1	-2.1	-2.1	-2.0
3. LIGNITE												
Production	-3.8	-6.2	-5.0	0.2	2.2	3.7	2.8	3.1	5.8	4.3	2.5	1.5
Transform. Power gener.	-6.3	-6.8	-3.6	2.1	4.7	4.7	2.1	2.8	7.3	5.5	3.2	1.9
4. OIL												
Production	1.4	1.9	-2.1	-5.2	-9.8	-10.0	-7.4	-4.5	1.7	2.5	3.3	3.7
Net Imports	-3.4	-1.3	-0.3	2.9	11.9	9.7	7.1	1.8	-2.5	-0.5	-0.4	0.0
Apparent Consumption	-0.9	-0.7	-0.4	0.6	0.0	1.5	1.1	0.4	2.2	2.1	1.9	1.6
Gross inland consumption	-0.9	-0.6	-0.4	0.6	-0.4	1.0	0.7	0.0	2.2	2.1	1.9	1.6
Deliveries												
Motor gasoline	7.2	4.5	3.8	3.3	-0.1	0.0	-0.1	0.0	-1.0	0.4	0.7	0.7
Gas/Diesel oil	-2.7	-1.9	-1.9	0.4	-5.5	-1.5	-0.4	-1.8	5.3	3.6	2.3	1.2
Autom. Diesel oil	12.6	9.9	8.6	8.5	4.0	4.8	4.9	3.8	6.7	6.8	6.6	6.6
Heating Gas oil	-10.5	-9.5	-9.3	-5.3	-11.7	-6.4	-4.9	-6.3	4.3	0.8	-1.7	-3.7
Heavy fuel oil	-16.0	-9.0	-8.6	-4.1	12.6	4.4	0.7	-2.8	-4.8	-4.0	-2.9	-1.9
Kerosenes	5.5	5.8	6.9	6.3	5.4	4.4	3.4	3.4	4.2	4.2	4.2	4.2
Other products	11.2	10.5	7.6	6.8	3.4	3.6	3.6	3.8	5.3	4.9	4.3	4.1
TOTAL	-0.5	0.9	0.5	1.8	0.6	1.0	0.8	-0.2	2.2	2.0	1.7	1.4
Transform. Power gener.	-14.3	-9.2	-6.9	-1.4	24.8	13.5	5.0	1.0	-4.7	-2.8	-0.3	1.3
5. NATURAL GAS												
Production	-14.0	-12.4	-9.3	-7.7	0.7	3.3	1.6	3.9	7.7	5.7	3.6	2.3
Net Imports	-3.5	-3.2	2.3	1.5	4.9	4.3	2.3	2.8	12.1	9.4	9.5	9.0
Apparent Consumption	-10.4	-8.1	-5.6	-3.7	-1.4	2.3	2.5	3.7	10.3	7.6	6.6	5.3
Gross inland consumption	-10.2	-7.8	-5.3	-3.4	-1.4	2.3	2.5	3.7	10.3	7.6	6.6	5.3
Transform. Power gener.	-12.1	-11.2	-8.2	-5.0	7.0	4.1	5.5	9.3	13.4	12.8	11.6	10.4
Final consumption	-9.9	-7.3	-4.8	-3.2	-2.3	2.1	2.0	2.9	9.9	6.9	5.8	4.6
6. HEAT												
Production nuclear heat	-0.2	3.3	8.0	7.2	9.9	12.9	10.5	9.2	1.6	3.4	3.8	3.4
7. ELECTRICITY												
Total gross generation	-0.5	0.6	2.2	2.7	4.2	5.1	3.7	3.8	5.0	4.2	3.8	3.6
Total net production	-0.5	0.8	2.3	2.7	4.2	4.9	3.7	3.8	4.9	4.2	3.8	3.6
Generation primary	34.2	26.9	20.2	10.4	-28.4	-14.2	-10.2	-6.4	30.6	9.1	5.3	5.3
Generation derived	-3.8	-2.4	0.1	1.8	8.5	8.0	5.8	5.1	2.8	3.7	3.7	3.4
Generation nuclear	-0.4	3.7	7.9	7.9	10.5	13.2	11.3	9.3	0.8	2.8	3.4	3.1
Generation conv.thermal	-5.8	-5.9	-4.4	-1.7	7.2	4.7	2.2	2.5	4.0	4.2	3.9	3.7
Gross inland consumption	-0.2	1.1	2.3	2.8	4.1	4.9	3.7	3.7	5.0	4.1	3.8	3.7
Available internal market	-0.3	1.4	2.4	2.8	4.2	4.7	3.7	3.7	5.0	4.1	3.8	3.7
Consumption intern.market	-0.3	1.3	2.3	2.8	4.2	4.6	3.7	3.7	4.9	4.2	3.9	3.7
Final consumption	-0.3	1.4	2.3	2.8	4.2	4.6	3.7	3.7	4.9	4.2	3.9	3.7
B. Toe												
Primary Production	-4.0	-2.5	-1.3	-1.8	-1.1	0.4	0.2	1.3	3.0	2.5	2.1	1.8
Net Imports	-1.9	-0.7	0.6	2.8	13.0	9.3	6.1	2.4	0.9	2.3	2.5	2.7
Apparent Consumption	-3.0	-1.9	-0.4	0.3	1.6	3.2	2.3	2.3	4.4	3.6	3.1	2.7
Gross Inland consumption	-3.0	-1.8	-0.3	0.3	1.4	3.0	2.1	2.1	4.4	3.6	3.1	2.7
of which:												
Solids	-2.7	-3.5	-2.3	-1.8	4.8	2.9	0.3	1.3	3.2	2.9	2.3	1.9
Oil	-0.9	-0.6	-0.4	0.6	-0.3	1.1	0.7	0.0	2.2	2.1	1.8	1.6
Natural gas	-10.2	-7.8	-5.3	-3.4	-1.4	2.3	2.5	3.7	10.3	7.6	6.6	5.3
Heat	-0.3	3.1	7.7	7.0	9.8	12.7	10.4	9.1	1.7	3.4	3.8	3.4
Primary electricity	35.6	28.9	18.5	10.1	-27.0	-13.8	-9.3	-6.2	29.2	7.5	4.8	5.7

Perspectives énergétiques à court terme pour la Communauté Européenne

Résumé

Les premières données provisoires pour 1988 montrent une croissance de la demande globale d'énergie primaire de 0,3% seulement. Ce résultat peut s'expliquer par l'impact considérable des conditions climatiques exceptionnelles pendant 1988, estimé à environ 2,3%.

En supposant le retour à des conditions climatiques "normales" après le premier trimestre 1989, qui a aussi été plus chaud que la moyenne, et sur la base d'une croissance économique soutenue (3% pendant 1989 et 1990), la demande globale d'énergie pourrait s'accroître par plus de 2% par an.

Cependant, à cause de la hausse récente du prix du pétrole, une stagnation des livraisons pétrolières est prévue pour 1989, suivie d'une légère reprise en 1990. La demande de gaz naturel, qui a diminué de 3,7% en 1988, pourrait augmenter considérablement en 1989 (3,7%) et encore plus en 1990 (plus de 5%).

La consommation d'électricité aussi augmentera probablement d'une manière substantielle (3,7% par an) entraînant une légère croissance des livraisons de houille (environ 1%) après deux années successives marquées par une baisse importante. La production nucléaire, déjà en fort croissance de 7,2% en 1988, pourrait connaître une croissance encore plus rapide en 1989 (plus de 9%) qui se ralentirait éventuellement en 1990.

Kurzfristige Energieprognose - Europäische Gemeinschaft

Zusammenfassung

Erste vorläufige Daten weisen für 1988 einen Anstieg der gesamten Primärenergienachfrage in der Gemeinschaft um nur 0,3% aus.

Dieses Ergebnis erklärt sich weitgehend durch den Einfluß außergewöhnlicher Wetterbedingungen im Jahre 1988. Mit normalen Wetterbedingungen wäre der Verbrauch schätzungsweise 2,3% höher gewesen.

Bei Annahme einer Rückkehr zu "normalen" Wetterbedingungen nach dem ersten Quartal 1989, das wärmer war als der Durchschnitt, und auf der Grundlage eines kontinuierlichen wirtschaftlichen Wachstums (3% jährlich im Zeitraum 1989-1990), könnte das globale Wachstum 1989 und 1990 mehr als 2% betragen.

Nach dem kürzlichen Anstieg des Ölpreises, kann nunmehr eine Stagnation des Umfangs der Öllieferungen in 1989 und nur ein geringer Anstieg in 1990 vorhergesagt werden. Die Nachfrage für Erdgas, die 1988 um 3,7% sank, wird voraussichtlich steigen (3,7%) und sogar noch mehr in 1990 (mehr als 5%).

Der Stromverbrauch wird voraussichtlich ebenfalls beträchtlich zunehmen (3,7% in 1989 und 1990). Dies wird - nach zwei aufeinanderfolgenden Jahren bedeutsamer Abnahme - zu einem leichten Anstieg der Lieferungen fester Brennstoffe führen (ca. 1%).

Die Erzeugung von Kernenergie, die 1988 um 7,2% anstieg, wird voraussichtlich dieses Jahr ebenfalls signifikant zunehmen (Zunahme um mehr als 9%, um sich dann während 1990 zu verlangsamen).

Eine Zusammenfassung der für die Vorbereitung dieser Prognose verwendeten Hauptannahmen und der Ergebnisse ist aus Tabelle 1 ersichtlich.

Perspectivas a corto plazo de la energía en la Comunidad Europea

Resumen

Las primeras indicaciones provisionales para 1988 muestran un crecimiento de la demanda de energía primaria de sólo 0,3%. Este resultado puede explicarse por las extraordinarias condiciones climáticas durante 1988. Introduciendo ésta corrección el crecimiento de la demanda sería del 2,3%.

Suponiendo un retorno a las condiciones meteorológicas "normales" después del primer trimestre de 1989, en el cual la temperatura estuvo por encima de la media, y suponiendo un crecimiento económico del 3% para 1989 y 1990, el crecimiento de la demanda energética podría ser superior al 2% para cada uno de estos años.

Sin embargo, dado el reciente incremento en los precios del petróleo, se prevé una estagnación de la demanda de petróleo en 1989 y un ligero incremento en 1990. La demanda de gas natural que decreció del 3,7% en 1988, se espera que aumentará considerablemente en 1989 (3,7%) y más todavía en 1990 (más del 5%).

El consumo eléctrico también aumentará (3,7% en los dos años), con un ligero aumento del carbón utilizado en la producción eléctrica (1%) después de dos años consecutivos en los que disminuyó. La producción nuclear, que aumentó del 7,2% en 1988, se espera que crezca en 1989 (más del 9%) para decrecer ligeramente en 1990.

En la tabla 1 se presenta un resumen de las hipótesis más importantes utilizadas en la preparación de éste estudio, así como los resultados más importantes.

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