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ENERGY IN EUROPE

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MR. A. MATUTES
Member of the Commission

Energy is an integral part of our economic, environmental and political life. It has a major part to play in fulfilling people's social and economic aspirations for a better life. Our ambition is that this sector be a source of stability not only within the Community but also in our international relations. Energy trade provides a source of income for producing countries and particularly those in the Middle East and in some territories of the former Soviet Union. Indeed, the historic changes in Central and Eastern Europe and in the Community of Independent States have important energy dimensions.

Through the Energy Charter we in the Community are seeking to ensure that energy provides a source of stability during this difficult transition period. I am also encouraged by the continuing producer/consumer dialogue. In responding to the current economic and environmental concerns it is important to co-operate together to ensure that energy fulfils its potential in meeting the social and economic aspirations of people for a better quality of life.

The Community is faced with a number of key challenges. Progressing towards a political union and an internal market will require a contribution from energy policy. The creation of the European Economic Area provides a wider framework and further enlargement of the Community will strengthen the importance of energy.

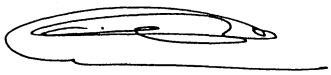
The energy dimension of these major developments is important and I am looking to energy to make a positive contribution in achieving our economic and environmental goals. Indeed, creating a policy framework commensurate with these challenges is an immediate priority.

This edition of the "Annual Energy Review" is an important source of information on energy production and use throughout the world. It provides leading indicators for energy, economic growth and carbon emissions, adding further insights to the important changes in energy trends.

Global energy consumption continues to grow and to the extent that this reflects increased welfare it must be welcomed. But the decline in energy efficiency improvements is a cause for concern. The negative impact on our environmental surroundings must be reduced. Clearly, we have a capacity in the industrial world, in the developing countries and in those countries experiencing major transitions from one economic system to another to improve the efficiency with which we use and produce energy.

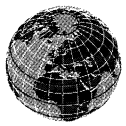
While the means will be appropriate to the circumstances in different parts of the world, achieving better use of our resources is a common challenge. The objective of "prudent and rational utilisation of natural resources" is enshrined in the Maastricht Treaty. The engineering potential for a much more efficient energy economy is available. The task now is to introduce these possibilities into everyday activity. Policy makers, industrialists and citizens alike have an economic and environmental interest in improving the efficiency with which we use energy.

In publishing this report, we hope to contribute to a better understanding of current trends and developments and with this information we can progress, ensuring that energy plays its full role in achieving sustainable development.



Abel Matutes

EXECUTIVE SUMMARY



The energy review is presented in four parts.

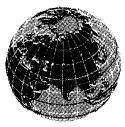
The first reports on the world energy situation by region.

Part two analyses in detail the European Community and its twelve Member States, including summary tables on energy prices.

The third part contains information on the rest of Europe and the former USSR. In this part there is an attempt to show details for each Republic of the former USSR, but limited to the availability of statistical data.

Finally, the Short-Term Energy Outlook for the Community is reviewed for 1993 and 1994.

The following are some of the key findings.



1

WORLD

Energy consumption continued to grow over the period 1985 to 1990 (2.2% per year), slowing down in 1991 to less than half the annual average between 1985 and 1990; But there were clear regional differences:

• Within OECD in 1991, consumption increased in the Community and EFTA countries due to colder weather; it virtually stabilised in the US, and slowing also in Japan and the rest of OECD, but due to the economic slowdown;

• Outside of OECD, China and the Newly Industrialising Economies still experienced strong growth;

• Due mainly to falls in the former USSR and Central and Eastern Europe, consumption growth in non-OECD countries was slower in 1991 than in OECD countries. This was a reversal of the pattern to 1990.

The fuel mix is changing:

• Oil remains the predominant source and here the Middle East is increasing its importance as world-wide supplier, but;

• Natural gas is growing strongly in most markets;

• Solid fuels have declined since 1989;

• With renewables overall growing somewhat stronger in 1991, keeping their share at about 9%;

• Reflecting growing penetration of electricity in final demand, electricity generation increased in non-OECD regions particularly Asia, where the Newly Industrialising Economies recorded an annual average of 11% to 1990. For 1991

- Growth slowed in the OECD, but output fell in the former USSR, and fell even more in Central and Eastern Europe;

- Nuclear growth was strong at almost 5% but this was still a drop from the 6% per year between 1985 and 1990; Nuclear contribution appears to be stabilising in many regions;

- The contribution of fossil fuels has remained stable at about 60%, of which solids continued to supply also about 60%;

- Use of natural gas has grown, partly displacing oil;

- Renewables maintain their share of about one quarter.

World energy production is growing faster in non-OECD areas:

• With 3.4% average growth to 1990, reversed in 1991 with a fall of almost 1%. due to a worsening of the decline (since 1988) in the ex-USSR;

• Production also fell in 1991 in Middle East (Gulf war);

• OECD primary energy production continued growing throughout 1991.

Energy Imports are playing a greater role in OECD:

• The European Community remains the largest importer in the world; energy net imports grew at more than 4% per year over the period;

• Japan is next largest importer but growing more slowly;

• The United States, third largest importer, is growing very rapidly at over 11% per year between 1985 and 1990; but net imports grew at 5.6% in 1991 due to depressed demand;

• Exports from ex-USSR continue to fall;

• The Middle East is the world's largest exporter, increasing its share to 58% in 1991 from 46% in 1985.

CO2 emissions parallel energy consumption:

• World-wide CO2 emissions continued to increase at 2% per year to 1990, with slower growth in 1991 (1%);

• Between 1985 and 1990 non-OECD emissions rose almost twice as fast as for OECD, and, since 1987, they have exceeded the volume of OECD emissions;

• In 1991, OECD emissions grew faster, because emissions from the former USSR and particularly Central and Eastern Europe have fallen strongly in line with consumption.

2

EUROPEAN COMMUNITY

Energy consumption is strongly influenced by weather conditions and economic activity:

• Despite a slowdown in economic growth in 1991, colder weather conditions in Europe led to a significant increase in final energy consumption (4.9%), led particularly by the domestic and tertiary sectors;

• Growth in the transport sector in 1991 was only half what it was over the period 1986 to 1991;

• Consumption in industry fell slightly over the period;

• But there are differences among Member States; for example in Greece, Portugal and Italy in 1991, final consumption growth actually slowed;

Fuel switching continued:

• Gas use grew fastest, reflecting its use in the domestic and tertiary sectors, but its use for power generation stagnated in 1991; gas continued to increase its share in industry, where overall demand was stagnant and solids lost out;

• Final consumption of electricity continued to grow strongly; and in 1991, despite a little acceleration, it grew less than total final energy demand;

- Nuclear growth slowed and seems to have somewhat stabilised;

- Conventional thermal generation grew faster in 1991 than earlier, not fuelled by gas-fired generation, but rather oil- and solids-fired power;

- Thermal renewables have grown strongly since 1986 but remain at a low overall volume.

Energy and oil dependency on external supplies continued to increase:

• Consumption is growing faster than domestic production;

• Except for gas where European production grew, particularly in 1991 (10%).

Energy efficiency gains are slowing down:

• Energy intensity decreased annually by 1.8% from 1980 to 1986, and declined by 0.8% per year between 1986 and 1991;

• This slow down in intensity gains was widely reflected across the Community.

CO2 emissions growth similar to that of energy consumption:

• With the transport sector reporting the fastest growth between 1985 and 1990;

• Decreasing level of emissions from the domestic and tertiary sectors, but some acceleration in 1991;

• Emissions from industry declined constantly since 1985;

• Power generation remains the sector with the highest level of CO2 emissions (almost one third) and with the second fastest growth since 1986; however, contributing to this growth is the transfer of emissions from industry and the domestic and tertiary sectors as electricity replaces direct fossil fuels use in these sectors.

Average Community energy prices have been declining in real terms

3

EFTA

Generally High economic development, but with differences between Member countries:

• Norway continues increasing its exports throughout the period and is indeed an important exporter of primary energy products to the whole of Western Europe;

• Energy consumption patterns similar to those of the European Community.

4

CENTRAL AND EASTERN EUROPE

Economic turmoil since 1987:

- High dependency upon supplies of Russian oil and gas continues;
- Energy intensity around three times Community levels;
- Only Albania and Poland are relatively energy independent.

5

FORMER USSR

Falling energy production in line with political and economic difficulties:

- Oil exports fell since 1988 by 41%;
- Natural gas exports increasing, except some 5% drop in 1991;
- Yet remains the largest world energy producer; as well as the
- Largest natural gas supplier to Western Europe.

6

SHORT-TERM OUTLOOK FOR THE COMMUNITY IN 1993 AND 1994

Based on current expectations for economic growth, energy demand is expected to grow by 0.7% in 1993 and 1% in 1994:

- But if these expectations are not met, than demand could decline by 0.6% in 1993 and 0.3% in 1994;
- These levels assume "normal" weather conditions;
- The impact of weather variations can be important (recent experience shows a 2.6% swing in demand);
- The implications for different fuels (under the reference case) are;

- Oil demand increasing by 0.5% in 1993 and almost 1% in 1994;

- Strong penetration of natural gas, increasing 3% in 1993 and 1994;

- Stable use of solid fuels, strongly linked to power sector needs;

- Slow down in electricity penetration, increasing only 1.1% in 1993 and 2..0% in 1994.

- Energy intensity improvements should approach the long-term average of 1% per year.

Results of the analysis indicate increases in nominal consumer prices of all fuels

SOURCES AND METHODS

The World was divided into regions comprising the following countries:

EUROPEAN COMMUNITY:
Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom;

EFTA:
Austria, Finland, Iceland, Norway, Sweden and Switzerland;

UNITED STATES OF AMERICA

JAPAN

REST OF OECD:
Australia, Canada, New Zealand and Turkey;

CENTRAL AND EASTERN EUROPE:
Albania, Bulgaria, former Czechoslovakia, Hungary, Poland, Romania and former Yugoslavia;

FORMER USSR:
Armenia; Azerbaijan; Belarus; Estonia; Georgia; Kazakhstan; Kyrgyzstan; Latvia; Lithuania; Moldova; Russia; Tajikistan; Turkmenistan; Ukraine; Uzbekistan;

MEDITERRANEAN:
Cyprus, Gibraltar and Malta;

NORTH AFRICA:
Algeria, Egypt, Libya, Morocco and Tunisia;

OTHER AFRICA:
all other African countries not included elsewhere;

MIDDLE EAST:
Bahrain, Israel, Iran, Iraq, Lebanon, Kuwait, Oman, Qatar, Saudi Arabia, Syria, United Arab Emirates and Yemen;

CHINA

ASIAN NEWLY INDUSTRIALISING ECONOMIES:
Hong Kong, Singapore, South Korea and Taiwan;

OTHER ASIA:
all other Asian countries not included elsewhere and the pacific islands;

LATIN AMERICA:
Mexico and all Central and South American countries.

Data cover the period from 1985 to 1990 and 1991 wherever figures were available.
The STEO covers the period from the third Quarter 1992 to the fourth Quarter of 1993.

The list of data sources are:

All European Community and its Member States data were taken from the Statistical Office of the European Communities (SOEC), except for the economic indicators (GDP and population) of the former German Democratic Republic - in this case, estimates provided by the Commission's Directorate-General of Economic Affairs (DG II), by the United Nations (UN) and by PLANECON were used;

We call the reader's attention to the fact that data for the STEO are based on monthly statistics while all other data are based on annual balance sheets; the difference between monthly and annual series may sometimes be significant;

Energy data for all other OECD Countries came from the International Energy Agency (IEA) energy balances; the respective macroeconomic and population data were taken from OECD, UN and IMF statistics;

All energy data for non-OECD Countries, except Central and Eastern Europe and the former USSR, came from the IEA energy balances; the respective macroeconomic and population data were taken from both UN and IMF statistics;

All energy data for the Central and Eastern European Countries and the former USSR came from the IEA energy balances with the exception of solid fuels data which were based on PLANECON statistics; the respective macroeconomic and population data were taken from the UN, IMF and PLANECON statistics;

Prices of oil products came from DGXVII statistics; average prices for steam coal, electricity and natural gas came from the IEA "Energy Price Statistics".

Difficulties in collecting data for non-OECD Countries lead us to advise a degree of caution as regards the data quality in these cases. Thus, comparisons between series of absolute values should be regarded as purely indicative.

A few words on methodology and definitions are necessary.

Primary hydro-electricity production is considered in terms of net calorific value (1 GWh = 86 toe) and primary nuclear production is calculated as fuel equivalent to produce the same amount of electricity in a power station with a thermal efficiency of 33%.

Biomass data for OECD Countries (excluding Community Member States) correspond to what the IEA shows in its energy balances under "Other Solid Fuels". Data for all non-OECD Countries correspond to IEA and UN data under the designation of "Vegetal Fuels". For Community Member States and according to current SOEC methodology, "Other Renewable Fuels" include only the quantities being used for power generation.

Primary heat (geothermal energy) is considered as being exclusively used for power generation. Heat shown in the final demand section is exclusively derived from other fuels (power generation and district heating). In the **World summary** energy balance, "Renewable" fuel for power generation includes primary heat, biomass and "other renewables" for the European Community.
In all tables in parts I and III, **gross energy consumption** corresponds to the total primary energy consumed including quantities delivered to marine bunkers. **Total final energy consumption** (TFEC) does not include any quantities used for non-energy purposes.

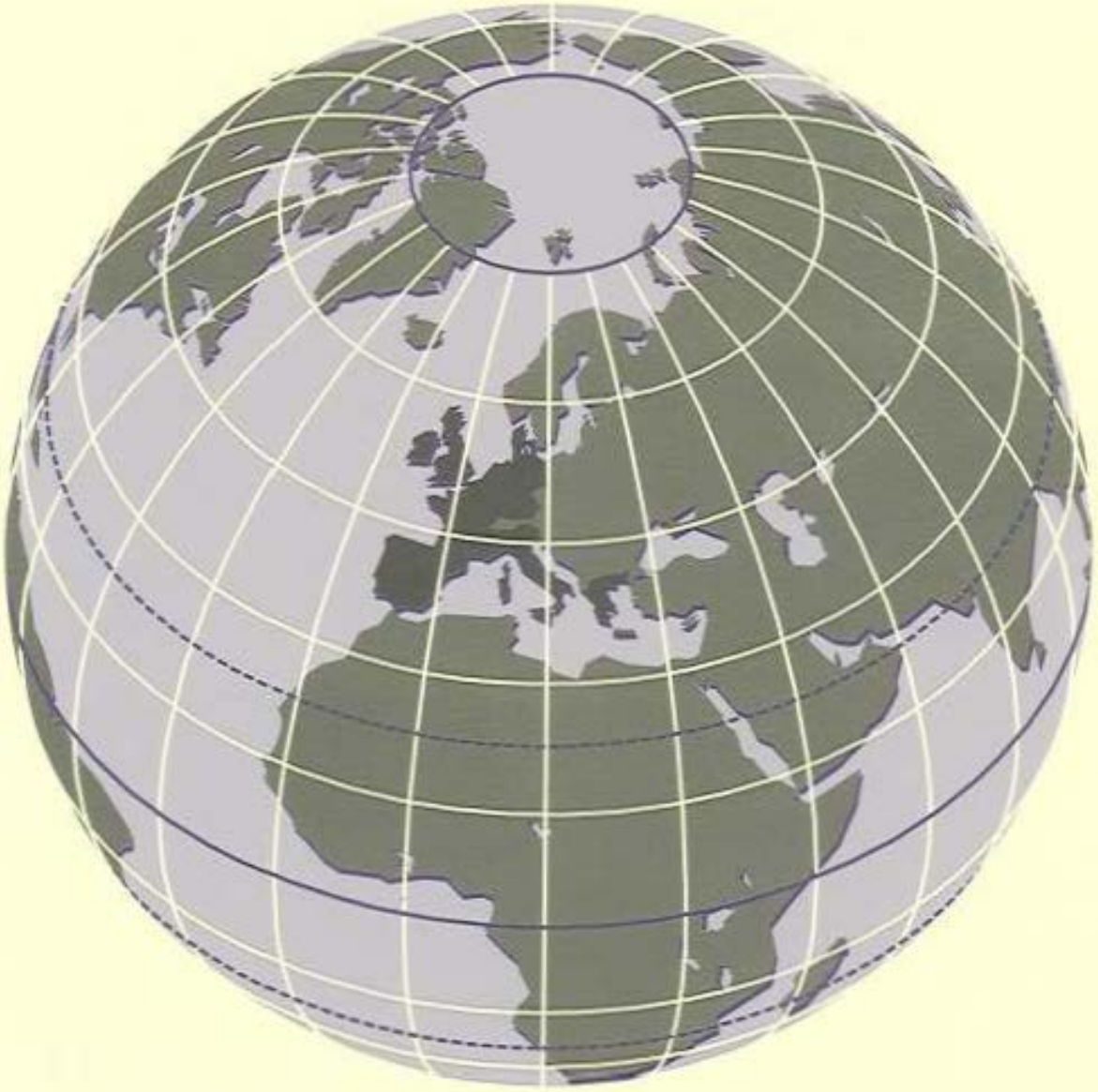
More detailed definitions are shown in SOEC and IEA publications.

CO2 emissions are given only on an indicative basis and were calculated using common emission factors across all countries. At world level, CO2 emissions resulting from bunker fuels were included in the tables similarly to those resulting from fuels sold to airline transport.

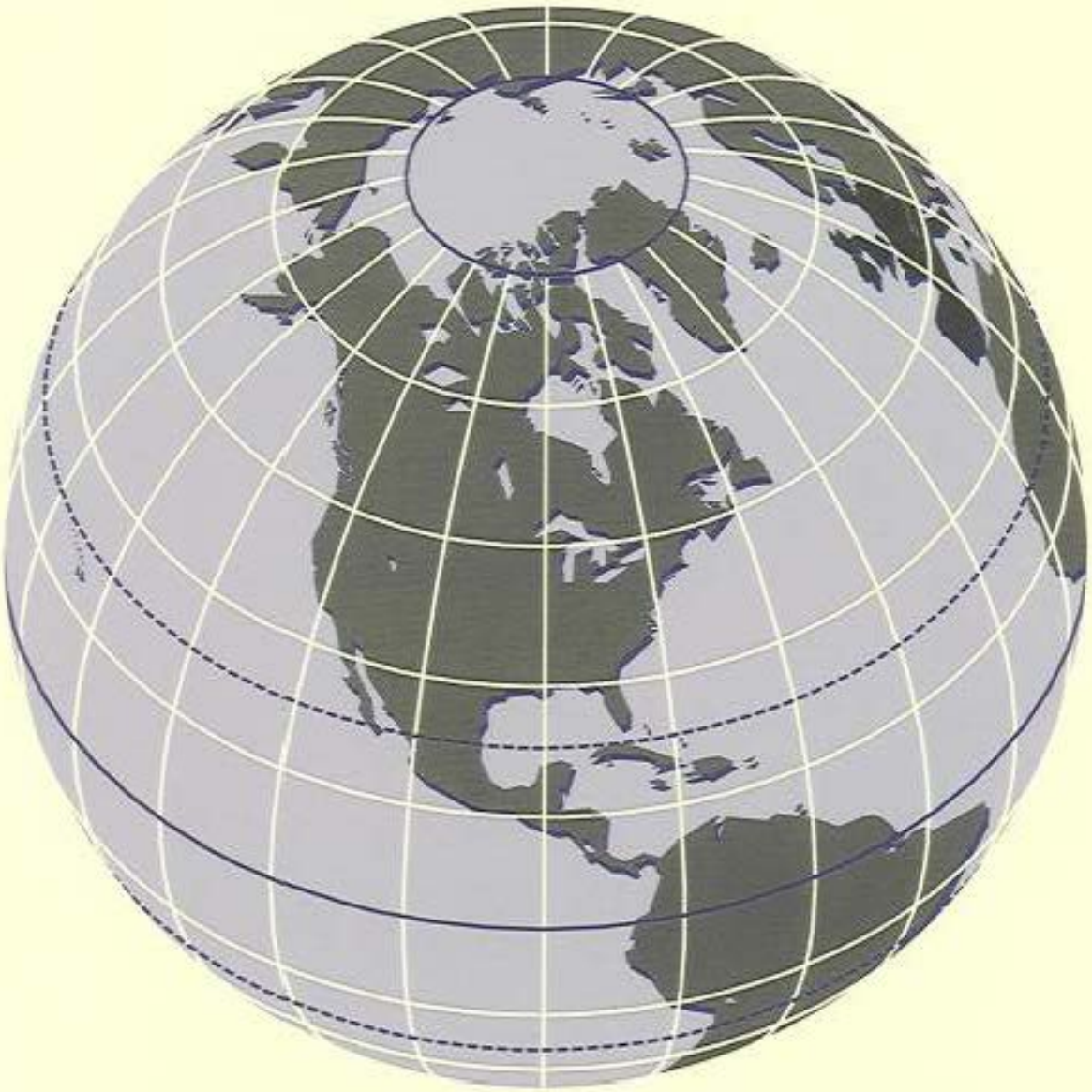
Abbreviations, Definitions and units

DGII	Directorate-General for Economic Affairs of the Commission of the European Communities
DGXVII	Directorate-General for Energy of the Commission of the European Communities
EFTA	European Free Trade Agreement
Energy Intensity	Ratio of GIC to GDP
FRG	Federal Republic of Germany
GDP	Gross Domestic Product
GIC	Gross Inland Consumption
GDR	German Democratic Republic
GW	10^9 Watts of electricity generating capacity
IEA	International Energy Agency
l	Litre
kl	Thousand litre
kWh	Thousand Watt.hour of electricity
MECU	Million ECU
Mt	Million metric tonne
Mtoe	Million toe
OECD	Organisation for Economic Co-operation and Development
S	Sulphur
SOEC	Statistical Office of the European Communities
STEO	Short-Term Energy Outlook for the European Community
t	Metric tonne, or 1000 kilograms
toe	Tonne of oil equivalent, or 10^7 kilocalories, or 41.86 GJ
TWh	10^{12} Watt.hour of electricity
UN	United Nations

THE WORLD



PART I



WORLD

Total **gross energy consumption** in the whole world grew 0.9% in 1991 against an average of 2.2% from 1985 to 1990. However, this evolution is not equally shared by all primary fuels. While natural gas accelerated its 1985 to 1990 average growth from 3.5% per year to 3.7%, estimated solid fuels demand in 1991 dropped 1.2% confirming a downward trend after 1989. Oil demand shows a similar profile to solids, dropping 0.2% in 1990 and was estimated to be stable in 1991. All other primary sources together show a steady growth of 3.1% per year until 1991. This sustained growth is to some extent due to nuclear energy which is estimated to grow 4.7% in 1991 (6.0% per year from 1985 to 1990). In addition, renewable energy sources (hydro, geothermal and biomass) had a steady increase of 1.3% per year until 1990 and they were estimated to increase 1.8% in 1991. In terms of satisfying total gross energy consumption, renewable energy sources show a steady share of about 9%.

Looking at total gross energy consumption by region, the developments until 1990 can be characterised by a faster growth in the non-OECD area (2.6% per year against 1.8% per year in the OECD). In 1991, the OECD area grew faster than the non-OECD world. However, the lower growth in the non-OECD area is mainly due to the situation in Central and Eastern Europe and the former USSR. For these two regions, energy demand in 1991 was estimated to drop 9.5% and 1.7% respectively. There is a general slowdown in energy demand growth in all other non-OECD regions, except for China and the Newly Industrialised Economies. In these two cases, energy demand growth accelerated in 1991 to 4.6% and

Gross Consumption (1): Total by Region

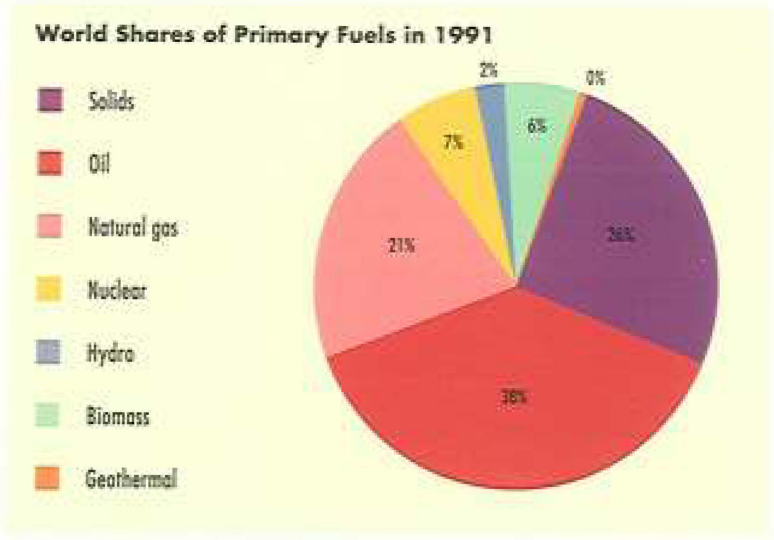
Mtoe	1985	1986	1987	1988	1989	1990	1991	91-85	90/85	91/90
								Increment	Annual % Change	
WORLD	7402.1	7564.6	7849.4	8113.5	8266.9	8246.8	8323.5	921.4	2.2	0.9
OECD	3762.6	3797.0	3913.2	4041.9	4112.1	4111.4	4154.2	391.5	1.8	1.0
Europe 12	1145.7	1165.1	1185.9	1198.5	1218.5	1226.9	1244.9	99.2	1.4	1.5
USA	1789.2	1789.0	1865.9	1944.1	1964.3	1934.5	1939.2	150.0	1.6	0.2
Japan	366.7	369.4	370.9	398.9	411.6	433.3	443.1	76.3	3.4	2.3
EFTA	142.3	148.3	150.7	148.5	149.0	150.9	156.1	13.8	1.2	3.5
Rest of OECD	318.6	325.2	339.9	351.9	368.7	365.8	370.8	52.2	2.8	1.4
NON OECD	3639.4	3767.5	3936.2	4071.5	4154.8	4135.4	4169.3	529.9	2.6	0.8
Former USSR	1274.0	1294.2	1350.6	1385.8	1384.2	1356.5	1333.1	59.1	1.3	-1.7
Central and Eastern Europe	375.5	384.1	392.4	381.5	373.5	333.2	301.4	-74.1	-2.4	-9.5
Africa	287.7	294.5	305.9	315.6	330.1	336.6	342.1	54.4	3.2	1.6
North Africa	67.6	68.8	73.3	75.7	82.7	82.9	84.1	16.5	4.2	1.4
Other Africa	220.2	225.8	232.6	239.9	247.4	253.7	258.0	37.9	2.9	1.7
Asia	1091.0	1161.4	1226.3	1307.5	1363.7	1397.1	1463.7	372.7	5.1	4.8
China	559.7	592.7	629.1	665.8	685.0	681.2	712.8	153.1	4.0	4.6
Newly Industrialising Economies	110.1	122.8	133.2	149.1	157.9	172.7	190.3	80.1	9.4	10.2
Other Asia	421.1	445.9	463.9	492.6	520.8	543.2	560.6	139.5	5.2	3.2
Mediterranean	1.8	2.1	2.3	2.5	2.7	2.7	2.7	0.8	7.8	0.0
Middle East	206.0	219.4	228.7	237.6	246.8	251.5	259.7	53.7	4.1	3.3
Latin America	403.4	411.9	430.0	441.2	453.8	457.8	466.6	63.2	2.6	1.9

(1) Including bunkers

10.2% respectively. Within the OECD area, the largest world consumer, the United States, almost stabilised energy demand in 1991 (0.2%). There was a slight acceleration in the average Community growth and a significant increase in the EFTA region, in both cases mainly due to harder climatic conditions.

The World's energy consumption in 1991 was still dominated by oil with 38.1% of total. Solids and natural gas rank second and third with 25.6% and 20.9% respectively. Renewable energy sources accounted for 8.9%.

The table below shows the contribution of each primary fuel in total demand in 1991, by region.



Shares of Primary Fuels in Gross Consumption *(1)*: Total by Region in 1991

%	Solids	Oil	Natural Gas	Nuclear	Total Renewable	*Hydro*	*Geothermal*	*Biomass*
WORLD	25.6	38.1	20.9	6.5	8.9	*2.3*	*0.3*	*6.3*
OECD	21.4	42.7	19.8	10.6	5.5	*2.4*	*0.3*	*2.8*
Europe 12	22.1	44.8	18.6	12.9	1.5	*1.1*	*0.2*	*0.3*
USA	22.8	39.5	23.4	8.7	5.5	*1.3*	*0.4*	*3.8*
Japan	17.5	57.2	10.5	12.6	2.2	*1.9*	*0.3*	*0.0*
EFTA	7.7	40.5	7.8	19.9	24.1	*14.0*	*0.2*	*10.0*
Rest of OECD	21.8	36.4	21.4	6.0	14.9	*8.6*	*0.5*	*5.8*
NON OECD	29.9	33.5	21.9	2.5	12.2	*2.1*	*0.3*	*9.9*
Former USSR	19.1	30.6	43.7	4.1	2.7	*1.5*	*0.0*	*1.2*
Central and Eastern Europe	51.0	21.6	19.8	4.7	2.5	*1.1*	*0.0*	*1.4*
Africa	26.5	29.0	9.6	0.7	34.2	*1.4*	*0.1*	*32.7*
North Africa	2.8	58.2	34.8	0.0	4.3	*1.2*	*0.0*	*3.1*
Other Africa	34.2	19.5	1.5	0.9	44.0	*1.5*	*0.1*	*42.3*
Asia	49.3	27.7	4.9	1.9	16.1	*1.6*	*0.4*	*14.1*
China	73.2	17.2	1.8	0.0	7.8	*1.3*	*0.0*	*6.5*
Newly Industrialising Economies	22.1	59.9	3.2	14.0	0.8	*0.5*	*0.0*	*0.4*
Other Asia	28.2	30.1	9.6	0.3	31.9	*2.3*	*1.0*	*28.5*
Mediterranean	9.1	90.6	0.0	0.0	0.3	*0.0*	*0.0*	*0.3*
Middle East	1.2	63.9	34.2	0.0	0.8	*0.4*	*0.0*	*0.4*
Latin America	4.6	54.2	16.7	0.7	24.0	*7.4*	*1.0*	*15.6*

(1) Including bunkers

Primary energy production in 1991 was almost stable compared to 1990 against an average of 2.6% growth until 1990. The OECD continued to increase its production in 1991 at 1.1% per year average. In the non-OECD area, energy production that had grown at an average 3.4% per year until 1990 dropped to -0.9% in 1991. While in Central and Eastern Europe and in the former USSR total production continued a fall which began in 1987/1988, a significant drop in production occurred in the Middle East. In fact, production in this region had grown at almost 10% per year on average until 1990: in 1991 it dropped almost 2% mainly as a result of the situation which surrounded the Gulf war. The world share of OECD production passed from 38% in 1985 to 36% in 1990 and 1991. The European Community in 1991, although slowly than in the recent past, confirmed a slight downward trend in its domestic production. Within the non-OECD area the main energy producers are: the former USSR, the whole of Asia and the Middle East accounting for 18%, 16% and 11% of total world production in 1991 respectively.

Primary Production: Total by Region

Mtoe	1985	1986	1987	1988	1989	1990	1991	91-85	90/85	91/90
								Increment	Annual % Change	
WORLD (1)	7374.2	7636.4	7842.6	8111.0	8281.4	8370.0	8351.7	977.4	2.6	-0.2
OECD	2816.0	2833.8	2902.3	2942.3	2949.2	2981.5	3013.9	197.9	1.1	1.1
Europe 12	665.3	676.7	675.2	666.3	648.4	632.7	630.8	-34.4	-1.0	-0.3
USA	1564.9	1551.8	1585.2	1613.0	1605.4	1630.8	1630.2	65.3	0.8	0.0
Japan	62.2	64.0	66.7	64.5	65.0	69.0	73.6	11.4	2.1	6.7
EFTA	127.2	135.1	145.0	153.6	173.5	179.2	191.2	64.0	7.1	6.7
Rest of OECD	396.4	406.4	430.2	445.0	456.9	469.7	488.1	91.7	3.5	3.9
NON OECD	4558.2	4802.5	4940.3	5168.7	5332.3	5388.5	5337.7	779.6	3.4	-0.9
Former USSR	1508.4	1570.3	1625.0	1671.9	1659.6	1620.3	1529.9	21.5	1.4	-5.6
Central and Eastern Europe	287.8	291.1	293.5	286.3	270.7	234.8	222.6	-65.2	-4.0	-5.2
Africa	523.7	527.6	534.9	553.9	589.2	622.4	645.7	122.1	3.5	3.7
North Africa	199.6	197.4	206.8	205.3	221.8	240.7	253.3	53.7	3.8	5.3
Other Africa	324.1	330.2	328.2	348.6	367.4	381.7	392.4	68.3	3.3	2.8
Asia	1108.4	1155.9	1197.1	1249.9	1313.8	1352.4	1373.8	265.4	4.1	1.6
China	615.5	634.2	655.7	685.6	725.3	738.0	740.0	124.6	3.7	0.3
Newly Industrialising Economies	27.5	30.2	34.5	33.7	33.1	33.7	37.4	9.8	4.2	10.7
Other Asia	465.4	491.5	506.9	530.7	555.4	580.7	596.4	131.0	4.5	2.7
Mediterranean	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0
Middle East	604.4	723.4	750.8	843.5	925.5	963.1	944.5	340.0	9.8	-1.9
Latin America	525.5	534.2	538.9	563.3	573.5	595.6	621.2	95.8	2.5	4.3

(1) It does not equal gross consumption due to stock changes and statistical errors

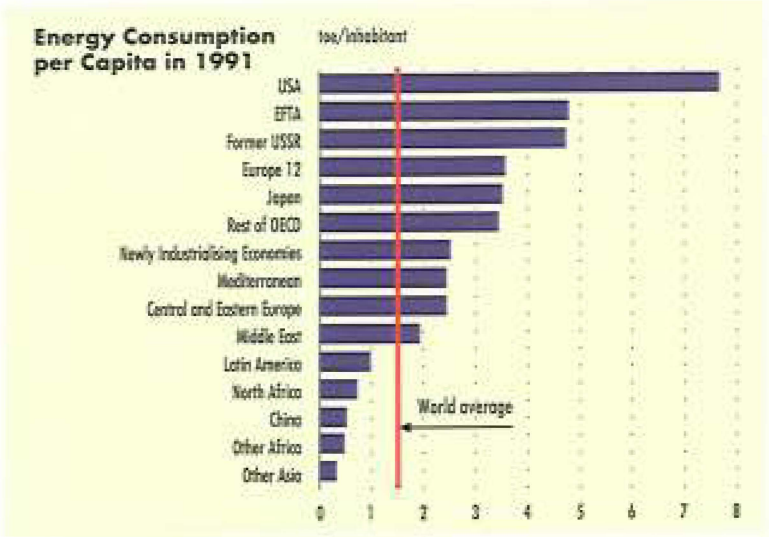
The world **energy trade** (net energy imports) show that the European Community is the largest net importer and with a sustained annual growth of more than 4% per year. Japan is the second world net importer but growing slower than the European Community, especially in 1991. The United States rank third but with an annual increase of 11.4% per year until 1990 and then a drop of 5.6% in 1991. The EFTA region, which had been net importer until 1987, is now a net exporter and growing fast attaining 38 Mtoe in 1991. This development is mainly due to increases in exports of natural gas from Norway. The rest of the OECD has steadily increased its net exports at an annual average of about 6% per year in the 1985 to 1991 period. This evolution is to a great extent due to increased energy exports from Canada and coal exports from Australia. Within the non-OECD area, Central and Eastern Europe, the Newly Industrialising Economies and the Mediterranean area are net importers of energy. The Middle East area is by far the largest energy exporter in the world with 58% of total in 1991 (46% in 1985). The African continent ranks second with 26% of total world net exports. The former USSR, which still accounted in 1991 for 17% of total, has decreased its net exports since 1988 by about 10% per year on average.

Comparing **energy consumption per capita** in 1991 across regions, it is clear that the USA shows by far the highest consumption per capita. At the other extreme, all developing countries have a level which is significantly under the world average. EFTA and the former USSR rank second and third respectively, but in the case of the second region this is due to very inefficient use of energy (very high intensity). The European Community comes together with Japan and the rest of the OECD with a consumption per capita which is slightly more than double the world average.

Net Energy imports: Total by Region (1)

Mtoe	1985	1986	1987	1988	1989	1990	1991	91-85	90/85	91/90
								Increment	Annual % Change	
OECD	907.9	997.2	1029.3	1071.7	1149.2	1176.0	1145.7	237.8	5.3	-2.6
Europe 12	474.8	499.1	512.9	531.8	572.7	591.8	617.2	142.5	4.5	4.3
USA	197.2	251.8	285.9	314.8	339.5	338.3	319.5	122.3	11.4	-5.6
Japan	306.4	309.3	310.0	333.1	351.9	365.7	368.1	61.7	3.6	0.7
EFTA	14.0	16.8	2.3	-8.5	-25.7	-26.1	-38.0	-52.0	-	45.7
Rest of OECD	-84.4	-79.7	-81.8	-99.6	-89.2	-93.7	-121.2	-36.8	2.1	29.3
NON OECD	-893.8	-998.5	-986.1	-1084.8	-1145.4	-1203.9	-1174.1	-280.3	6.1	-2.5
Former USSR	-219.6	-250.4	-264.0	-274.3	-262.0	-251.1	-196.8	22.7	2.7	-21.6
Central and Eastern Europe	86.9	94.4	99.5	98.5	101.3	98.0	78.8	-8.0	2.4	-19.6
Africa	-235.3	-228.5	-225.6	-233.2	-261.1	-284.9	-303.6	-68.4	3.9	6.6
North Africa	-131.7	-129.1	-133.6	-129.6	-143.7	-157.0	-169.2	-37.5	3.6	7.8
Other Africa	-103.6	-99.5	-91.9	-103.6	-117.5	-127.9	-134.4	-30.8	4.3	5.1
Asia	-0.7	12.8	35.6	52.1	66.5	82.1	89.9	90.6	-	9.5
China	-38.5	-32.9	-32.8	-35.1	-32.3	-33.5	-27.2	11.3	-2.7	-18.8
Newly Industrialising Economies	80.5	94.9	105.4	121.6	127.9	142.6	152.9	72.4	12.1	7.2
Other Asia	-42.7	-49.2	-37.1	-34.4	-29.1	-27.0	-35.8	6.9	-8.7	32.5
Mediterranean	1.7	2.0	2.3	2.5	2.7	2.7	2.7	1.0	9.9	-2.2
Middle East	-406.7	-510.1	-527.3	-610.0	-675.4	-717.4	-684.8	-278.1	12.0	-4.6
Latin America	-120.2	-118.5	-106.6	-120.3	-117.3	-133.3	-160.3	-40.1	2.1	20.2
Statistical error	14.1	-1.3	43.1	-13.1	3.8	-27.8	-28.5	-	-	-

(1) The world total is not zero due to statistical errors.



Electricity generation has shown a world-wide sustained increase of 3.5% per year between 1985 and 1990. Similarly to gross energy consumption, the non-OECD area shows a higher annual increase than the OECD region. Within the non-OECD area, Asia is the fastest grower, especially the Newly Industrialising Economies (11% per year until 1990). Outside of Asia, North Africa and the Middle East come next in terms of growth with 6.4% per year and 6.1% per year respectively. The former USSR shows a steady growth until 1990, then dropped 2.4% in 1991. Central and Eastern Europe, which had an annual growth in electricity generation of about 2% until 1988, it had a drop of 6% and 3.2% in 1990 and 1991 respectively. In the OECD area, Japan is the fastest grower with 5% per year until 1990 and 3.0% in 1991. There is a general slowdown in the growth rates in 1991, except for the rest of OECD, where electricity generation grew almost twice as fast as the average of the last five years, and EFTA where there

Electricity Production: Total by Region

TWh	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
WORLD	9645.9	9941.1	10416.8	10856.5	11272.1	11479.8	na	3.5	na
OECD	5823.2	5909.5	6147.8	6385.2	6632.5	6730.7	6846.3	2.9	1.7
Europe 12	1502.0	1548.2	1585.6	1619.3	1729.7	1744.4	1781.9	3.0	2.2
USA	2621.9	2639.7	2732.5	2874.8	2957.9	2980.9	3003.1	2.6	0.7
Japan	666.9	671.1	713.0	748.1	792.7	850.7	876.3	5.0	3.0
EFTA	392.3	388.7	416.0	421.3	423.2	430.5	427.5	1.9	-0.7
Rest of OECD	640.2	661.7	700.8	721.6	729.1	724.1	757.5	2.5	4.6
NON OECD	3822.7	4031.6	4269.0	4471.3	4639.6	4749.1	na	4.4	na
Former USSR	1544.0	1599.0	1664.9	1705.0	1722.0	1727.0	1685.8	2.3	-2.4
Other Former Eastern Europe	435.2	450.0	461.1	466.7	469.9	441.9	427.7	0.3	-3.2
Africa	262.9	275.8	289.5	302.3	312.7	322.5	na	4.2	na
North Africa	67.1	71.9	78.9	84.3	87.9	91.4	na	6.4	na
Other Africa	195.8	203.8	210.5	218.0	224.7	231.1	na	3.4	na
Asia	930.6	1011.9	1111.8	1220.6	1321.7	1417.5	na	8.8	na
China	410.7	449.5	497.3	545.2	584.8	621.2	na	8.6	na
Newly Industrialising Economies	142.0	158.3	178.0	198.9	216.2	237.8	na	10.9	na
Other Asia	377.9	404.0	436.5	476.5	520.8	558.5	na	8.1	na
Mediterranean	2.2	2.3	2.5	2.8	3.0	3.2	na	8.0	na
Middle East	172.4	184.6	196.7	210.0	221.6	232.0	na	6.1	na
Latin America	475.4	508.0	542.4	564.0	588.7	605.0	na	4.9	na

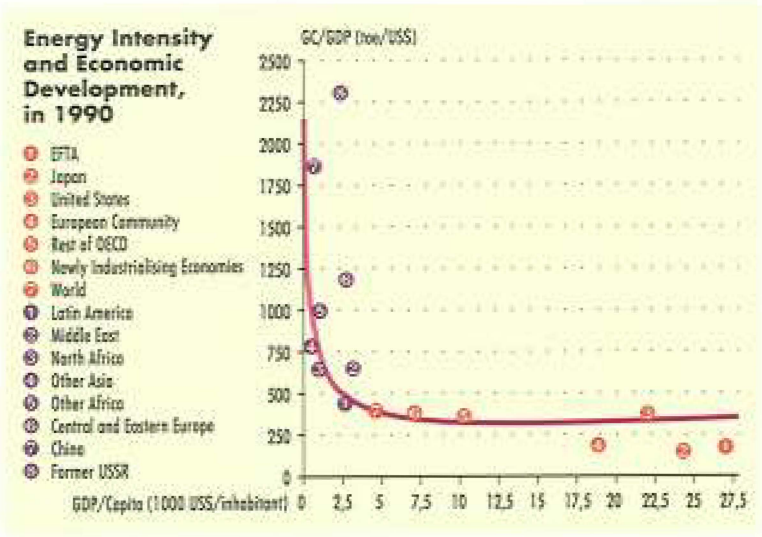
was a drop of almost 1%. In terms of the contribution of the different primary sources, fossil fuels have kept a constant share of 61% of total generation. Nuclear energy, which has grown 7.0% per year on average, accounted for 15% of total production in 1991 (13% in 1985). Renewable energy sources together, although growing in absolute levels, have decreased their share of total from 26% in 1985 to 24% in 1991. Within the fossil fuels, solids dominate the inputs for thermal generation with a stable 59% share of total since 1985. While gas use in power generation increased significantly by 4.9% per year until 1990, oil use is slightly lower than its level in 1985.

Total **energy intensity,** which showed a downward trend until 1990, increased slightly in 1991. The two big regions, the OECD and non-OECD areas show different developments. While in 1991 both areas show the same increase in intensity, the OECD had decreased on average by 1.4% per year until 1990, while the average non-OECD is about half for the same period. Within the OECD region, Japan is the only country that shows a drop in intensity in 1991, thus accelerating the average annual drop until 1990 (1.1%). All other OECD countries, or group of countries show an increase of intensity in 1991. In the non-OECD region, it is clear that the overall 1991 increase is mainly due to the very significant increases in the former USSR and in Central and Eastern Europe.

Comparing the energy intensity with the GDP per Capita for each region in 1990, there seems to be a relation between lower economic development and high energy intensity and vice-versa. In fact, it seems that those countries, formerly called Centrally Planned Economies, constitute a group of relatively low income and high energy intensity, separate from all other world regions. However, we must realise that most of the economic development of these countries was based on both energy-intensive industries and on low-efficiency energy equip-

Energy Intensity: Total by Region

toe/1985 MECU	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
WORLD	459	456	457	452	446	437	440	-1.0	0.6
OECD	323	317	316	312	308	301	304	-1.4	0.7
Europe 12	335	331	328	320	315	310	311	-1.5	0.5
USA	345	334	336	335	330	322	327	-1.3	1.5
Japan	207	203	196	198	195	196	192	-1.1	-2.1
EFTA	291	295	292	280	273	272	282	-1.3	3.9
Rest of OECD	418	413	414	412	418	408	419	-0.5	2.8
NON OECD	812	816	821	816	806	788	794	-0.6	0.7
Former USSR	1459	1434	1459	1422	1383	1386	1490	-1.0	7.5
Central and Eastern Europe	1113	1106	1137	1092	1086	1045	1088	-1.3	4.2
Africa	549	557	572	573	576	572	573	0.8	0.1
North Africa	335	345	363	367	389	379	378	2.5	-0.2
Other Africa	684	685	700	697	685	687	689	0.1	0.3
Asia	915	912	894	874	864	840	834	-1.7	-0.7
China	1784	1751	1686	1610	1599	1515	1515	-3.2	0.0
Newly Industrialising Economies	408	409	395	403	405	415	425	0.3	2.6
Other Asia	693	703	701	690	686	681	670	-0.3	-1.7
Mediterranean	383	425	439	442	434	414	391	1.5	-5.5
Middle East	343	379	382	401	399	381	392	2.1	2.9
Latin America	425	419	424	431	438	444	440	0.9	-0.9



ment in all other sectors. Latin America, on the other hand, has an intensity about the same as in the United States, but the income is significantly lower. This is in part due to mild climatic conditions, hence not requiring much energy for the domestic sector. The chart shown here is an attempt to correlate energy intensity and income per capita. The curve was calculated taking the whole set of data on energy and GDP (93 countries). The conclusion in general is that countries at a low stage of development will tend to decrease their intensity as income increases. At the other extreme, countries at a high stage of economic development (above 12500 US$/inhabitant), which have already gained a lot in terms of energy efficiency, tend to stabilise or even slightly increase their intensities due to a very high level of life standards.

CO2 emissions continue to be an important issue in the energy-economy-environment debate. World-wide emissions increased steadily until 1989 at an annual average of 2.6%. In 1990 and 1991, CO2 emissions decreased 0.6% and 0.8% respectively. Both the OECD and the non-OECD areas present a peak in 1989. Overall,

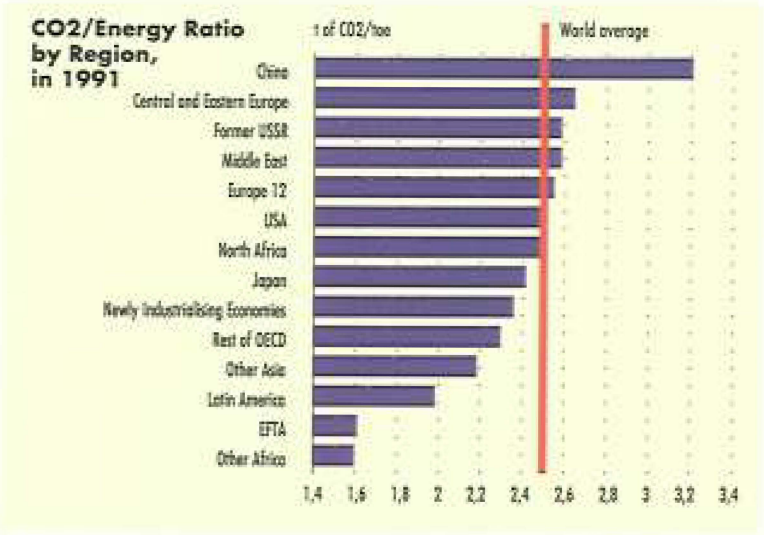
CO2 Emissions: Total by Region

Mt of CO2	1985	1986	1987	1988	1989	1990	1991	91-85	90/85	91/90
								Increment	Annual % Change	
WORLD	18630	18954	19615	20227	20728	20537	20699	2069	2.0	0.8
OECD	9491	9488	9733	10048	10267	10165	10254	763	1.4	0.9
Europe 12	3040	3068	3101	3097	3195	3145	3173	134	0.7	0.9
USA	4574	4541	4704	4912	4959	4866	4892	317	1.2	0.5
Japan	900	896	911	982	1010	1058	1078	178	3.3	1.9
EFTA	233	239	240	236	235	240	254	21	0.6	5.6
Rest of OECD	744	744	777	821	867	856	857	113	2.8	0.1
NON OECD	9139	9466	9882	10178	10461	10371	10445	1306	2.6	0.7
Former USSR	3387	3465	3584	3632	3653	3554	3451	63	1.0	-2.9
Central and Eastern Europe	1037	1063	1082	1022	989	876	800	-237	-3.3	-8.7
Africa	498	501	528	542	600	610	625	126	4.1	2.4
North Africa	165	168	179	186	206	208	211	46	4.7	1.5
Other Africa	333	333	348	356	394	402	414	80	3.8	2.9
Asia	2898	3060	3249	3511	3693	3770	3968	1069	5.4	5.2
China	1751	1861	1979	2108	2194	2183	2294	542	4.5	5.0
Newly Industrialising Economies	275	299	318	361	384	414	449	173	8.5	8.3
Other Asia	872	900	952	1042	1115	1173	1226	353	6.1	4.5
Mediterranean	5	5	6	6	6	6	6	2	7.1	0.0
Middle East	523	552	581	596	619	651	672	149	4.5	3.2
Latin America	791	820	852	870	900	904	924	133	2.7	2.3

non-OECD emissions have been increasing faster than in the OECD. In 1991, however, the non-OECD emissions increased 0.7% while those from the OECD grew by 0.9%. However, the 1991 increase is significantly lower than the annual average of the last five years. Since 1987, CO2 emissions from the non-OECD area have been higher than those from the OECD, accounting for 50.5% of the world total in 1991 (49.1% in 1985).

The 1991 increase in OECD emissions is not equally shared by all countries and regions. The European Community, the United States and the rest of OECD increased between 0.9% and 0.1%, while emissions from Japan and EFTA grew 1.9% and 5.6% respectively. Developments in non-OECD in 1991 were dominated by the former USSR and Central and Eastern Europe. In fact, the former USSR (33% of total non-OECD emissions in 1991) saw CO2 emissions decrease almost 3% in 1991. In this year, CO2 emissions from Central and Eastern Europe dropped almost 9%. In all other non-OECD regions, CO2 emissions continued to increase in 1991 although generally at a somewhat lower rate than in the last five years.

Looking at the intensity of CO2 emissions, measured by the ratio of emissions to gross energy consumption, it seems that many regions present a somewhat similar intensity. This is mainly due to the fact that these regions have more or less the same type of fuel mix in primary energy consumption. EFTA and the Sub-Saharan Africa, present the lowest CO2 intensities due to large contributions of renewable energy sources, mainly hydro (EFTA) and biomass (Africa) and nuclear (only in the case of EFTA). At the other extreme, China has the highest intensity due to the extensive use of solid fuels. In this special case, the low intensity is due to the large share of renewable energy sources (44% of total gross energy consumption in 1991).



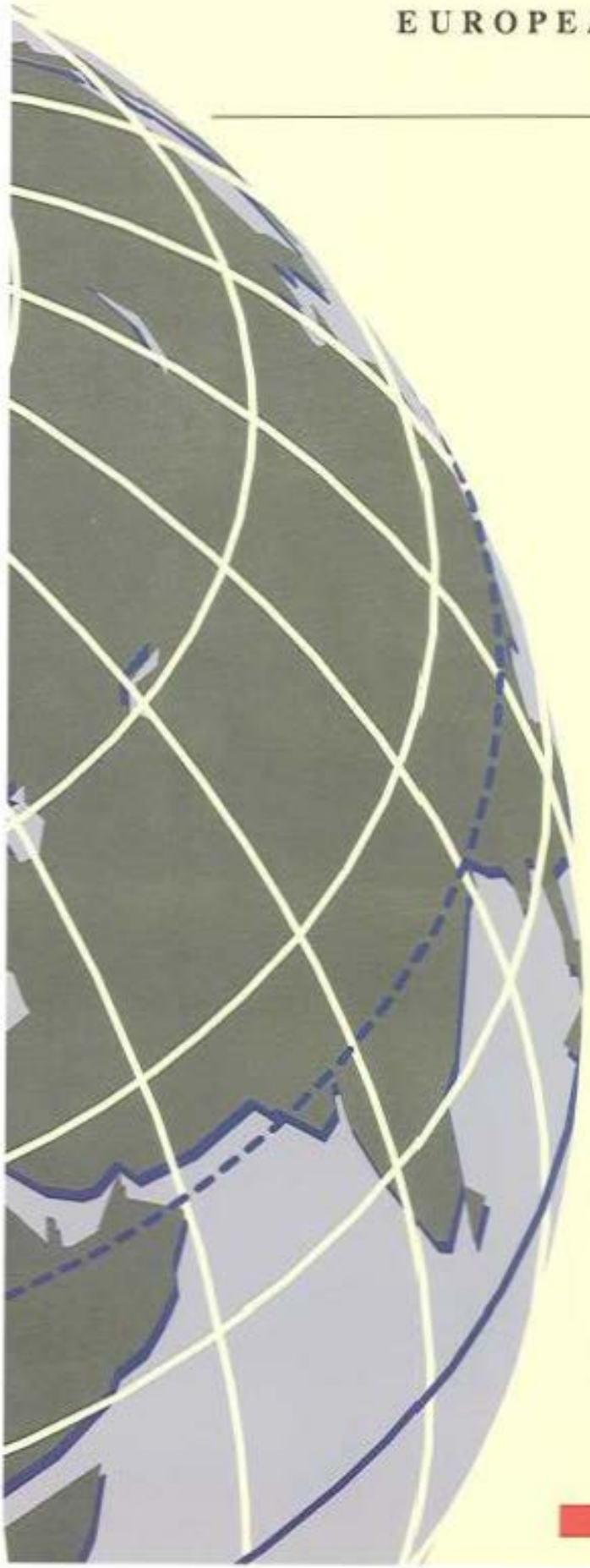
The table on the next page shows a summary energy balance for the World.

World: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
Primary Production	7374.2	7636.4	7842.6	8111.0	8281.4	8370.0	8352.6	2.6	-0.2
Solids	2025.6	2072.9	2127.4	2165.7	2209.2	2198.4	2135.5	1.7	-2.9
Oil	2864.5	3001.9	3022.7	3133.4	3187.1	3232.7	3206.0	2.4	-0.8
Natural Gas	1420.2	1455.8	1531.9	1599.8	1657.8	1697.1	1731.7	3.6	2.0
Nuclear	386.3	413.5	448.9	487.3	499.2	517.8	542.1	6.0	4.7
Hydro	171.8	174.5	176.4	182.0	180.6	184.9	187.4	1.5	1.3
Geothermal	19.5	22.0	23.4	23.4	24.3	24.2	23.7	4.4	-2.1
Biomass	486.3	495.6	511.9	519.3	523.4	514.8	526.1	1.1	2.2
Gross Consumption *(1)*	7402.1	7564.6	7849.4	8113.5	8266.9	8246.8	8323.5	2.2	0.9
Solids	2036.6	2055.5	2136.8	2192.1	2208.1	2159.5	2133.8	1.2	-1.2
Oil	2889.5	2971.7	3036.9	3125.5	3178.5	3171.4	3172.7	1.9	0.0
Natural Gas	1412.2	1432.5	1515.0	1583.8	1653.8	1674.7	1737.4	3.5	3.7
Other *(2)*	1063.8	1104.8	1160.8	1212.2	1226.6	1241.2	1279.6	3.1	3.1
Electricity Generation (in TWh)	6159.9	6338.7	6705.0	7065.3	7349.8	7549.0	na	4.2	na
Solids	2422.4	2475.1	2667.3	2824.5	2936.5	3018.8	na	4.5	na
Oil	733.9	781.8	780.3	864.0	930.8	916.1	na	4.5	na
Gas	613.0	580.8	660.0	669.5	713.1	729.1	na	3.5	na
Nuclear	792.1	865.5	949.2	1026.0	1030.1	1110.5	na	7.0	na
Hydro	1564.8	1598.4	1608.7	1641.0	1695.6	1731.0	na	2.0	na
Geothermal	20.6	23.4	25.0	25.0	25.9	25.8	na	4.6	na
Biomass	13.1	13.7	14.5	15.4	17.9	17.7	na	6.2	na
Fuel Inputs for Thermal Power Generation	2260.7	2320.5	2435.8	2535.6	2637.8	2648.2	na	3.2	na
Solids	987.0	999.5	1056.1	1092.3	1134.8	1137.4	na	2.9	na
Oil	332.9	333.1	325.2	326.8	342.4	321.9	na	-0.7	na
Gas	358.0	372.5	400.0	416.8	449.9	454.5	na	4.9	na
Nuclear	386.3	413.5	448.9	487.3	499.2	517.8	na	6.0	na
Hydro	171.8	174.5	176.4	182.0	180.6	184.9	na	1.5	na
Geothermal	19.5	22.0	23.4	23.4	24.3	24.2	na	4.4	na
Biomass	5.2	5.4	5.8	6.8	6.7	7.4	na	7.1	na
Total Final Energy Demand	4824.8	4939.0	5088.9	5255.1	5336.9	5326.8	na	2.0	na
Solids	873.4	880.8	904.9	929.4	918.3	880.0	na	0.2	na
Oil	2094.9	2153.1	2209.7	2270.8	2308.5	2311.9	na	2.0	na
Gas	870.2	878.3	919.2	958.3	994.4	1004.6	na	2.9	na
Electricity	696.7	719.4	752.4	786.4	812.3	832.5	na	3.6	na
Heat	166.4	183.9	170.2	178.3	174.6	180.0	na	1.6	na
Biomass	123.3	123.6	132.6	131.9	128.9	117.8	na	-0.9	na
CO2 Emissions in Mt of CO2 *(3)*	18630	18954	19615	20227	20728	20537	20699	2.0	0.8
Indicators									
Population (Million)	238	241	243	245	247	250	253	0.9	1.1
GDP (Index 1985=100)	100.0	103.2	106.8	111.7	114.8	115.7	114.3	3.0	-1.2
Primary Consumption/GDP (toe/85 MECU)	1426	1412	1415	1399	1387	1373	1402	-0.8	2.2
Primary Consumption/Capita (toe/inhab.)	31.04	31.43	32.32	33.11	33.42	33.00	32.94	1.2	-0.2
Electricity generated/Capita (kwh/inhab.)	25829	26337	27611	28831	29715	30206	na	3.2	na
CO2 emissions/Capita (t/inhab.)	78.12	78.75	80.77	82.54	83.80	82.17	81.91	1.0	-0.3

(1) Including bunkers.
(2) Includes nuclear, Hydro and other renewable.
(3) Includes emissions from bunker fuels.

EUROPEAN COMMUNITY



PART II

EUROPEAN COMMUNITY

To avoid a break in the time series, the analysis of the European Community excludes all data regarding the former German Democratic Republic. [1]

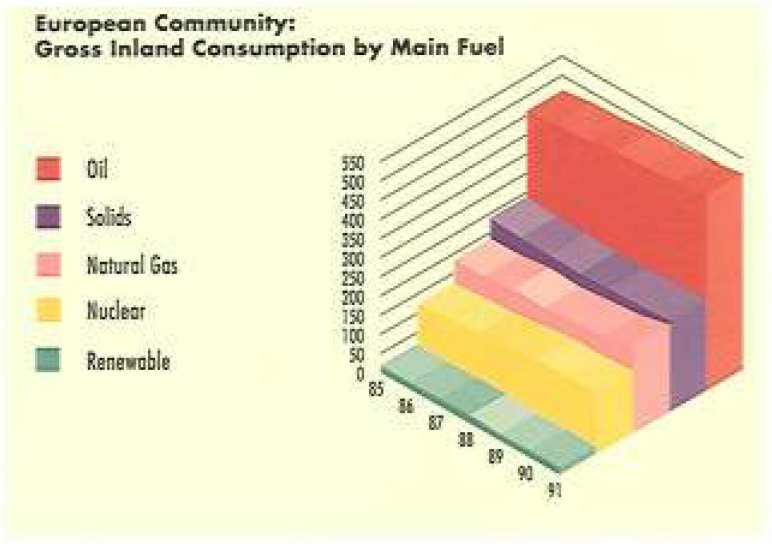
Total **final energy consumption** in the European Community as a whole increased significantly (4.9%) due essentially to colder weather conditions in 1991 compared to 1990. Indeed, the consumption in the domestic and tertiary sectors increased in 1991 by 11.5%. However, Greece, Italy and Portugal saw their final energy demand grow less in 1991 than the average of the last five years. In the transport sector, energy consumption (98% oil) only increased 2.0% in 1991, or half the average annual growth rate of the last five years. In Denmark and the United Kingdom transport demand decreased in 1991 compared to 1990. Industry demand was flat in 1991 compared to 1990, in part as a result of the stagnation of industrial production. Within this sector, the year 1991 seems to confirm that the downward trend in industrial demand for solids continues to be compensated primarily by an increase in gas and, to a less extent, by electricity. However, there are exceptions regarding stagnation of industrial demand: in Denmark, Germany and Spain industrial energy demand increased in 1991 faster than the average of the last five years. In these three cases, however, the acceleration in demand corresponded to different efficiency behaviours. Indeed, while in Denmark there is a gain in energy efficiency (energy demand growing less than industrial production), in Germany and more so in Spain there were losses in the overall energy efficiency of the industrial sector. At Community level there was still a slight efficiency gain in this sector.

(1) Given that for 1991 the SOEC provided only one energy balance for the whole of Germany, the corresponding Community total is based on an estimated former Federal Republic energy balance.

Final Energy Consumption

Europe 12	Former									New
Mtoe								Annual % Change		
	1985	1986	1987	1988	1989	1990	1991(*)	91/86	91/90	1991
Industry	214.20	209.66	216.50	219.05	222.31	220.34	220.27	1.0	0.0	230.00
Solids	47.67	42.90	42.49	42.82	43.05	42.71	40.41	-1.2	-5.4	43.58
Oil	50.37	52.08	50.63	49.73	46.92	44.37	44.49	-3.1	0.3	45.48
Gas	63.11	61.20	67.69	68.31	72.39	72.54	74.63	4.1	2.9	77.36
Electricity	50.77	51.17	52.91	55.40	57.30	58.07	58.36	2.7	0.5	61.20
Heat	2.29	2.31	2.79	2.78	2.64	2.65	2.38	0.6	-10.0	2.38
Transports	181.41	191.46	198.64	211.40	222.61	229.74	234.29	4.1	2.0	241.50
Solids	0.17	0.11	0.14	0.08	0.03	0.07	0.00	-	-	0.00
Oil	178.23	188.26	195.38	208.16	219.37	226.15	230.62	4.1	2.0	237.56
Gas	0.24	0.24	0.24	0.22	0.21	0.21	0.21	-2.5	2.4	0.21
Electricity	2.76	2.84	2.88	2.94	3.00	3.32	3.45	4.0	4.0	3.73
Other	280.58	287.94	288.81	276.78	266.96	271.01	302.05	1.0	11.5	319.51
Solids	20.26	19.02	17.00	15.08	12.62	11.27	13.56	-6.6	20.3	21.60
Oil	108.34	110.23	105.73	99.89	89.11	89.17	96.77	-2.6	8.5	98.87
Gas	90.71	94.79	99.10	94.10	95.26	98.68	114.71	3.9	16.3	116.61
Electricity	59.20	61.82	64.54	65.46	67.80	69.80	73.78	3.6	5.7	76.29
Heat	2.07	2.08	2.45	2.24	2.17	2.10	3.22	9.2	53.8	6.15
Total	676.18	689.06	703.95	707.23	711.88	721.10	756.61	1.9	4.9	791.01

(*) Estimate



Gross inland consumption requirements in the Community also increased in line with final energy demand. Due to strengthened demand in the domestic and tertiary sectors, natural gas consumption increased significantly by 8.8%. Although to less extent, all other primary fuels also increased. In terms of external supplies, Community dependency increased slightly to more than 50% in 1991 (43% in 1985). However, this increase in dependency does not hold true for natural gas. In fact, domestic production of natural gas increased in 1991 faster than total consumption. Nuclear energy production in 1991 continued to increase but slower than in the last five years. It seems that nuclear output is showing a tendency to stabilise in the 1990s due to the lack of new units coming on stream.

Supply

Europe 12	Former									New
Mtoe								Annual % Change		
	1985	1986	1987	1988	1989	1990	1991(*)	91/86	91/90	1991
Primary Production	592.25	604.38	603.47	594.46	578.83	575.81	592.99	-0.4	3.0	630.82
Solids	172.57	176.60	168.59	163.88	162.33	155.25	153.65	-2.7	-1.0	189.77
of which Lignite	*35.63*	*34.05*	*32.39*	*32.39*	*34.29*	*33.84*	*34.70*	*0.4*	*2.5*	*70.82*
Oil	150.92	153.34	150.67	142.16	118.64	116.21	116.82	-5.3	0.5	116.88
Natural Gas	127.12	124.57	129.01	120.18	125.23	129.75	142.78	2.8	10.0	144.30
Nuclear	123.62	132.28	136.25	146.89	156.98	157.15	160.80	4.0	2.3	160.79
Geothermal	1.70	1.73	1.85	1.84	1.87	1.98	1.95	2.5	-1.2	1.95
Hydro	14.56	14.21	14.95	16.53	11.33	12.45	13.75	-0.7	10.5	13.78
Other Renewable	1.77	1.67	2.17	2.98	2.46	3.02	3.24	14.2	7.1	3.35
Net Imports	456.55	480.04	491.18	511.27	552.21	573.74	596.04	4.4	3.9	617.23
Solids	62.40	61.07	60.66	62.05	66.69	77.48	85.18	6.9	9.9	87.53
of which Hard Coal	*62.29*	*59.68*	*59.76*	*61.29*	*66.25*	*76.26*	*84.16*	*7.1*	*10.4*	*86.21*
Crude Oil	294.16	323.87	318.48	350.71	377.94	388.45	399.36	4.3	2.8	413.23
Oil Products	39.47	30.25	39.11	24.49	28.01	26.16	27.43	-1.9	4.9	28.63
Natural Gas	59.35	63.67	71.34	72.25	77.88	80.20	83.37	5.5	4.0	87.21
Electricity	1.19	1.17	1.59	1.76	1.70	1.45	0.69	-10.1	-52.8	0.64
Gross Inland Consumption *(1)*	1028.97	1043.95	1062.67	1077.16	1098.42	1115.59	1153.48	2.0	3.4	1212.35
Solids	238.96	232.09	231.29	226.66	231.02	233.75	236.97	0.4	1.4	275.34
Oil	462.49	473.92	476.58	487.96	491.65	498.25	510.29	1.5	2.4	525.05
Natural Gas	184.70	186.89	198.01	192.54	201.41	207.54	225.73	3.8	8.8	231.45
Other *(2)*	142.83	151.05	156.79	170.01	174.33	176.05	180.50	3.6	2.5	180.51

(*) Estimate
(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

Estimates for **1992** [1] show that total demand for energy in the Community remained almost constant (0.5%) mainly due to a general slow down in economic growth (1% against 1.3% in 1991) and also to milder climatic conditions (8% degree-days less than in 1991). This stagnation in demand is not equally shared by all Member States. While energy demand decreased in Denmark (-16.0%), Germany (-0.6%), Luxembourg (-0.4%), the Netherlands (-3.1%) and the United Kingdom (-1.0%), it continued to grow in Belgium (1.4%), France (1.1%), Greece (3.1%), Ireland (1.6%), Italy (3.4%), Portugal (3.0%) and Spain (5.4%). In terms of primary fuels, while solids dropped significantly (-5.2%), oil demand increased by 2.8%. Natural gas demand in 1992 is estimated to remain more or less stable compared to 1991. Nuclear output is estimated to increase by 2.8% mainly due to increases in Germany and the United Kingdom, whereas it was constant in France and decreased in Spain.

(1) Based on the first ten to eleven months of 1991 and 1992.

Final consumption of **electricity** continues to show a steady growth of more than 3% per year, or faster than GDP growth. In 1991, electricity intensity increased significantly given that demand grew 3.4% against a GDP growth of 1.3%. The 1991 increase occurred mainly in the domestic and tertiary sector (+5.7%). In industry electricity demand only grew 0.5%. Since 1989, electricity has not gained market share in total final energy demand. Except for Spain and Italy, electricity consumption growth in 1991 in the domestic and tertiary sectors for all Member States accelerated compared to the average of the last five years. Electricity consumption growth in industry shows a slow down in all Member states except in the case of Denmark. Total electricity generation in 1991 increased 4.1% over 1990. This resulted in a significant drop in net imports. Although nuclear output in 1991 grew less than in the recent past, it still increased faster than conventional thermal. However, while nuclear shows a tendency to slow down, conventional thermal grew faster than in the last five years. These developments resulted in increases in the load fac-

Gross Inland Consumption: 1992/1991 evolution

%	Solids	Oil	Natural Gas	Nuclear	hydro	TOTAL
Community	**-6.1**	**2.3**	**0.2**	**2.3**	**-4.2**	**0.0**
Belgium	-1.4	2.8	4.5	0.1	75.0	2.0
Danemark	-20.0	-1.9	2.5	-	10.3	-22.2
France	-1.2	-0.3	7.5	-0.4	13.0	0.9
Germany	-10.7	2.3	-0.1	9.3	12.8	-0.1
Greece	4.0	1.4	-7.6	-	-26.8	1.9
Ireland	-1.5	4.6	4.0	-	-1.9	2.4
Italy	-10.9	3.4	1.1	-	0.3	1.3
Luxembourg	-7.8	4.3	5.8	-	0.0	0.6
Netherlands	-10.5	-0.5	-2.8	19.1	120.0	-2.7
Portugal	10.1	5.7	0.0	-	-64.4	3.6
Spain	4.2	5.0	-1.3	-2.2	-39.8	2.3
United Kingdom	-5.0	2.7	-3.0	4.8	21.0	-0.7

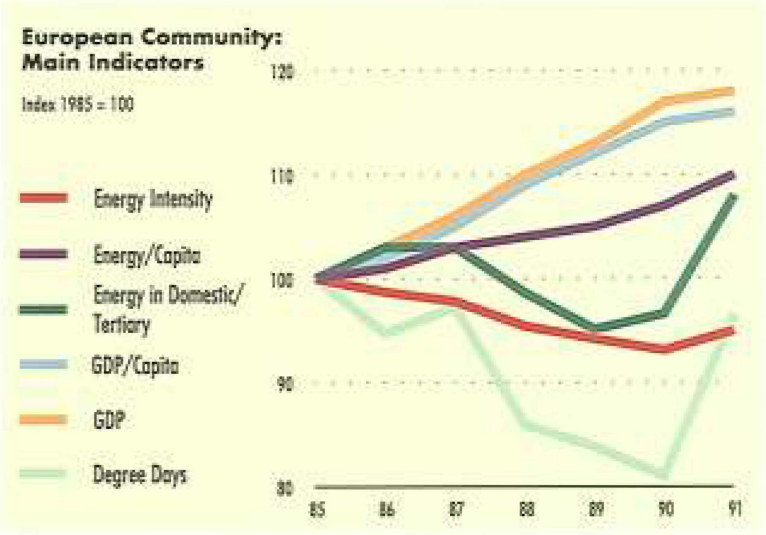
tors of both the nuclear and especially of conventional thermal capacities. While nuclear generating capacities increased 1.15 GW in 1991, total conventional thermal lost some 1.27 GW. Total generating capacity in the Community as a whole increased by 0.56 GW. This resulted in an improvement of the overall load factor from 45% in 1985 to 49% in 1991. In terms of fuel inputs for thermal generation, solids and oil increased in 1991 (2.6% and 5.2% respectively) faster than in the last five years. Gas, which was one of the fastest growing fuel inputs until 1990, dropped in 1991 by almost 1%. Renewable energy sources continue to show a high growth rate for thermal electricity production, but they still remain at a low level.

Electricity

Europe 12	Former									New
								Annual % Change		
	1985	1986	1987	1988	1989	1990	1991(*)	91/86	91/90	1991
Total Generation	1573.11	1612.79	1658.98	1707.46	1758.19	1804.36	1877.69	3.1	4.1	1958.57
TWh										
from pumping	*13.83*	*12.88*	*12.05*	*12.51*	*14.13*	*14.27*	*14.98*	*3.1*	*5.0*	*16.41*
Hydro (without pumping)	169.35	165.24	173.80	192.19	131.78	144.72	159.90	-0.7	10.5	160.22
Derived	1389.93	1434.67	1473.13	1502.76	1612.27	1645.37	1702.81	3.5	3.5	1781.95
Nuclear	*484.58*	*522.55*	*538.13*	*581.20*	*626.30*	*627.37*	*650.99*	*4.5*	*3.8*	*650.96*
Thermal Conventional	*905.35*	*912.13*	*935.00*	*921.57*	*985.97*	*1018.00*	*1051.82*	*2.9*	*3.3*	*1130.98*
Net Imports	13.80	13.62	18.47	20.52	19.76	16.90	7.98	-10.1	-52.8	7.41
Gross Inland Consumption	1586.91	1626.41	1677.45	1727.99	1777.95	1821.26	1885.67	3.0	3.5	1965.98
Own Consumption	108.44	107.06	108.75	113.37	119.62	119.48	125.84	3.3	5.3	136.21
Available Internal Market	1478.47	1519.35	1568.70	1614.62	1658.33	1701.78	1759.82	3.0	3.4	1829.77
Distribution Losses	106	105	106	111	111	113	119.27	2.6	5.4	123.72
Energy Branch Consumption	61.22	67.51	63.99	64.36	57.94	63.14	63.94	-1.1	1.3	63.97
Final Consumption	1310.86	1346.85	1399.19	1439.56	1489.56	1525.47	1576.62	3.2	3.4	1642.09
Power Generation Capacities	402.66	412.70	423.53	431.39	433.53	435.77	436.33	1.1	0.1	456.62
GW										
Nuclear	76.42	86.13	92.37	100.49	100.92	102.49	103.64	3.8	1.1	103.64
Conventional Thermal	252.35	250.63	252.66	252.44	253.09	252.50	251.23	0.0	-0.5	269.82
Hydro (Incl. pumping)	73.16	75.16	77.61	77.48	78.47	79.61	80.13	1.3	0.6	81.83
Other Renewable	0.74	0.78	0.88	0.97	1.05	1.16	1.33	11.1	14.3	1.33
Inputs to Thermal Power Stations	209.75	208.69	213.14	210.40	223.82	231.58	237.65	2.6	2.6	261.55
Mtoe										
Solids	140.37	143.74	146.33	142.65	147.58	153.79	157.78	1.9	2.6	179.58
of which Lignite	*33.13*	*31.28*	*28.63*	*29.25*	*31.31*	*31.07*	*31.39*	*0.1*	*1.0*	*52.99*
Oil	39.43	35.82	35.77	35.30	41.12	41.28	43.43	3.9	5.2	44.46
Gas	28.19	27.47	28.87	29.47	32.66	33.49	33.20	3.9	-0.9	34.16
of which Natural Gas	*22.68*	*21.93*	*23.80*	*23.62*	*26.75*	*27.70*	*27.12*	*4.3*	*-2.1*	*28.02*
Renewable	1.77	1.67	2.17	2.98	2.46	3.02	3.24	14.2	7.1	3.35

(*) Estimate

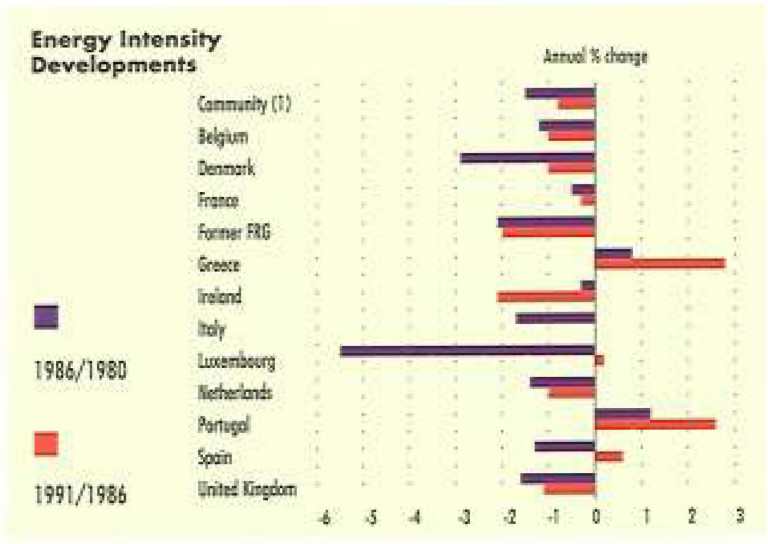
The European Community seems to have lost some overall energy efficiency in 1991, as measured by the energy intensity of its economy. In fact, its energy intensity increased by over 2% whereas it had steadily dropped since 1985 by about 1% per year. In 1992 intensity is expected to fall again, approaching the 1% long-term decline. However, a word of caution is necessary when looking at energy intensity behaviour. Intensity is a ratio between energy consumption and GDP, and the first parameter is highly influenced by the weather conditions without any reflection at the GDP level. In fact, a great deal of the 1991 increase compared to 1990 is due to the significant differences in weather conditions.



While statistical data for 1991 indicate an increase in primary energy demand of 3.4%, this growth would be about 0.9% if weather conditions had been the same as in 1990. Thus, the observed energy intensity which increased 2.1% would, on the contrary, decrease by 0.3% when adjusted for weather conditions [1].

A simple way of looking at the real evolution of energy intensity is to consider the rate of change of this variable between years that are comparable in terms of average temperature. In this context, we took the energy intensities of Community Member States for the years 1980, 1986 and 1991. The main conclusion is that, except for Ireland, there is a general slow down in intensity gains. Those Member States that had decreasing intensities in the first part of the 1980s, show in the later part of the decade either a lower annual rate of improvement or even a reversal in the trend (Luxembourg and Spain). Those with increasing intensities until 1986 (Greece and Portugal) accelerated this increase between 1986 and 1991.

(1) More details on this approach are given in part IV of this publication.



Total emissions of CO2 in 1991 followed closely the evolution of energy demand and were 3.7% higher than in 1990. The domestic and tertiary sectors were mainly responsible for this increase, raising their emissions by as much as 12.5%. Power generation and transport increased their emissions by 2.8% and 2.1% respectively. On the other hand, industry saw its emissions reduced by 1.2%, confirming the downward trend since 1989, due to fuel switching, with gas and electricity substituting for solids and oil. Power generation in 1991 remains the largest CO2 emitter with 31% of total. Transport, domestic and tertiary and industry follow with 25%, 22% and 18% of total respectively.

Main Indicators

Europe 12	Former									New
								Annual % Change		
	1985	1986	1987	1988	1989	1990	1991(*)	91/86	91/90	1991
Population (millions)	321.92	322.78	323.62	324.53	325.98	327.06	328.70	0.4	0.5	344.72
GDP (bil. ECU 85)	3340.3	3431.9	3526.3	3664.6	3784.0	3891.6	3942.6	2.8	1.3	3999.0
Private Consumption (bil. ECU 85)	1945.2	2025.3	2100.8	2190.2	2251.4	2316.0	2350.4	3.0	1.5	na
Industrial Production (85=100)	100.0	102.4	104.4	108.8	112.9	115.1	115.1	2.4	0.0	na
GDP per capita (ECU 85/capita)	10376	10633	10897	11292	11608	11898	11994	2.4	0.8	11601
Prim. Cons. per cap.(Kgoe/capita)	3196	3234	3284	3319	3370	3411	3509	1.6	2.9	3517
Prim. Cons./GDP (toe/MECU 85)	308.1	304.2	301.4	293.9	290.3	286.7	292.6	-0.8	2.1	303.2
Final Cons./GDP (toe/MECU 85)	202.4	200.8	199.6	193.0	188.1	185.3	191.9	-0.9	3.6	197.8
Ele.Cons./GDP (MWh/MECU 85)	392.4	392.4	396.8	392.8	393.6	392.0	399.9	0.4	2.0	410.6
Ind. Cons./Ind. Prod. (85=100)	100.0	95.6	96.8	94.0	91.9	89.4	89.3	-1.3	0.0	na
Import Dependency (%)	43.25	44.66	44.96	46.17	48.94	49.97	50.26	2.4	0.6	49.58
Oil Dependency (%)	31.60	32.95	32.74	33.89	35.97	36.11	35.99	1.8	-0.3	35.49
CO2 Emissions (Mt of CO2)	2635.8	2650.7	2681.5	2680.7	2725.9	2760.9	2863.5	1.6	3.7	3068.3
Power Generation	792.1	790.5	801.6	793.6	839.3	866.8	891.2	2.4	2.8	992.0
Energy Sector	113.9	116.7	116.0	122.7	123.7	123.4	124.8	1.3	1.1	138.8
Industry	557.8	531.0	541.8	541.2	546.1	530.8	524.4	-0.3	-1.2	547.4
Transports	543.1	573.6	595.4	634.2	668.3	689.3	703.5	4.2	2.1	724.7
Other	628.9	638.9	626.8	589.1	548.4	550.7	619.6	-0.6	12.5	665.3
CO2 Emissions per ,capita (t/capita)	8.2	8.2	8.3	8.3	8.4	8.4	8.7	1.2	3.2	8.9
Degree Days	2608	2469	2534	2241	2186	2113	2515	0.4	19.0	na

(*) Estimate

Average Community **energy prices** to consumers in real terms generally decreased from 1986 to 1992, except for transport diesel. Indeed, automotive diesel prices increased between 1986 and 1991, dropping only in 1992. Heavy fuel oil has been the cheapest fuel since 1987 in the industrial sector. Steam coal and natural gas rank second and third respectively. Looking at growth rates since 1986, natural gas prices have been declining as fast as those for heavy fuel oil. On the other hand, average steam coal has been loosing competitiveness compared to both. In the domestic and tertiary sectors, heating oil is cheaper than natural gas since 1988 and it has been gaining competitiveness since then. For example, while heating oil prices dropped 19% in 1992, the prices of natural gas only decreased by less than 2%.

Comparing energy prices in 1992 across Member States is not an easy task. Nonetheless, some broad trends may be noted. Italy for example shows the highest prices for transport fuels, about 28% above the average. Luxembourg has the lowest gasoline prices, 26% below the Community average, while Denmark

Energy Prices to Consumers in Constant 1990 ECU per toe

Average Community	1985	1986	1987	1988	1989	1990	1991	1992	86/85	91/86	92/91
									Annual % Change		
Transport											
Premium Gasoline	1247	1039	999	958	992	1003	1015	1003	-16.7	-0.5	-1.3
Diesel	714	554	527	507	520	551	565	538	-22.5	0.4	-4.7
Industry											
Steam coal	168	158	150	141	135	133	131	130	-6.0	-3.7	-0.5
Heavy fuel oil 3.5% S	303	161	140	106	123	134	119	110	-46.8	-5.9	-8.0
Natural gas	264	184	141	124	127	134	135	125	-30.3	-5.9	-7.3
Electricity	848	812	786	762	748	741	732	721	-4.3	-2.1	-1.4
Domestic/Tertiary											
Heating oil	611	402	337	280	285	301	316	256	-34.3	-4.7	-19.1
Natural gas	422	387	320	318	320	332	348	342	-8.3	-2.1	-1.7
Electricity	1461	1419	1377	1375	1355	1333	1342	1321	-2.9	-1.1	-1.6

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

shows the cheapest diesel price some 39% below average.

Portugal shows the highest heavy fuel oil price which is 31% above average. On the other hand, Belgium had the cheapest heavy fuel oil at 35% below average. Ireland shows the highest natural gas prices for industry almost double the average while Netherlands had the lowest value at 31% below average. Industrial electricity is most expensive in Portugal (66% above average) while it is cheapest in the Netherlands (46% below average).

Heating oil for the domestic and tertiary sectors has the highest price in Italy (two and a half times the average) and the United Kingdom had the lowest (40% below average). Natural gas for domestic and tertiary users had the highest price in Italy (73% higher than the average) and the lowest in Luxembourg (44% below average). Electricity for domestic and tertiary users had the highest average price in Spain with 40% more than the Community average, while the Netherlands had the lowest price (26% below average).

Energy Prices to Consumers in 1992

	TRANSPORT		INDUSTRY				DOMESTIC AND TERTIARY		
ECU per Unit	Premium Gasoline	Diesel	Steam coal	Heavy fuel oil 3.5% S	Natural gas	Electricity	Heating oil	Natural gas	Electricity
Unit	kl	kl	t	t	toe	100kWh	kl	toe	100kWh
Community	**777**	**488**	**100**	**117**	**137**	**6.8**	**292**	**375**	**12.4**
Belgium	753	484	32	76	112	4.9	178	329	13.5
Danemark	732	300	88	95	na	5.1	507	510	14.1
France	753	418	83	88	119	4.4	294	360	11.7
Germany	747	456	158	100	158	7.1	219	367	13.1
Greece	681	430	na	134	na	5.3	380	na	9.6
Ireland	769	559	na	108	262	5.3	322	389	10.8
Italy	992	615	na	142	138	9.4	736	648	14.8
Luxembourg	572	347	na	102	183	5.3	186	209	9.7
Netherlands	858	415	na	136	94	3.7	292	294	9.2
Portugal	844	547	39	153	na	11.3	na	na	14.6
Spain	749	509	na	101	218	9.4	322	531	17.4
United Kingdom	706	534	62	91	126	5.9	176	281	9.8

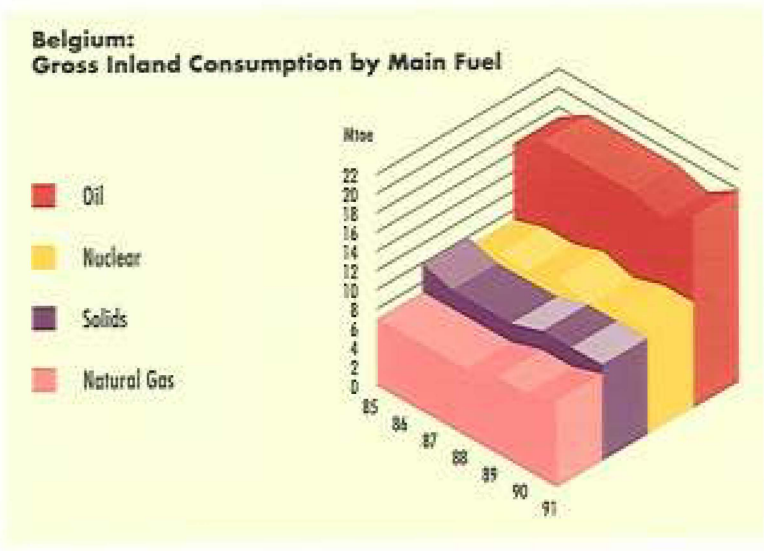
Note: Vat is only included in the case of Premium Gasoline and for the Domestic/Tertiary sector.

BELGIUM

Total **final energy consumption** amounted to 32 Mtoe in 1991, or 5.5% more than in 1990, in spite of an economic growth of only 1.4%. Total final energy consumption increased by 1.7% on average from 1986 to 1991. The increase in the trend compared to that of the last five years is mainly due to the fact that 1990 was the warmest year in the period, thus temporarily depressing the level of energy demand as compared to what this level would have been under average climatic conditions. This analysis is confirmed when looking at developments in each final consuming sector. In fact, it is the Domestic and Tertiary sectors that carry the responsibility for the big increase in energy demand in 1991 (11.3%) due to spacing heating needs. Industry increased its energy demand by 2.1%, which corresponds to a significant loss in efficiency given that industrial production dropped by 2.0% in 1991. The transport sector saw its energy demand (mainly oil) increased by 1.7%. In terms of the shares of each final consuming sector, transport has been steadily increasing its share from 21% of total final energy demand in 1985 to 24% in 1991. While industry kept its share of around 36%, the domestic and tertiary sectors saw its share decreased from 43% to 40%.

Final Energy Consumption

Belgium	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	10.34	10.09	10.32	11.00	11.04	11.33	11.57	2.8	2.1
Solids	3.18	2.81	2.76	3.06	3.31	3.24	3.30	3.3	2.0
Oil	1.78	2.20	2.01	2.20	1.76	1.55	2.16	-0.3	39.1
Gas	2.98	2.67	3.04	3.07	3.23	3.73	3.24	3.9	-13.2
Electricity	2.21	2.23	2.33	2.48	2.55	2.62	2.67	3.7	1.8
Heat	0.19	0.19	0.19	0.18	0.19	0.19	0.20	1.3	6.
Transports	6.06	6.59	6.81	7.39	7.60	7.70	7.84	3.5	1.7
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Oil	5.96	6.49	6.71	7.28	7.50	7.60	7.73	3.6	1.7
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Electricity	0.10	0.10	0.11	0.11	0.11	0.11	0.11	1.5	1.9
Other	12.27	12.94	12.95	12.19	11.80	11.49	12.79	-0.2	11.3
Solids	1.16	1.07	0.88	0.68	0.57	0.55	0.62	-10.2	13.3
Oil	5.24	6.09	5.90	5.67	5.21	5.14	5.57	-1.7	8.4
Gas	3.98	3.84	4.12	3.75	3.83	3.52	4.14	1.5	17.7
Electricity	1.85	1.92	2.03	2.07	2.16	2.25	2.42	4.8	7.4
Heat	0.03	0.03	0.03	0.03	0.03	0.03	0.03	-4.7	4.0
Total	28.67	29.63	30.09	30.58	30.44	30.52	32.20	1.7	5.5



As a result of developments in final demand, total demand for **primary energy** increased by 4.9% in 1991, compared to an annual average growth of 2.1% since 1986. Primary consumption of oil and natural gas increased by 9.7% and 6.9% respectively, while solids dropped by 2.7%. Hard coal production continued to fall sharply; primary hard coal production was 0.9 Mtoe in 1991 and the last coal-producing pit was closed in 1992. Nuclear production seems to have stabilised around 10.7 Mtoe as no new nuclear units are coming on stream. In terms of **net imports** oil products had a very significant increase over 1990 (20.6%) with crude oil having only a 12.6% increase. Belgium has been a net exporter of electricity although the levels of these exports are not very high.

Supply

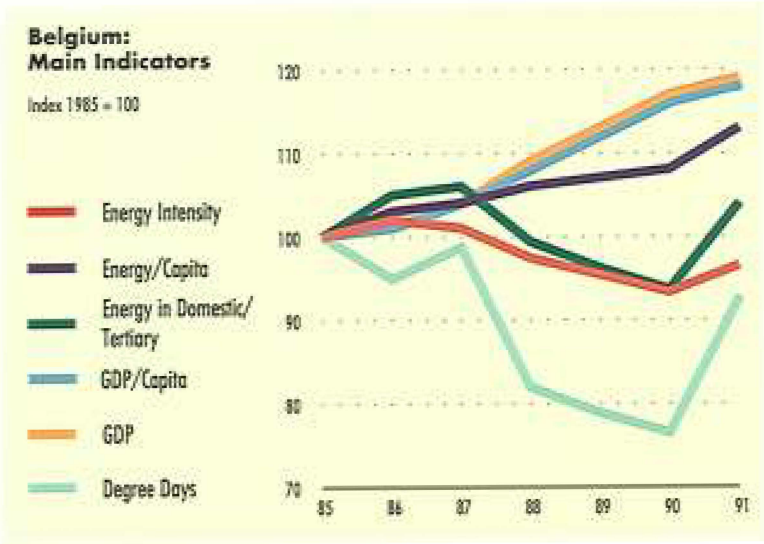
Belgium	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	13.27	13.90	13.70	12.95	12.24	12.07	11.90	-3.0	-1.3
Solids	4.37	3.84	2.97	1.85	1.63	1.08	0.86	-25.9	-20.9
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.0*	*0.0*
Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Natural Gas	0.03	0.02	0.02	0.01	0.01	0.01	0.01	-18.1	-14.9
Nuclear	8.70	9.82	10.46	10.80	10.36	10.71	10.72	1.8	0.1
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Hydro	0.02	0.03	0.04	0.03	0.03	0.02	0.02	-7.1	-13.5
Other Renewable	0.14	0.18	0.21	0.25	0.21	0.24	0.30	10.8	25.2
Net Imports	32.06	34.51	34.83	36.37	38.70	39.56	42.27	4.1	6.8
Solids	5.57	5.03	5.39	6.75	7.91	9.50	9.17	12.8	-3.5
of which Hard Coal	*5.61*	*5.00*	*5.49*	*6.76*	*7.91*	*9.48*	*9.05*	*12.6*	*-4.5*
Crude Oil	20.44	26.20	26.88	25.74	26.92	26.82	30.20	2.9	12.6
Oil Products	-1.23	-3.35	-4.71	-3.09	-4.07	-4.65	-5.60	10.8	20.6
Natural Gas	7.29	6.65	7.45	7.15	8.16	8.22	8.66	5.4	5.4
Electricity	0.00	-0.02	-0.18	-0.18	-0.22	-0.32	-0.16	54.0	-50.4
Gross Inland Consumption *(1)*	43.52	44.88	45.45	46.13	46.81	47.51	49.82	2.1	4.9
Solids	9.89	8.85	8.67	8.77	9.63	10.25	9.97	2.4	-2.7
Oil	17.43	19.40	18.95	19.25	18.79	18.44	20.23	0.8	9.7
Natural Gas	7.33	6.63	7.31	7.21	8.02	8.17	8.73	5.7	6.9
Other *(2)*	8.87	10.01	10.52	10.90	10.38	10.65	10.88	1.7	2.1

(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

Electricity demand grew 4.4% in 1991 against an annual average of 4.1% since 1986. In spite of this development, total generation only increased by 1.5% in 1991: nuclear with 0.3% and thermal generation with 3.2%. These two forms of generation represented 99% of total output. The balance between growth in demand and in generation was made up by a significant cut in net exports. Total generating capacity shows a downward trend since 1986. In terms of the different generating technologies, nuclear capacity is practically constant since 1986, while conventional thermal lost some 150 MW. This means that the average load factor of thermal capacity improved from 33% in 1985 to 44% in 1991. There are some 1.4 GW of hydro power, mainly in pumping stations.

Electricity

Belgium	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	57.31	58.67	63.36	65.43	67.47	70.83	71.92	4.2	1.5
TWh									
from pumping	*1.07*	*1.06*	*1.04*	*0.90*	*0.67*	*0.63*	*0.74*	*-6.8*	*17.6*
Hydro (without pumping)	0.28	0.34	0.43	0.37	0.31	0.27	0.24	-7.1	-13.5
Derived	55.96	57.27	61.88	64.16	66.49	69.93	70.95	4.4	1.5
Nuclear	*34.59*	*39.39*	*41.96*	*43.09*	*41.21*	*42.71*	*42.85*	*1.7*	*0.3*
Thermal Conventional	*21.37*	*17.88*	*19.92*	*21.07*	*25.28*	*27.21*	*28.09*	*9.5*	*3.2*
Net Imports	-0.05	-0.21	-2.12	-2.12	-2.55	-3.72	-1.85	54.0	-50.4
Gross Inland Consumption	57.26	58.45	61.24	63.30	64.92	67.11	70.08	3.7	4.4
Own Consumption	4.53	4.56	4.73	4.59	4.45	4.51	4.79	1.0	6.2
Available Internal Market	52.73	53.89	56.51	58.72	60.47	62.60	65.28	3.9	4.3
Distribution Losses	3.03	3.07	3.25	3.25	3.27	3.50	3.52	2.8	0.5
Energy Branch Consumption	1.29	1.42	1.36	1.30	1.13	1.12	1.27	-2.2	12.7
Final Consumption	48.41	49.40	51.90	54.16	56.07	57.97	60.50	4.1	4.4
Power Generation Capacities	14.17	14.14	14.06	14.03	14.08	14.14	14.10	-0.1	-0.3
GW									
Nuclear	5.48	5.51	5.50	5.50	5.50	5.50	5.49	-0.1	-0.3
Conventional Thermal	7.36	7.30	7.23	7.19	7.18	7.24	7.21	-0.3	-0.4
Hydro (Incl. pumping)	1.33	1.33	1.33	1.34	1.40	1.40	1.40	1.1	0.0
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Inputs to Thermal Power Stations	5.15	4.35	4.86	5.11	5.95	6.42	6.64	8.8	3.5
Mtoe									
Solids	2.83	2.65	2.91	3.02	3.40	3.88	3.73	7.1	-3.7
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.0*	*0.0*
Oil	0.95	0.67	0.56	0.41	0.41	0.32	0.46	-7.2	45.3
Gas	1.24	0.85	1.18	1.42	1.93	1.98	2.14	20.2	8.1
of which Natural Gas	*0.57*	*0.27*	*0.60*	*0.71*	*1.30*	*1.32*	*1.49*	*40.6*	*12.7*
Renewable	0.14	0.18	0.21	0.25	0.21	0.24	0.30	10.8	25.2



Energy intensity worsened considerably in Belgium in 1991, as a result of harder climatic conditions and of slowed-down economic activity. Primary and total final consumption per unit of GDP increased by 3.4% and 4.0% respectively. However, the evolution of these two indicators since 1986 show a steady efficiency gain of 1% and 1.5% per year respectively. Electricity penetration continued its past trend with an acceleration in 1991. Finally, the growth rate in CO2 emissions is increasing, reaching 4.8% rise in 1991, which is more than double the average since 1986. To a very large extent, this increase is due to the domestic sector.

Main Indicators

Belgium	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	9.86	9.86	9.87	9.90	9.94	9.95	9.95	0.2	0.1
GDP (bil. ECU 85)	105.5	107.0	109.4	114.8	119.0	123.4	125.2	3.2	1.4
Private Consumption (bil. ECU 85)	69.1	70.8	73.0	75.3	77.8	79.8	81.1	2.8	1.7
Industrial Production (85=100)	100.0	100.8	103.0	108.9	112.7	117.7	115.3	2.7	-2.0
GDP per capita (ECU 85/capita)	10701	10854	11082	11591	11969	12407	12574	3.0	1.3
Prim. En. Cons. per cap. (Kgoe/capita)	4415	4551	4605	4659	4710	4775	5005	1.9	4.8
Prim. En. Cons. / GDP (toe/MECU 85)	412.5	419.3	415.5	402.0	393.5	384.9	398.1	-1.0	3.4
Final En. Cons. / GDP (toe:MECU 85)	271.8	276.8	275.1	266.4	255.9	247.3	257.3	-1.5	4.0
Elect. Cons. / GDP (MWh/MECU 85)	458.9	461.5	474.5	471.9	471.3	469.7	483.4	0.9	2.9
Industrial Cons. / Ind. Prod. (85=100)	100.0	96.8	96.9	97.6	94.7	93.1	97.1	0.0	4.3
Import Dependency (%)	69.97	72.31	71.45	73.02	76.37	76.68	78.27	1.6	2.1
Oil Dependency (%)	41.92	47.88	45.48	45.49	45.10	42.97	45.55	-1.0	6.0
CO2 Emissions (Mt of CO2)	104.6	104.5	106.4	109.2	110.0	111.3	116.6	2.2	4.8
Power Generation	20.2	17.5	19.0	20.5	22.6	24.6	25.0	7.4	1.8
Energy Sector	5.3	5.8	6.1	5.9	5.6	5.6	6.4	1.8	14.0
Industry	30.8	29.2	29.4	31.4	31.5	31.6	32.2	2.0	1.9
Transports	18.2	19.8	20.5	22.2	22.9	23.2	23.6	3.6	1.8
Other	30.2	32.1	31.4	29.1	27.5	26.3	29.4	-1.7	11.8
CO2 Emissions per capita (t/capita)	10.6	10.6	10.8	11.0	11.1	11.2	11.7	2.0	4.7
Degree Days	2982	2831	2942	2442	2351	2277	2765	-0.5	21.4

Energy prices to consumers generally decreased in both current and real terms from 1986 to 1992, except for transport fuels. Indeed, gasoline and automotive diesel prices in current terms had an increase from 1986 to 1991. However, in real terms gasoline saw its prices dropping from 1986 to 1992. For automotive diesel the evolution was different: while current prices increased on average 5.9% until 1991, in real terms they only increased 2.5%. Looking at prices without taxes, while for heavy fuel oil they decreased slightly more than those in the spot market, for natural gas, import prices dropped significantly more than the prices before taxes for both industry and the domestic sector.

Energy Prices to Consumers in Current BF per Unit

Belgium	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	33.7	25.6	24.9	24.7	27.6	30.4	31.5	31.6	4.2	0.5
without taxes	*l*	*15.8*	*9.3*	*8.8*	*8.6*	*9.7*	*10.4*	*10.5*	*9.5*	*2.5*	*-9.5*
Diesel	l	21.5	15.2	14.4	13.7	16.3	18.8	20.3	20.3	5.9	0.0
without taxes	*l*	*15.1*	*9.0*	*8.2*	*7.6*	*8.7*	*9.3*	*10.2*	*9.2*	*2.5*	*-9.4*
Industry											
Steam coal	t	2557	1968	1532	1608	1421	1469	1400	1355	-6.6	-3.2
without taxes	*t*	*2557*	*1968*	*1532*	*1608*	*1421*	*1469*	*1400*	*1355*	*-6.6*	*-3.2*
Heavy fuel oil 3.5% S	t	10160	4452	4515	3303	4209	3959	3256	3199	-6.1	-1.8
without taxes	*t*	*10160*	*4452*	*4515*	*3303*	*4209*	*3959*	*3256*	*3199*	*-6.1*	*-1.8*
Natural gas	toe	10457	6926	4661	4215	4490	4825	5437	4710	-4.7	-13.4
without taxes	*toe*	*10457*	*6926*	*4661*	*4215*	*4490*	*4825*	*5437*	*4710*	*-4.7*	*-13.4*
Electricity	kWh	2.55	2.33	2.08	1.99	2.06	2.13	2.08	2.04	-2.3	-2.0
without taxes	*kWh*	*2.55*	*2.33*	*2.08*	*1.99*	*2.06*	*2.13*	*2.08*	*2.04*	*-2.3*	*-2.0*
Domestic/Tertiary											
Heating oil	kl	16056	9191	7504	6604	7939	8216	8887	7461	-0.7	-16.0
without taxes	*kl*	*13724*	*7855*	*6414*	*5644*	*6786*	*7022*	*7595*	*6286*	*-0.7*	*-17.2*
Natural gas	toe	19729	16344	12933	12707	13433	13890	14298	13804	-2.6	-3.5
without taxes	*toe*	*16862*	*13969*	*11053*	*10861*	*11481*	*11872*	*12221*	*11668*	*-2.6*	*-4.5*
Electricity	kWh	6.02	5.77	5.45	5.45	5.55	5.69	5.66	5.66	-0.4	0.0
without taxes	*kWh*	*5.15*	*4.93*	*4.66*	*4.66*	*4.75*	*4.86*	*4.76*	*4.76*	*-0.7*	*0.0*
Memo item:											
Natural gas average import price	*toe*	*10612*	*6954*	*3974*	*3499*	*3427*	*3938*	*4570*	*4092*	*-8.1*	*-10.5*
Heavy fuel oil 3.5% S spot Rotterdam	*t*	*9017*	*3283*	*3676*	*2513*	*3430*	*3318*	*2640*	*2594*	*-4.3*	*-1.7*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

Considering prices on a common energy unit, natural gas for industry was in 1992 some 40% more expensive than heavy fuel oil, while they had almost the same price in 1989 and gas was even slightly cheaper in 1987. The domestic sector also saw the prices of gas increased relatively to those of heating oil. While gas was 48% more expensive than heating oil in 1986, it was 54% higher in 1992.

Energy Prices to Consumers in Constant 1990 ECU per toe

Belgium	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1253	940	901	883	954	1017	1021	1003	1.7	-1.8
Diesel	678	474	440	414	477	533	559	546	3.3	-2.2
Industry										
Steam coal	121	92	70	73	62	62	58	54	-8.9	-5.4
Heavy fuel oil 3.5% S	278	120	120	87	107	98	78	75	-8.4	-4.0
Natural gas	274	179	119	106	109	114	124	105	-7.0	-15.3
Electricity	775	701	614	582	584	585	552	529	-4.6	-4.2
Domestic/Tertiary										
Heating oil	506	286	230	200	233	233	244	200	-3.1	-17.9
Natural gas	516	422	329	319	328	327	326	308	-5.0	-5.6
Electricity	1832	1733	1610	1594	1574	1560	1502	1468	-2.8	-2.2

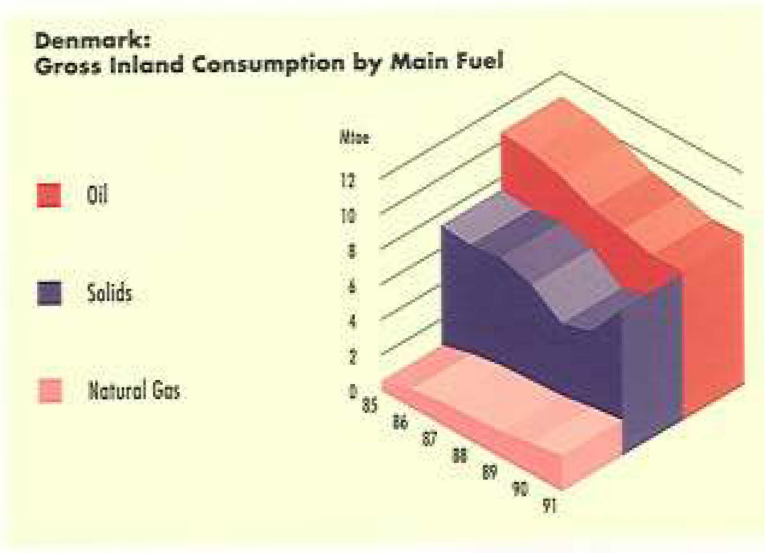
Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

DENMARK

Despite a sustained, although slow economic growth of 1% per year since 1986 **final energy consumption** increased in 1991 by 4.0% (-0.2% per year on average since 1986). This increase however, is mainly due to harder climatic conditions compared to 1990 and 1989. In fact, in the domestic and tertiary sectors energy demand grew by 9.4%. The industrial sector, on the contrary, showed a gain in efficiency as its demand grew 1.8% against an increase in activity of 2.2%. In this sector, the 1991 increase was made up by electricity and solid fuels: oil, which is still the most important fuel, and natural gas decreased by 1.9% and 1.3% respectively. The transport sector recorded a drop in demand (-1.9%) for the first time in the last five years: since 1986 transport demand increased on average by 4.4% per year. In the domestic and tertiary sectors natural gas continued its penetration with a 16.7% increase in 1991 (11.8% per year since 1986). Heat in this sectors increased its consumption by 16.6%. Oil, which still has the largest share in these sectors also increased its consumption by 6.2%. Domestic and tertiary consumption of electricity grew 4.4% in 1991 against an annual average of 2.7% since 1986.

Final Energy Consumption

Denmark	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	2.59	2.53	2.56	2.55	2.45	2.60	2.64	0.9	1.8
Solids	0.29	0.23	0.35	0.33	0.28	0.25	0.30	4.9	18.5
Oil	1.53	1.39	1.18	1.11	0.95	1.07	1.05	-5.5	-1.9
Gas	0.13	0.22	0.33	0.40	0.48	0.53	0.52	18.8	-1.3
Electricity	0.65	0.69	0.70	0.73	0.74	0.75	0.78	2.6	3.7
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Transports	3.63	3.56	3.95	3.96	4.26	4.50	4.42	4.4	-1.9
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Oil	3.62	3.55	3.94	3.94	4.24	4.48	4.40	4.4	-1.9
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.01	0.01	0.01	0.02	0.02	0.02	0.02	5.5	-5.6
Other	7.79	7.64	7.53	7.07	5.96	5.99	6.55	-3.0	9.4
Solids	0.49	0.47	0.37	0.31	0.25	0.21	0.24	-12.7	14.4
Oil	4.31	3.78	3.41	2.95	2.45	2.04	2.16	-10.6	6.2
Gas	0.37	0.65	0.84	0.87	0.90	0.98	1.14	11.8	16.7
Electricity	1.52	1.60	1.67	1.67	1.71	1.75	1.82	2.7	4.4
Heat	1.09	1.14	1.24	1.26	0.65	1.02	1.18	0.7	16.6
Total	14.01	13.74	14.04	13.58	12.66	13.08	13.61	-0.2	4.0



Total **primary consumption** more than followed final demand and increased in 1991 by 10.2%. This big discrepancy between the two growth rates can be explained by the strong increase in fuel inputs for power generation. As a result primary consumption of solid fuels increased 35.2% in 1991. Indigenous primary energy production (almost exclusively oil and gas from North Sea fields) increased by 20.3% in 1991, reaching 10.7 Mtoe. Oil dependency in Denmark fell from 43% in 1985 to 10% in 1991, while for the same period total import dependency was reduced to 43% from 81%.

Supply

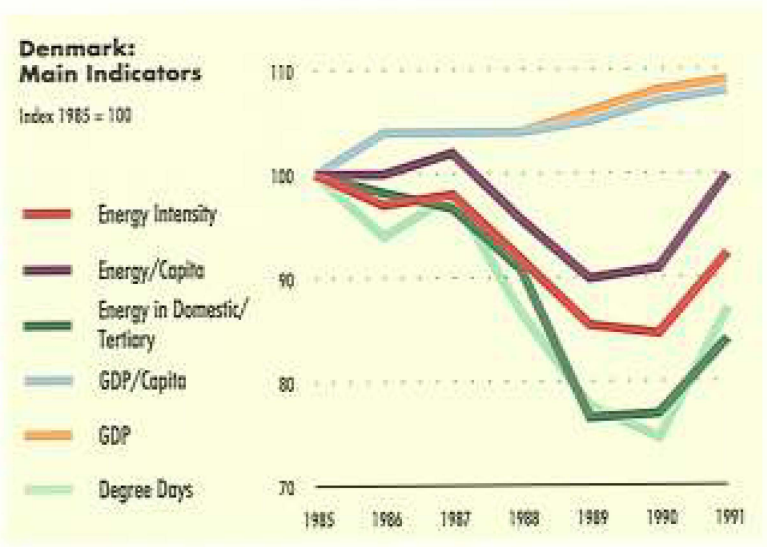
Denmark	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	3.90	5.35	6.80	6.92	8.12	8.87	10.67	14.8	20.3
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Oil	2.92	3.66	4.65	4.78	5.59	6.06	7.08	14.1	16.9
Natural Gas	0.97	1.68	2.13	2.11	2.50	2.74	3.46	15.6	26.3
Nuclear	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Hydro	0.01	0.01	0.02	0.03	0.04	0.06	0.07	36.9	20.7
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.01	0.06	93.0	332.6
Net Imports	15.52	14.36	12.95	11.17	10.44	8.96	8.36	-10.2	-6.6
Solids	7.69	7.43	7.37	6.26	6.55	6.23	7.78	0.9	24.8
of which Hard Coal	*7.63*	*7.37*	*7.32*	*6.22*	*6.52*	*6.21*	*7.75*	*1.0*	*24.7*
Crude Oil	4.03	4.08	3.14	3.10	2.97	1.92	0.97	-24.9	-49.1
Oil Products	4.16	3.38	2.90	2.18	0.93	1.13	1.03	-21.2	-8.8
Natural Gas	-0.40	-0.54	-0.66	-0.74	-0.82	-0.93	-1.25	18.3	35.0
Electricity	0.04	0.01	0.21	0.36	0.81	0.61	-0.17	-	-128.0
Gross Inland Consumption *(1)*	18.64	18.74	18.98	17.87	16.82	17.01	18.75	0.0	10.2
Solids	7.37	7.21	7.44	6.87	5.59	6.11	8.26	2.8	35.2
Oil	10.66	10.48	10.00	9.22	8.89	8.44	8.50	-4.1	0.7
Natural Gas	0.57	1.03	1.31	1.39	1.49	1.79	2.03	14.6	13.9
Other *(2)*	0.05	0.02	0.23	0.39	0.85	0.68	-0.04	-	-

(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

In 1991 total final consumption of **electricity** attained 30.5 TWh, or 4.1% more than in 1990. Most of the electricity production is provided by coal-fired power plants. While net imports were a significant part of electricity supply until 1990 (24% of final electricity consumption), Denmark was a net exporter in 1991, representing 5% of total generation. Thus, total generation in 1991 increased 41% compared to 1990. Total electricity capacity continued to be enlarged and its increase even accelerated in 1991 (5.3%). Hydro power capacity remains stable. Capacity based on renewable energy sources has increased substantially reaching 420 MW in 1991. The total average load factor of the Danish system, which had been fairly stable around 38% to 40% between 1985 and 1988, attained 43% in 1991 but it was only 29% and 32% in 1989 and 1990 respectively.

Electricity

Denmark	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	29.06	30.73	29.39	27.96	22.29	25.75	36.30	3.4	40.9
TWh									
from pumping	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Hydro (without pumping)	0.10	0.16	0.21	0.33	0.46	0.66	0.79	36.9	20.7
Derived	28.96	30.57	29.18	27.63	21.84	25.10	35.50	3.0	41.5
Nuclear	-	-	-	-	-	-	-	-	-
Thermal Conventional	*28.96*	*30.57*	*29.18*	*27.63*	*21.84*	*25.10*	*35.50*	*3.0*	*41.5*
Net Imports	0.46	0.08	2.41	4.21	9.46	7.05	-1.97	-	-128.0
Gross Inland Consumption	29.52	30.82	31.81	32.17	31.75	32.80	34.32	2.2	4.6
Own Consumption	1.85	1.95	1.87	1.81	1.06	1.69	2.21	2.5	30.3
Available Internal Market	27.66	28.87	29.94	30.35	30.69	31.11	32.12	2.2	3.2
Distribution Losses	2.11	1.94	2.06	2.07	1.68	1.60	1.40	-6.2	-12.1
Energy Branch Consumption	0.21	0.23	0.22	0.24	0.24	0.25	0.25	1.6	-0.4
Final Consumption	25.35	26.70	27.66	28.04	28.76	29.26	30.47	2.7	4.1
Power Generation Capacities	8.57	8.63	8.57	8.45	8.81	9.14	9.62	2.2	5.3
GW									
Nuclear	-	-	-	-	-	-	-	-	-
Conventional Thermal	8.51	8.53	8.44	8.25	8.54	8.78	9.19	1.5	4.7
Hydro (Incl. pumping)	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-3.6	0.0
Other Renewable	0.05	0.08	0.12	0.20	0.26	0.35	0.42	38.0	21.0
Inputs to Thermal Power Stations	6.92	7.17	6.92	6.59	5.48	5.94	8.14	2.6	37.0
Mtoe									
Solids	6.49	6.66	6.56	6.14	4.99	5.55	7.61	2.7	37.2
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Oil	0.35	0.37	0.28	0.32	0.33	0.25	0.28	-5.1	15.9
Gas	0.08	0.13	0.08	0.13	0.15	0.14	0.18	6.7	35.9
of which Natural Gas	*0.08*	*0.13*	*0.08*	*0.13*	*0.15*	*0.14*	*0.18*	*6.7*	*35.9*
Renewable	0.00	0.00	0.00	0.00	0.00	0.01	0.06	93.0	332.6



Danish **energy intensity** has decreased considerably by 3.3% per year on average from 1985 to 1990. Total energy consumption showed a downward trend until 1990, while GDP was growing at 1.5% per year on average. In 1991, however, energy intensity increased significantly by 9.9% mainly due to the increase of consumption in the domestic and tertiary sectors. In fact, industrial intensity improved 0.4% in 1991. The important growth in energy demand had a direct impact on CO2 emissions in 1991 (17.4%) compared to the average since 1986 (0.6% per year). Power generation and the domestic and tertiary sectors are the main responsible for this increase in emissions. Emissions from power generation account for 50% of total emissions.

Main Indicators

Denmark	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	5.11	5.12	5.13	5.13	5.13	5.14	5.15	0.1	0.3
GDP (bil. ECU 85)	76.7	79.5	79.7	80.1	81.1	82.7	83.6	1.0	1.0
Private Consumption (bil. ECU 85)	41.7	44.1	43.4	43.0	42.6	43.0	44.0	0.0	2.2
Industrial Production (85=100)	100.0	106.5	102.8	104.8	107.2	107.8	110.2	0.7	2.2
GDP per capita (ECU 85/capita)	14999	15524	15551	15624	15794	16114	16231	0.9	0.7
Prim. En. Cons. per cap. (Kgoe/capita)	3645	3659	3702	3484	3277	3313	3642	-0.1	9.9
Prim. En. Cons. / GDP (toe/MECU 85)	243.0	235.7	238.0	223.0	207.5	205.6	224.4	-1.0	9.1
Final En. Cons. / GDP (toe:MECU 85)	182.7	172.8	176.1	169.5	156.2	158.1	162.8	-1.2	3.0
Elect. Cons. / GDP (MWh/MECU 85)	330.5	335.9	346.9	349.9	354.7	353.6	364.5	1.7	3.1
Industrial Cons. / Ind. Prod. (85=100)	100.0	91.5	96.1	93.9	88.0	92.8	92.5	0.2	-0.4
Import Dependency (%)	81.47	74.82	65.88	59.58	58.94	49.88	42.69	-10.6	-14.4
Oil Dependency (%)	42.98	38.90	30.70	28.16	22.02	16.96	10.23	-23.4	-39.7
CO2 Emissions (Mt of CO2)	61.4	60.6	59.9	56.6	50.9	53.1	62.4	0.6	17.4
Power Generation	26.9	27.7	26.9	25.5	21.1	23.0	31.5	2.5	36.9
Energy Sector	0.9	1.0	0.9	0.9	0.9	1.3	1.4	7.3	6.1
Industry	6.3	5.8	5.9	5.7	5.2	5.7	5.7	-0.5	0.8
Transports	11.0	10.8	12.0	12.0	13.0	13.7	13.4	4.4	-1.9
Other	16.4	15.2	14.1	12.5	10.7	9.4	10.4	-7.4	9.7
CO2 Emissions per capita (t/capita)	12.0	11.8	11.7	11.0	9.9	10.3	12.1	0.5	17.1
Degree Days	3656	3438	3583	3166	2838	2729	3184	-1.5	16.7

Energy prices to consumers generally increased from 1986 to 1991, except for gasoline and heavy fuel oil. However, in real terms only automotive diesel and heating oil and electricity for the domestic and tertiary sectors saw their prices increased in the 1986 to 1991 period. In 1992, there is a general drop in prices in both current and real terms, except in the case of electricity for the domestic and tertiary sectors. Looking at prices without taxes since 1986, for heavy fuel oil they decreased in line with those in the spot market. Pre-tax oil prices decreased in general except for automotive diesel.

Energy Prices to Consumers in Current DK per Unit

Denmark	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	6.12	6.42	6.58	6.52	6.85	6.31	6.03	5.81	-1.2	-3.7
without taxes	*l*	*2.75*	*2.00*	*1.69*	*1.55*	*1.86*	*1.97*	*1.92*	*1.81*	*-0.8*	*-5.6*
Diesel	l	2.81	1.84	1.70	1.62	1.84	1.94	2.50	2.38	6.3	-4.8
without taxes	*l*	*2.81*	*1.84*	*1.70*	*1.62*	*1.84*	*1.94*	*1.95*	*1.83*	*1.1*	*-6.2*
Industry											
Steam coal	t	868	734	599	651	734	742	736	700	0.1	-4.9
without taxes	*t*	*868*	*734*	*599*	*651*	*734*	*742*	*736*	*700*	*0.1*	*-4.9*
Heavy fuel oil 3.5% S	t	1905	928	918	720	974	892	764	751	-3.8	-1.6
without taxes	*t*	*1905*	*928*	*918*	*720*	*974*	*892*	*764*	*751*	*-3.8*	*-1.6*
Natural gas	toe	na	na	na	na	na	na	na	na	-	-
without taxes	*toe*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Electricity	kWh	0.488	0.366	0.277	0.335	0.419	0.385	0.417	0.403	2.6	-3.2
without taxes	*kWh*	*0.488*	*0.366*	*0.277*	*0.335*	*0.419*	*0.385*	*0.417*	*0.403*	*2.6*	*-3.2*
Domestic/Tertiary											
Heating oil	kl	3630	3552	3977	3815	4124	4251	4268	4024	3.7	-5.7
without taxes	*kl*	*2605*	*1667*	*1428*	*1306*	*1558*	*1640*	*1651*	*1459*	*-0.2*	*-11.6*
Natural gas	toe	3950	3986	4527	4209	4118	4163	4240	4046	1.2	-4.6
without taxes	*toe*	*3238*	*3267*	*3711*	*3450*	*3376*	*3413*	*3475*	*3266*	*1.2*	*-6.0*
Electricity	kWh	0.911	0.892	0.838	0.944	1.060	1.018	1.105	1.122	4.4	1.5
without taxes	*kWh*	*0.592*	*0.455*	*0.362*	*0.448*	*0.540*	*0.508*	*0.580*	*0.580*	*5.0*	*-0.1*
Memo item:											
Natural gas average import price	*toe*	-	-	-	-	-	-	-	-	-	-
Heavy fuel oil 3.5% S spot Rotterdam	*t*	*1607*	*594*	*673*	*460*	*636*	*614*	*495*	*486*	*-3.6*	*-1.7*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

Considering prices on a common energy unit, heavy fuel oil price for industry was in 1992 some 21% cheaper than steam coal, while it was only 7% cheaper in 1986 and it was even 61% more expensive in 1985. The domestic sector also saw the prices of gas increased relatively to those of heating oil. While gas was 8% less expensive than heating oil in 1985, it was 16% cheaper in 1991. In 1992 gas continued to be cheaper but slightly less (15%).

Energy Prices to Consumers in Constant 1990 ECU per toe

Denmark	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1315	1332	1313	1244	1247	1119	1045	986	-4.7	-5.7
Diesel	518	329	292	265	288	295	372	347	2.5	-6.8
Industry										
Steam coal	191	156	122	127	137	135	131	122	-3.5	-6.9
Heavy fuel oil 3.5% S	307	145	137	103	133	119	99	96	-7.2	-3.7
Natural gas	na	na	na	na	na	na	na	na	-	-
Electricity	875	634	461	533	637	570	602	570	-1.0	-5.2
Domestic/Tertiary										
Heating oil	662	625	673	617	637	640	627	579	0.1	-7.7
Natural gas	609	594	648	576	538	530	527	493	-2.3	-6.5
Electricity	1635	1544	1395	1503	1610	1506	1597	1588	0.7	-0.6

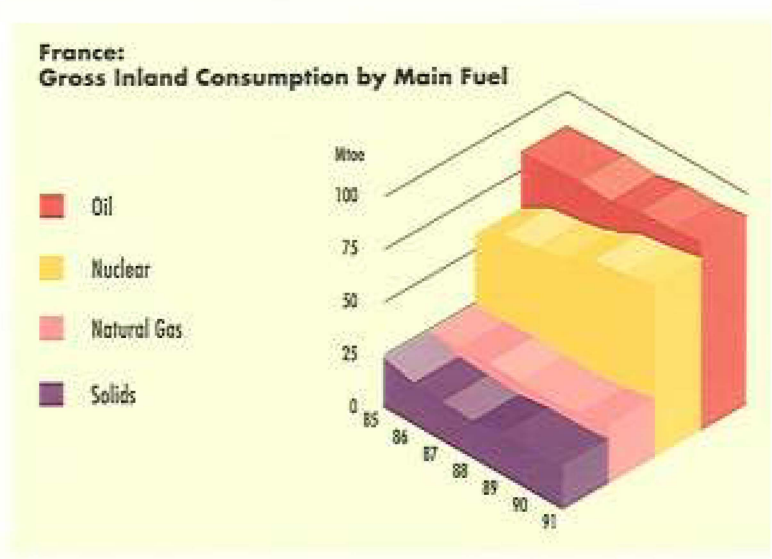
Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary secto.

FRANCE

Final energy consumption in France increased 4.5% in 1991 to reach 132 Mtoe. This rate of growth is significantly higher that observed over the last five years (1.5% per year) and was achieved despite a modest 1.2% growth in GDP. Like for other northern European Member states, this is mainly due to abnormally mild climatic conditions in 1990 and a return to almost average conditions in 1991. The picture by sector is however quite different. Final energy consumption in industry was reduced by 2.0%, although industrial production increased by 0.2%, reflecting the increased efficiency of the French industrial sector. Indeed, the energy intensity in this sector continued to be reduced by 2.2% in 1992, a significantly higher rate than the European average. On the other hand, energy consumption in the transport and the domestic and tertiary sectors increased by 2.2% and 11.1% respectively. In terms of fuels, natural gas was the fastest growing energy vector in 1991 (16%) with electricity ranking second (6.3%). Final demand for oil increased only 1.8% (2.2% in transport, 6.2% in the domestic/tertiary sector and a drop of 11% in industry) and that for solids dropped some 10%.

Final Energy Consumption

France	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	36.96	34.42	35.66	35.49	36.46	35.54	34.84	0.2	-2.0
Solids	8.58	7.37	7.44	7.34	7.84	7.36	6.16	-3.5	-16.4
Oil	9.65	8.78	9.43	8.76	8.37	7.50	6.67	-5.3	-11.0
Gas	10.08	9.71	9.92	10.03	10.49	10.83	11.95	4.2	10.4
Electricity	8.66	8.56	8.88	9.35	9.75	9.86	10.06	3.3	2.0
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Transports	33.51	35.15	36.36	38.65	40.14	41.91	42.83	4.0	2.2
Solids	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Oil	32.84	34.45	35.64	37.92	39.39	41.14	42.04	4.1	2.2
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.66	0.70	0.72	0.73	0.75	0.76	0.79	2.5	4.1
Other	51.19	53.03	52.01	48.48	48.48	48.99	54.41	0.5	11.1
Solids	2.82	2.65	2.27	2.05	1.55	1.69	1.94	-6.0	15.0
Oil	23.31	23.61	22.21	19.94	19.41	19.10	20.27	-3.0	6.2
Gas	12.62	13.28	13.41	12.48	12.70	12.87	15.44	3.1	20.0
Electricity	12.44	13.49	14.12	14.01	14.83	15.34	16.76	4.4	9.3
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Total	121.66	122.60	124.03	122.62	125.08	126.44	132.08	1.5	4.5



Gross inland consumption increased by 4.3% in 1991 reaching almost 222 Mtoe. The most significant development was the growth in natural gas demand which grew almost 13% in 1991 compared to an annual average growth of some 3% in the 1986 to 1991 period. In France, total primary production, accounting for 44% of total demand, is mainly made up by nuclear energy (82% of total primary production). Domestic production of crude oil and natural gas is very low compared to primary consumption. Consumption of solids increased 4.4% over 1990 (0.4% average annual growth from 1986 to 1991) but with a level almost 15% lower than in 1985. In terms of net trade, France is the most important net exporter of electricity in the Community. These net exports increased from 1986 at an annual average of 16%.

Supply

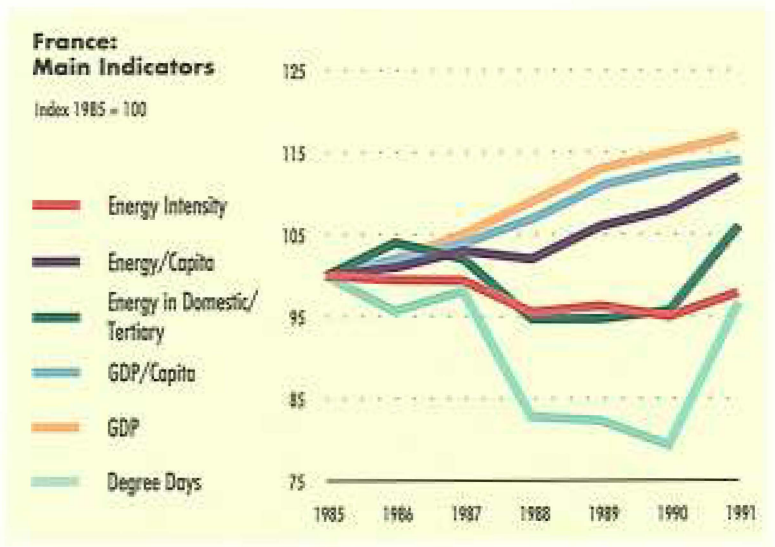
France	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	81.30	87.54	90.23	91.74	95.74	97.44	100.27	2.8	2.9
Solids	10.45	10.23	9.64	8.40	8.35	7.62	7.36	-6.4	-3.5
of which Lignite	*0.62*	*0.85*	*0.81*	*0.59*	*0.87*	*0.85*	*0.75*	*-2.6*	*-11.7*
Oil	3.51	3.57	3.75	3.72	3.70	3.43	3.34	-1.3	-2.5
Natural Gas	4.54	3.54	3.28	2.61	2.61	2.42	2.65	-5.6	9.6
Nuclear	57.27	64.59	67.24	70.18	76.76	79.13	81.79	4.8	3.4
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Hydro	5.38	5.42	6.13	6.64	4.12	4.64	4.94	-1.8	6.6
Other Renewable	0.16	0.18	0.19	0.19	0.20	0.20	0.19	1.0	-5.0
Net Imports	111.96	112.01	113.85	110.81	115.74	120.01	126.42	2.4	5.3
Solids	12.54	11.14	8.96	7.81	11.02	13.01	13.92	4.5	7.0
of which Hard Coal	*11.37*	*10.43*	*8.36*	*7.12*	*10.23*	*12.48*	*13.71*	*5.6*	*9.8*
Crude Oil	76.14	71.90	68.76	75.00	73.47	75.99	78.06	1.7	2.7
Oil Products	5.10	9.64	16.10	9.79	12.66	10.55	13.27	6.6	25.8
Natural Gas	20.18	21.52	22.58	21.38	22.22	24.37	25.72	3.6	5.6
Electricity	-2.01	-2.19	-2.55	-3.18	-3.62	-3.91	-4.55	15.7	16.4
Gross Inland Consumption *(1)*	193.67	197.37	201.45	200.88	209.86	212.50	221.55	2.3	4.3
Solids	24.38	20.38	18.94	18.27	20.17	19.96	20.84	0.4	4.4
Oil	84.21	84.65	86.40	85.03	87.77	87.60	90.30	1.3	3.1
Natural Gas	24.27	24.33	25.11	23.74	24.45	24.88	28.05	2.9	12.7
Other *(2)*	60.80	68.01	71.00	73.83	77.45	80.06	82.37	3.9	2.9

(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

The **electricity** generation system in France continued to be characterised by a strong penetration of electricity in the economy and a large share of nuclear generation (73% of total production in 1991). Installed nuclear capacity increased by an annual average of 4.9% during 1986-1991 but this rate of growth slowed in 1991 to 1.8%. At the same time conventional thermal capacity declined by 1.8% and 0.4% in the two periods respectively. Total installed capacity increased by 2.4% and 0.9% in the 1986-1991 and 1990-1991 periods respectively, compared to 3.9% and 6.3% increases in final electricity consumption respectively. This means that the average load factor in France passed from 45% in 1985 to 46% in 1990 and 50% in 1991. This increase in the load factor is partly the result of increased exports which represented 7%, 11% and 12% of generation in 1985, 1990 and 1991 respectively.

Electricity

France	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	344.24	362.72	378.24	391.86	406.82	420.08	454.65	4.6	8.2
TWh									
from pumping	*1.72*	*2.21*	*1.69*	*1.55*	*3.23*	*4.00*	*4.61*	*15.8*	*15.2*
Hydro (without pumping)	62.53	63.06	71.23	77.22	47.93	53.91	57.44	-1.8	6.6
Derived	279.98	297.45	305.32	313.09	355.67	362.17	392.60	5.7	8.4
Nuclear	224.06	254.11	265.47	275.47	303.88	314.02	331.28	5.4	5.5
Thermal Conventional	*55.92*	*43.34*	*39.85*	*37.62*	*51.79*	*48.14*	*61.32*	*7.2*	*27.4*
Net Imports	-23.35	-25.46	-29.68	-36.97	-42.15	-45.43	-52.88	15.7	16.4
Gross Inland Consumption	320.89	337.26	348.56	354.89	364.67	374.65	401.77	3.6	7.2
Own Consumption	18.22	19.15	20.23	21.02	23.98	22.66	27.66	7.6	22.1
Available Internal Market	302.67	318.11	328.33	333.86	340.69	351.99	374.11	3.3	6.3
Distribution Losses	24.30	25.50	26.47	27.15	26.00	26.62	28.98	2.6	8.9
Energy Branch Consumption	25.50	28.10	26.05	26.55	20.16	23.53	24.14	-3.0	2.6
Final Consumption	252.87	264.51	275.81	280.16	294.53	301.85	320.99	3.9	6.3
Power Generation Capacities	86.80	92.72	97.85	100.86	100.38	103.41	104.35	2.4	0.9
GW									
Nuclear	37.49	44.70	49.42	52.43	52.53	55.75	56.78	4.9	1.8
Conventional Thermal	27.25	24.76	23.88	23.54	22.80	22.67	22.59	-1.8	-0.4
Hydro (Incl. pumping)	21.83	23.02	24.32	24.65	24.82	24.75	24.74	1.5	0.0
Other Renewable	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.0	0.0
Inputs to Thermal Power Stations	12.47	10.10	9.15	8.57	11.61	10.72	13.09	5.3	22.1
Mtoe									
Solids	9.32	7.36	6.42	5.85	7.41	7.33	8.87	3.8	20.9
of which Lignite	*0.77*	*1.00*	*0.78*	*0.61*	*0.75*	*0.62*	*0.71*	*-6.6*	*15.1*
Oil	1.46	1.03	1.22	1.13	2.51	1.76	2.73	21.5	55.5
Gas	1.53	1.53	1.32	1.41	1.50	1.42	1.30	-3.2	-8.9
of which Natural Gas	*0.51*	*0.48*	*0.34*	*0.33*	*0.41*	*0.44*	*0.40*	*-3.3*	*-7.8*
Renewable	0.16	0.18	0.19	0.19	0.20	0.20	0.19	1.0	-5.0



Energy efficiency improved only slightly (0.3% per year) in the last five years but, in 1991, it lost 3.0%, while the ratio of industrial consumption to production improved steadily by 2.2%. France's import dependency increased very little from 55.8% in 1990 to 56.4% in 1991, reversing the downward trend since 1985 (57.1%). The large share of nuclear energy has a real influence on CO2 emissions. But due to the slow-down in nuclear generation and the increase in energy demand for transport, total emissions increased 4.7% in 1991 against an annual average increase of only 1.1% between 1986 and 1991.

Main Indicators

France	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	55.17	55.39	55.63	55.88	56.16	56.30	56.56	0.4	0.5
GDP (bil. ECU 85)	691.7	708.4	723.7	751.5	778.6	798.7	808.3	2.7	1.2
Private Consumption (bil. ECU 85)	420.7	436.4	448.1	462.0	475.8	489.9	497.2	2.6	1.5
Industrial Production (85=100)	100.0	100.9	102.8	107.6	112.0	114.1	114.3	2.5	0.2
GDP per capita (ECU 85/capita)	12538	12788	13010	13448	13864	14186	14290	2.2	0.7
Prim. En. Cons. per cap. (Kgoe/capita)	3510	3563	3621	3595	3737	3774	3917	1.9	3.8
Prim. En. Cons. / GDP (toe/MECU 85)	280.0	278.6	278.3	267.3	269.5	266.0	274.1	-0.3	3.0
Final En. Cons. / GDP (toe:MECU 85)	175.9	173.1	171.4	163.2	160.6	158.3	163.4	-1.1	3.2
Elect. Cons. / GDP (MWh/MECU 85)	365.6	373.4	381.1	372.8	378.3	377.9	397.1	1.2	5.1
Industrial Cons. / Ind. Prod. (85=100)	100.0	92.3	93.9	89.2	88.1	84.3	82.5	-2.2	-2.2
Import Dependency (%)	57.11	56.08	55.89	54.57	54.57	55.82	56.41	0.1	1.1
Oil Dependency (%)	41.44	40.82	41.66	41.75	40.60	40.25	40.75	0.0	1.2
CO2 Emissions (Mt of CO2)	378.1	364.3	362.2	354.8	370.3	368.2	385.4	1.1	4.7
Power Generation	52.0	42.5	38.6	36.5	47.6	44.2	52.7	4.4	19.2
Energy Sector	16.1	15.8	15.9	16.2	17.0	17.4	17.6	2.2	0.9
Industry	97.5	86.8	90.4	87.8	90.0	85.6	80.7	-1.4	-5.8
Transports	100.0	104.8	108.5	115.5	120.1	125.5	128.3	4.1	2.2
Other	112.6	114.3	108.7	98.7	95.5	95.4	106.0	-1.5	11.1
CO2 Emissions per capita (t/capita)	6.9	6.6	6.5	6.3	6.6	6.5	6.8	0.7	4.2
Degree Days	2795	2675	2743	2314	2300	2217	2701	0.2	21.8

Energy prices to consumers in current terms generally decreased from 1986 to 1991, except for transport fuels, electricity and heating oil. Indeed, gasoline and automotive diesel prices had an increase from 1986 to 1991 and only dropped in 1992. Looking at prices without taxes, for heavy fuel oil they decreased more than those in the spot market until 1991, but in 1992 they fell much quicker than the spot market. In the case of natural gas, while prices without taxes declined almost as rapidly as import prices until 1991, in 1992 they fell much slower than the large drop in import prices. Energy prices in current terms for industry showed a general decline from 1986 to 1991, except for electricity. In 1992 while oil prices continued to drop, prices for steamcoal slightly increased in current terms. Electricity prices were stagnant in 1992 against an average annual increase of 0.6% between 1986 and 1991. Developments in energy prices for the domestic/tertiary sector were different from those in industry. Since 1986, heating oil and electricity prices have been increasing at an annual average rate of 2.1% and 0.7% respec-

Energy Prices to Consumers in Current FF per Unit

France	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	5.62	4.76	4.83	4.82	5.18	5.34	5.35	5.25	2.4	-1.8
without taxes	*l*	2.14	1.27	1.18	1.11	1.31	1.38	1.33	1.20	0.9	-9.9
Diesel	l	3.62	2.86	2.76	2.69	2.85	3.00	3.02	2.91	1.1	-3.5
without taxes	*l*	*2.31*	*1.47*	*1.29*	*1.17*	*1.27*	*1.39*	*1.38*	*1.23*	*-1.3*	*-11.2*
Industry											
Steam coal	t	661	608	590	553	544	565	571	576	-1.3	0.9
without taxes	*t*	*661*	*608*	*590*	*553*	*544*	*565*	*571*	*576*	*-1.3*	*0.9*
Heavy fuel oil 3.5% S	t	1669	1006	879	620	786	768	670	611	-7.8	-8.8
without taxes	*t*	*1520*	*709*	*694*	*491*	*654*	*633*	*533*	*473*	*-5.5*	*-11.4*
Natural gas	toe	1609	1089	897	795	827	845	848	829	-4.9	-2.2
without taxes	*toe*	*1609*	*1089*	*897*	*795*	*827*	*845*	*848*	*829*	*-4.9*	*-2.2*
Electricity	kWh	0.308	0.295	0.283	0.289	0.309	0.307	0.304	0.304	0.6	0.0
without taxes	*kWh*	*0.306*	*0.293*	*0.282*	*0.287*	*0.307*	*0.306*	*0.302*	*0.302*	*0.6*	*0.0*
Domestic/Tertiary											
Heating oil	kl	3018	2108	1927	1823	2029	2265	2341	2050	2.1	-12.4
without taxes	*kl*	*2212*	*1411*	*1242*	*1145*	*1305*	*1496*	*1552*	*1300*	*1.9*	*-16.2*
Natural gas	toe	3357	3153	2623	2575	2591	2584	2674	2510	-3.2	-6.1
without taxes	*toe*	*2831*	*2659*	*2212*	*2171*	*2185*	*2242*	*2332*	*2168*	*-2.6*	*-7.0*
Electricity	kWh	0.780	0.774	0.765	0.778	0.780	0.818	0.800	0.812	0.7	1.6
without taxes	*kWh*	*0.619*	*0.614*	*0.606*	*0.617*	*0.634*	*0.666*	*0.642*	*0.655*	*0.9*	*1.9*
Memo item:											
Natural gas average import price	*toe*	*1382*	*955*	*586*	*567*	*580*	*624*	*735*	*642*	*-5.1*	*-12.8*
Heavy fuel oil 3.5% S spot Rotterdam	*t*	*1363*	*509*	*592*	*407*	*555*	*541*	*436*	*426*	*-3.1*	*-2.3*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

tively. In 1992, developments were totally different with heating oil prices dropping 12.4% but electricity increasing by 1.6%. However, looking at prices in constant 1990 terms, all energy prices (including transport fuels) decreased in the 1986 to 1991 period. In 1992, this drop continued.

Considering prices on a common energy unit, heavy fuel oil for industry was in 1992 some 15% cheaper than steam coal, while it had been 20% more expensive in 1987. The prices of natural gas for industry were, in 1992, 30% higher than those for heavy fuel oil; since 1989, where gas prices were about the same level as for heavy fuel oil, the gap between these two fuels has been increasing. The domestic sector also saw the prices of gas becoming more expensive relatively to heating oil. While gas was 5% cheaper than heating oil in 1991, it was 2% higher in 1992.

Energy Prices to Consumers in Constant 1990 ECU per toe

France	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1321	1088	1070	1042	1079	1077	1045	996	-0.8	-4.6
Diesel	733	564	529	503	512	523	510	478	-2.0	-6.3
Industry										
Steam coal	145	130	122	111	106	106	104	102	-4.3	-2.0
Heavy fuel oil 3.5% S	294	173	146	101	123	116	98	87	-10.7	-11.4
Natural gas	271	179	143	123	124	122	119	113	-7.8	-5.0
Electricity	602	562	524	520	536	516	495	481	-2.5	-2.8
Domestic/Tertiary										
Heating oil	612	416	369	340	365	394	395	336	-1.0	-14.9
Natural gas	566	517	417	399	387	374	375	342	-6.2	-8.8
Electricity	1528	1477	1416	1402	1356	1375	1304	1286	-2.5	-1.4

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

GERMANY

German unification is a very significant factor in terms of politics, economics and, to a lesser extent, energy. However, the usefulness of analysis of the evolution of the energy situation in the whole territory of Germany for the period since 1985 is doubtful. In fact, the energy developments and the structure of the system in the former German Democratic Republic (GDR), when added to the evolution of the former Federal Republic of Germany (FRG), perturb the whole analysis. There is a risk of reading wrong signals about the evolution of some key indicators such as energy intensity and per capita consumption. Moreover, statistical data on the former GDR is of much lower quality. However, in 1991 the SOEC could only provide an energy balance for Germany without distinguishing the new Länder. Therefore, the energy balance of the former FRG for 1991 was estimated based on available information, in order to allow the analysis of developments in that part of Germany since 1985. A summary energy balance is also given for the former GDR for the same time period.

THE FORMER FRG

As well as for other Member States, harder climatic conditions in 1991 pushed up **energy consumption**. Moreover, economic activity in the former FRG, contrary to most other Member States, continued to grow at a relatively high rate (3.4% in 1991 against an average 3.3% per year in the last five years). The combination of these two factors resulted in an increase of **final energy consumption** of 7.3%. In particular, climatic conditions were reflected in an increase of 14.9% in the domestic and tertiary sectors. The industrial sector increased by 3.3%, but to a level similar to those in the 1987 to 1989 period. In any case, this growth corresponded to a slight loss in energy efficiency in this sector. The trans-

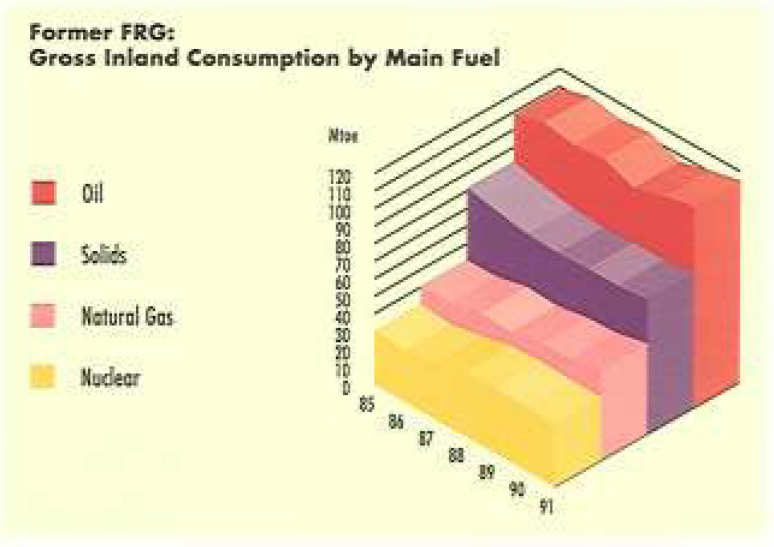
Final Energy Consumption

Germany	Former FRG									New
Mtoe								Annual % Change		
	1985	1986	1987	1988	1989	1990	1991(*)	91/86	91/90	1991
Industry	60.04	58.25	60.26	60.38	60.94	58.38	60.33	0.7	3.3	70.06
Solids	15.30	13.55	12.91	13.23	13.81	13.09	12.48	-1.6	-4.7	15.65
Oil	9.05	9.95	9.28	8.95	7.78	7.32	8.15	-3.9	11.3	9.14
Gas	19.72	18.76	21.19	21.11	22.11	20.60	22.38	3.6	8.6	25.10
Electricity	14.16	14.25	14.59	15.23	15.52	15.65	15.61	1.8	-0.3	18.44
Heat	1.81	1.74	2.29	1.86	1.72	1.72	1.72	-0.2	0.1	1.72
Transports	42.16	44.46	46.06	47.67	48.92	51.62	52.36	3.3	1.4	59.57
Solids	0.15	0.11	0.14	0.08	0.03	0.07	0.00	-	-	0.00
Oil	41.05	43.39	44.98	46.65	47.94	50.58	51.32	3.4	1.5	58.26
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00
Electricity	0.96	0.96	0.94	0.94	0.95	0.97	1.03	1.5	6.3	1.32
Other	75.77	78.74	77.82	73.51	65.91	69.13	79.47	0.2	14.9	96.93
Solids	4.35	3.85	3.41	2.76	1.97	1.98	2.91	-5.5	46.9	10.95
Oil	37.65	40.77	37.38	35.79	28.13	29.77	33.99	-3.6	14.2	36.08
Gas	17.91	18.07	20.13	18.43	18.57	20.21	23.97	5.8	18.6	25.87
Electricity	14.94	15.15	15.72	15.57	15.74	16.12	16.88	2.2	4.7	19.39
Heat	0.94	0.90	1.18	0.96	1.50	1.06	1.72	13.9	62.9	4.64
Total	177.98	181.45	184.14	181.56	175.77	179.14	192.16	1.2	7.3	226.56

(*) Estimate

port sector continued to increase its energy demand in 1991 but slower than in the last five years.

The growth in **gross inland consumption** in 1991 was mainly reflected on a 7.7% increase in natural gas demand, 3.8% for oil and 2.1% for solids. Demand for the remaining primary fuels (mainly nuclear energy) was practically stable in 1991 compared to 1990. **Domestic energy production** in the former FRG continued to decline. In particular, hard coal production continued to steadily decline, but it is still the most important national resource. Lignite production (mainly for power generation) increased to a level similar to that in 1986. Nuclear production, after a peak in 1989, seems to have reached a more or less



Supply

Germany	Former FRG									New
Mtoe								Annual % Change		
	1985	1986	1987	1988	1989	1990	1991(*)	91/86	91/90	1991
Primary Production	133.39	127.44	127.68	128.97	128.59	126.45	124.01	-0.5	-1.9	161.84
Solids	82.97	79.67	75.40	73.70	72.70	71.93	69.94	-2.6	-2.8	106.06
of which Lignite	*24.12*	*22.15*	*21.04*	*21.30*	*21.79*	*21.61*	*22.65*	*0.5*	*4.9*	*58.77*
Oil	4.32	5.45	4.78	5.13	4.96	4.18	3.62	-7.9	-13.5	3.68
Natural Gas	12.55	11.08	12.80	11.93	11.74	11.74	12.01	1.6	2.3	13.53
Nuclear	31.33	28.97	31.89	35.64	36.71	36.16	36.13	4.5	-0.1	36.13
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	0.00
Hydro	1.34	1.43	1.59	1.56	1.42	1.37	1.23	-3.0	-9.8	1.26
Other Renewable	0.87	0.83	1.23	1.00	1.05	1.08	1.08	5.3	-0.5	1.18
Net Imports	134.61	147.06	144.50	143.46	137.12	146.76	159.36	1.6	8.6	180.49
Solids	-1.45	1.13	0.67	0.55	-1.32	2.34	5.48	37.2	134.0	7.83
of which Hard Coal	*0.18*	*1.48*	*0.93*	*1.32*	*0.01*	*2.56*	*5.65*	*30.8*	*120.3*	*7.70*
Crude Oil	64.47	66.88	63.98	71.71	66.69	72.46	75.39	2.4	4.0	89.25
Oil Products	41.76	48.63	46.48	38.98	36.13	35.32	38.84	-4.4	10.0	40.04
Natural Gas	29.61	29.97	33.05	32.19	35.61	36.73	39.58	5.7	7.8	43.42
Electricity	0.21	0.45	0.33	0.03	0.01	-0.09	0.07	-32.0	-174.4	-0.05
Gross Inland Consumption *(1)*	266.00	265.07	266.58	269.75	266.47	272.77	282.24	1.3	3.5	341.10
Solids	82.34	78.24	74.97	74.47	74.93	75.19	76.74	-0.4	2.1	115.12
Oil	108.67	114.12	111.10	112.56	105.57	110.79	114.99	0.2	3.8	129.74
Natural Gas	41.23	41.02	45.48	44.49	46.77	48.27	52.00	4.9	7.7	57.72
Other *(2)*	33.75	31.69	35.03	38.24	39.20	38.52	38.51	4.0	0.0	38.52

(*) Estimate
(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

stable level. Production of natural gas, which is the third more important resource, is stable and thus declining in terms of satisfying total demand: it ensured 23% of gas demand in 1991, while it had satisfied 30% in 1985.

Total **electricity** consumption increased by 2.4% in 1991. This growth is due to a 4.7% increase in the domestic and tertiary sectors; in industry it dropped slightly (-0.3%). In 1991, 32% of electricity generation was produced by nuclear power plants, but their respective share in total production shows a recent diminishing trend (34% in 1989). In fact installed capacity attained a peak of 22.7 GW in 1989 and is more or less stable after 1990. Solids (hard coal and lignite) remain the first ranking energy source for thermal electricity generation. Total electricity capacity generation has remained more or less stable since 1989.

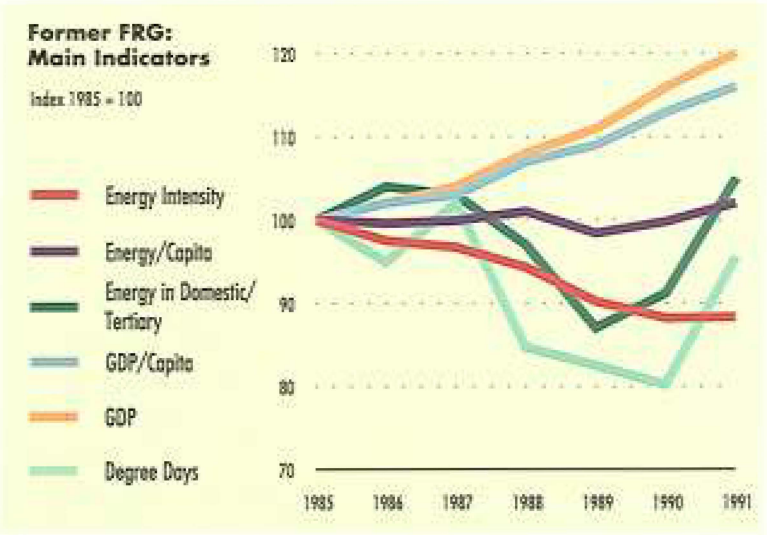
Electricity

Germany	Former FRG									New
Mtoe								Annual % Change		
	1985	1986	1987	1988	1989	1990	1991(*)	91/86	91/90	1991
Total Generation	408.63	408.19	418.19	431.09	440.81	449.41	458.41	2.3	2.0	539.29
TWh										
from pumping	*2.08*	*1.88*	*2.15*	*2.56*	*2.62*	*2.46*	*2.38*	*4.8*	*-3.2*	*3.81*
Hydro (without pumping)	15.53	16.66	18.44	18.15	16.52	15.91	14.34	-3.0	-9.8	14.66
Derived	391.02	389.65	397.60	410.37	421.67	431.05	441.69	2.5	2.5	520.83
Nuclear	*125.88*	*119.56*	*130.49*	*145.06*	*149.36*	*147.13*	*147.43*	*4.3*	*0.2*	*147.40*
Thermal Conventional	*265.14*	*270.09*	*267.11*	*265.32*	*272.31*	*283.91*	*294.26*	*1.7*	*3.6*	*373.42*
Net Imports	2.50	5.26	3.80	0.38	0.17	-1.02	0.76	-	-	-0.57
Gross Inland Consumption	411.13	413.45	421.98	431.46	440.98	448.39	459.18	2.1	2.4	538.72
Own Consumption	27.17	27.33	28.33	31.36	32.88	33.80	33.91	4.4	0.3	44.27
Available Internal Market	383.96	386.12	393.65	400.11	408.10	414.59	425.26	1.9	2.6	494.45
Distribution Losses	16.47	14.36	13.23	13.86	16.40	16.48	18.02	4.6	9.3	21.71
Energy Branch Consumption	17.92	18.71	17.01	17.25	17.07	17.37	17.47	-1.4	0.5	17.50
Final Consumption	349.57	353.06	363.41	369.00	374.63	380.73	389.77	2.0	2.4	455.24
Power Generation Capacities	93.02	95.32	95.53	96.49	98.22	97.70	97.78	0.5	0.1	118.12
GW										
Nuclear	16.42	18.87	18.93	21.49	22.71	22.41	22.53	3.6	0.6	22.53
Conventional Thermal	69.94	69.73	69.89	68.15	68.65	68.44	68.39	-0.4	-0.1	87.03
Hydro (Incl. pumping)	6.67	6.71	6.71	6.85	6.86	6.85	6.85	0.4	0.0	8.55
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-	0.00
Inputs to Thermal Power Stations	62.64	62.96	62.50	62.39	63.54	65.72	68.47	1.7	4.2	92.37
Mtoe										
Solids	51.62	51.35	50.07	49.42	49.73	51.64	54.55	1.2	5.6	76.35
of which Lignite	*21.80*	*20.21*	*18.77*	*19.29*	*19.86*	*19.70*	*20.47*	*0.3*	*3.9*	*42.07*
Oil	2.62	3.26	3.27	3.04	2.74	2.72	3.39	0.8	24.6	4.42
Gas	7.53	7.52	7.92	8.92	10.02	10.29	9.45	4.7	-8.1	10.41
of which Natural Gas	*5.72*	*5.63*	*6.40*	*7.09*	*8.22*	*8.45*	*7.31*	*5.3*	*-13.5*	*8.21*
Renewable	0.87	0.83	1.23	1.00	1.05	1.08	1.08	5.3	-0.5	1.18

(*) Estimate

The **energy intensity** of the former FRG dropped 2.5% per year on average between 1986 and 1990. It is estimated to slightly increase in 1991. This development in 1991 is the result of a certain loss in energy efficiency in industry and a significant increase in the domestic and tertiary sectors. Overall, there is a slow down in intensity gains after 1989 in part as a result of the long-term effect of the 1986 fall in oil and energy prices.

The high rates of energy consumption in 1991 pushed up total CO2 emissions by as much as 6.3%, reflecting largely developments in the domestic and tertiary sectors (+16.6%).



Main Indicators

Germany	Former FRG									New
								Annual % Change		
	1985	1986	1987	1988	1989	1990	1991(*)	91/86	91/90	1991
Population (millions)	61.02	61.07	61.20	61.42	62.10	62.70	63.46	0.8	1.2	79.48
GDP (bil. ECU 85)	818.9	837.2	849.1	880.6	909.2	952.1	984.5	3.3	3.4	1041.0
Private Cons. (bil. ECU 85)	509.1	525.7	542.1	558.9	564.2	590.2	604.0	2.8	2.3	na
Industrial Production (85=100)	100.0	102.4	102.7	106.5	112.1	117.9	121.2	3.4	2.8	na
GDP per capita (ECU 85/capita)	13420	13709	13874	14337	14641	15185	15514	2.5	2.2	13097
Prim. Cons. per cap.(Kgoe/capita)	4359	4341	4356	4392	4291	4350	4448	0.5	2.2	4292
Prim. Cons./GDP(toe/MECU 85)	324.8	316.6	314.0	306.3	293.1	286.5	286.7	-2.0	0.1	327.7
Final Cons./GDP (toe/MECU 85)	217.3	216.7	216.9	206.2	193.3	188.1	195.2	-2.1	3.7	217.6
Ele. Cons./GDP(MWh/MECU 85)	426.9	421.7	428.0	419.0	412.0	399.9	395.9	-1.3	-1.0	437.3
Ind. Cons./Ind. Prod. (85=100)	100.0	94.7	97.7	94.4	90.5	82.5	82.9	-2.6	0.5	na
Import Dependency (%)	50.07	54.68	53.63	52.74	51.10	53.40	56.06	0.5	5.0	52.59
Oil Dependency (%)	39.51	42.95	40.99	40.69	38.31	39.22	40.20	-1.3	2.5	37.67
CO2 Emissions (Mt of CO2)	733.5	736.5	728.6	725.2	707.4	720.4	765.6	0.8	6.3	971.1
Power Generation	248.7	249.3	243.4	244.2	247.4	255.7	269.1	1.5	5.2	370.6
Energy Sector	25.5	23.6	22.5	23.5	23.1	23.3	24.1	0.4	3.5	37.1
Industry	157.4	146.7	148.4	149.8	152.1	139.6	143.2	-0.5	2.6	167.1
Transports	125.4	132.4	137.3	142.2	145.9	154.2	156.9	3.5	1.8	177.3
Other	176.6	184.5	177.0	165.5	138.7	147.7	172.3	-1.4	16.6	219.1
CO2 Emissions per capita (t/capita)	12.0	12.1	11.9	11.8	11.4	11.5	12.1	0.0	5.0	12.2
Degree Days	3322	3154	3374	2814	2741	2664	3172	0.1	19.1	3172

(*) Estimate

Energy prices to consumers in current terms had different evolution according to each of the final sectors. In industry, oil and natural gas show downward trends since 1985, while steam coal prices had a general increase, accentuated in 1992. Industrial electricity tariffs slightly increased until 1989 and then started to decrease. Gasoline and automotive diesel prices had an increase from 1986 to 1991 and only diesel stagnated in 1992. In the domestic sector, only natural gas prices decreased in the period from 1986 to 1991. In 1992, only heating oil presented a drop. Looking at prices without taxes, for heavy fuel oil they decreased less than those in the spot market until 1991, but in 1992 they decreased much more than in the spot market. In the case of natural gas, while prices without taxes for industry declined almost as rapidly as import prices until 1991, those for the domestic and tertiary sector decreased only half as fast as imported prices. Here in 1992, the price of gas before taxes even increased while import prices continued to drop due to the built-in time lag to oil prices. However, looking at prices in constant 1990 terms, all energy prices (excluding gasoline and heating oil) decreased in the 1986 to 1991 period. In 1992, this drop continued (even accelerated in some cases), except for natural gas in the domestic and tertiary sectors. Indeed, heavy fuel oil and heating oil prices dropped 13% and 17% respectively.

Energy Prices to Consumers in Current DM per Unit

Germany	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	1.42	1.11	1.04	1.01	1.24	1.28	1.44	1.52	5.3	6.0
without taxes	*l*	*0.723*	*0.415*	*0.385*	*0.359*	*0.439*	*0.475*	*0.467*	*0.419*	*2.4*	*-10.3*
Diesel	l	1.17	0.86	0.81	0.77	0.83	0.88	0.94	0.92	1.7	-1.4
without taxes	*l*	*0.728*	*0.421*	*0.368*	*0.334*	*0.386*	*0.436*	*0.440*	*0.383*	*0.9*	*-13.0*
Industry											
Steam coal	t	289	289	292	296	301	300	303	322	0.9	6.3
without taxes	*t*	*289*	*289*	*292*	*296*	*301*	*300*	*303*	*322*	*0.9*	*6.3*
Heavy fuel oil 3.5% S	t	535	245	231	183	231	230	231	204	-1.2	-11.6
without taxes	*t*	*520*	*230*	*216*	*168*	*201*	*200*	*201*	*173*	*-2.7*	*-13.6*
Natural gas	toe	545	427	275	248	271	303	334	323	-4.8	-3.3
without taxes	*toe*	*545*	*427*	*275*	*248*	*240*	*273*	*298*	*287*	*-7.0*	*-3.7*
Electricity	kWh	0.137	0.143	0.147	0.147	0.148	0.147	0.146	0.145	0.4	-0.1
without taxes	*kWh*	*0.133*	*0.137*	*0.138*	*0.137*	*0.137*	*0.136*	*0.134*	*0.135*	*-0.4*	*0.2*
Domestic/Tertiary											
Heating oil	kl	788	451	378	321	441	471	516	447	2.7	-13.4
without taxes	*kl*	*672*	*379*	*318*	*266*	*329*	*363*	*386*	*313*	*0.3*	*-18.8*
Natural gas	toe	883	811	577	559	586	641	704	750	-2.8	6.5
without taxes	*toe*	*775*	*712*	*506*	*491*	*484*	*532*	*582*	*627*	*-4.0*	*7.8*
Electricity	kWh	0.241	0.248	0.252	0.260	0.265	0.265	0.264	0.268	1.2	1.6
without taxes	*kWh*	*0.204*	*0.210*	*0.208*	*0.213*	*0.214*	*0.215*	*0.214*	*0.218*	*0.4*	*2.0*
Memo item:											
Natural gas average import price	*toe*	*437*	*317*	*180*	*156*	*146*	*179*	*211*	*192*	*-7.8*	*-9.0*
Heavy fuel oil 3.5% S spot Rotterdam	*t*	*446*	*159*	*177*	*120*	*164*	*160*	*128*	*123*	*-4.2*	*-3.9*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

Considering prices on a common energy unit, heavy fuel oil for industry was in 1992 some 34% cheaper than natural gas and 52% less than steam coal. These differences in 1986 were 40% and 36% respectively. In the domestic and tertiary sectors the prices of natural gas were higher than those for heating oil since 1986 but with two stages of evolution: the gap between the prices of these two fuels passed from 49% in 1986 to 44% in 1988, dropped to 10% in 1989, slightly climbed to 13% in 1991 and then jumped back to 39% in 1992.

Energy Prices to Consumers in Constant 1990 ECU per toe

Germany	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1035	806	757	727	865	871	944	963	3.2	2.0
Diesel	842	622	583	546	573	592	609	578	-0.4	-5.1
Industry										
Steam coal	209	209	211	211	209	203	198	202	-1.1	2.3
Heavy fuel oil 3.5% S	292	134	126	98	121	117	114	97	-3.2	-15.0
Natural gas	284	223	143	128	135	148	157	146	-6.8	-6.9
Electricity	833	865	889	880	863	835	797	766	-1.6	-3.9
Domestic/Tertiary										
Heating oil	497	285	239	200	267	278	294	245	0.6	-16.7
Natural gas	460	424	300	288	293	312	332	340	-4.8	2.4
Electricity	1460	1507	1525	1556	1540	1500	1447	1414	-0.8	-2.3

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

THE FORMER GDR

As was said before, data should be considered with much caution due to their relatively poor statistical quality. Thus, only trends should be considered rather than absolute values. And even in this case, trends should be only taken until 1989. Indeed, 1990 corresponded already to the beginning of an economic upheaval. As of 1990, the links between energy demand and economic activity are deeply changed or even broken and the primary fuel mix suffered a profound change. For example, all the nuclear power plants were shut. In addition, the extensive use of lignite in all sectors of consumption started to be reduced. In this context, the following summary energy balance is shown only for indicative purposes.

Former GERMAN DEMOCRATIC REPUBLIC: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991 (*)	91/86	91/90
								Annual % Change	
Primary Production	73.0	72.3	71.7	71.8	69.5	56.9	37.8	-12.1	-33.5
Solids	65.8	65.6	65.0	65.3	63.3	53.4	36.1	-11.3	-32.4
Oil	0.1	0.0	0.0	0.0	0.0	0.1	0.1	9.5	13.1
Natural gas	3.6	3.6	3.5	3.2	2.7	1.8	1.5	-15.7	-16.7
Nuclear	3.5	3.0	3.1	3.3	3.4	1.5	0.0	-	-
Hydro	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	81.9
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-	-
Net Imports	18.2	19.1	21.7	20.6	20.5	18.1	21.2	2.1	17.2
Solids	2.1	2.9	3.1	2.3	1.6	0.8	2.4	-4.1	184.3
Crude Oil	18.9	18.9	19.5	19.2	19.6	15.8	13.9	-6.0	-12.2
Oil products	-7.6	-8.2	-6.6	-6.5	-6.4	-3.7	1.2	-	-
Total Oil	11.4	10.6	12.9	12.7	13.1	12.1	15.1	7.2	24.7
Natural gas	4.7	5.5	5.4	5.5	5.7	5.0	3.8	-6.8	-23.6
Electricity	0.0	0.1	0.3	0.1	0.1	0.2	0.0	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	90.0	90.3	93.5	91.2	90.1	78.8	59.1	-8.1	-25.1
Solids	67.2	67.6	68.3	66.5	65.2	57.3	38.4	-10.7	-33.0
Oil	11.2	10.6	12.8	12.6	13.1	13.1	14.9	7.0	14.3
Natural gas	8.0	8.9	8.9	8.7	8.4	6.8	5.7	-8.5	-15.4
Other *(2)*	3.6	3.1	3.5	3.4	3.5	1.7	0.0	-66.6	-99.2
Electricity Generation in TWh	112.2	113.8	112.7	116.8	117.6	99.2	79.5	-6.9	-19.9
Nuclear	12.7	10.9	11.2	11.7	12.3	5.3	0.0	-	-
Hydro	0.2	0.3	0.3	0.3	0.2	0.2	0.3	2.6	81.9
Thermal	99.3	102.6	101.2	104.8	105.1	93.7	79.2	-5.1	-15.5
Fuel Inputs for Thermal Power Generation	26.3	27.2	26.7	28.7	47.1	20.4	23.9	-2.6	17.2
Solids	25.1	25.6	24.9	26.1	26.1	18.7	21.8	-3.2	16.6
Oil	0.4	0.5	0.6	0.4	20.0	0.8	1.0	16.7	32.6
Gas	0.8	1.2	1.1	2.2	1.0	0.9	1.0	-3.8	5.3
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-	-
Total Final Energy Demand	57.6	57.5	59.5	57.0	55.6	53.9	34.4	-9.8	-36.1
Solids	34.7	34.3	35.3	33.1	31.7	32.6	11.2	-20.0	-65.6
Oil	8.3	8.0	8.8	8.4	8.6	9.0	10.0	4.5	10.8
Gas	7.4	7.8	7.9	7.8	7.6	5.7	4.6	-10.0	-19.2
Electricity	7.1	7.3	7.5	7.6	7.6	6.4	5.6	-5.1	-11.8
Heat	0.1	0.1	0.1	0.1	0.1	0.1	2.9	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
CO2 Emissions in Mt of CO2	315.7	316.5	321.6	317.3	370.5	277.6	204.8	-8.3	-26.2
Indicators									
Population (Million)	16.64	16.62	16.64	16.67	16.63	16.25	16.02	-0.7	-1.4
GDP (Index 1985 = 100)	100.0	101.5	103.2	104.4	105.6	85.6	68.4	-7.6	-20.1
Primary Consumption/GDP (toe/MECU)	1090	1077	1097	1059	1034	1115	1046	-0.6	-6.2
Primary Consumption/Capita (toe/inhab.)	5.41	5.43	5.62	5.47	5.42	4.85	3.69	-7.5	-24.0
Electricity Generated/Capita (kWh/inhab.)	6743	6846	6775	7009	7071	6103	4960	-6.2	-18.7
CO2 Emissions/Capita (t of CO2/inhab.)	18.97	19.04	19.32	19.03	22.28	17.08	12.78	-7.7	-25.2
Net Imports/Consumption (%)	20.2	21.1	23.2	22.6	22.8	22.9	35.9	11.2	56.4

(*) Estimate

(1) Including bunkers.

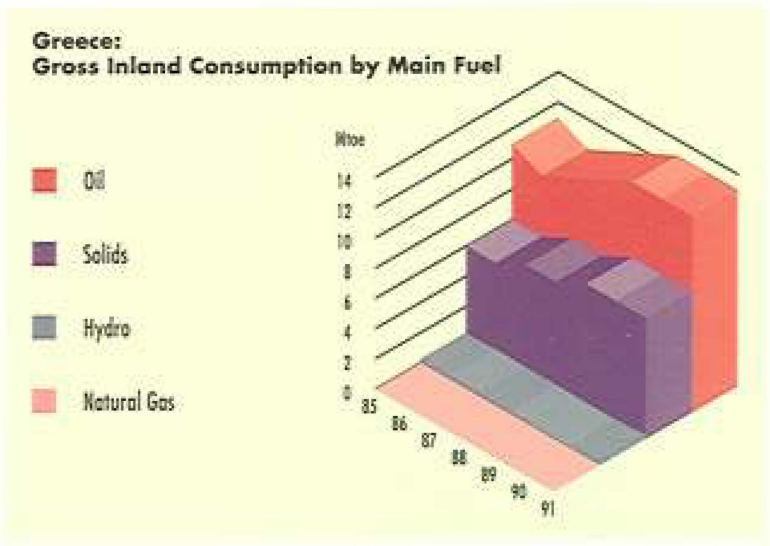
(2) Includes nuclear, hydro and other renewable energy sources;

GREECE

Final energy consumption increased by 1.6% in 1991 compared to an annual average growth of 4.0% since 1986. This small growth rate was not equally shared by all final consuming sectors. Indeed, while industrial consumption dropped 6.8%, the domestic and tertiary sector increased its demand by 7.7%. The transport sector increased its energy consumption by 2.8%. This disparity of developments across sectors was mainly due to a very low economic growth (1.8% in 1991) leading to the drop in industrial demand and a relatively modest increase in transport. On the other hand, harder climatic conditions led to a strong increase in the domestic and tertiary sectors' consumption.

Final Energy Consumption

Greece	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	3.57	3.54	3.73	3.81	3.99	3.75	3.49	-0.3	-6.8
Solids	1.21	1.15	1.09	1.14	1.11	1.02	1.05	-1.8	2.9
Oil	1.41	1.45	1.71	1.66	1.82	1.68	1.42	-0.5	-15.7
Gas	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-1.5	-23.8
Electricity	0.95	0.94	0.92	1.01	1.05	1.04	1.02	1.7	-1.8
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Transports	4.67	4.66	4.83	5.17	5.38	5.82	5.98	5.1	2.8
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Oil	4.67	4.66	4.83	5.17	5.37	5.81	5.97	5.1	2.8
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.00	0.00	0.00	0.01	0.01	0.01	0.01	58.5	0.0
Other	3.36	3.13	3.64	3.70	3.98	4.00	4.30	6.6	7.7
Solids	0.05	0.04	0.04	0.05	0.04	0.03	0.03	-2.1	19.4
Oil	2.21	1.96	2.36	2.35	2.58	2.56	2.77	7.2	8.2
Gas	0.00	0.00	0.01	0.01	0.01	0.01	0.01	19.4	9.0
Electricity	1.10	1.13	1.23	1.30	1.35	1.40	1.49	5.6	6.6
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Total	11.60	11.33	12.20	12.69	13.35	13.56	13.77	4.0	1.6



Primary Energy consumption in Greece is mainly made up of oil and solids (lignite). The use of gas is almost non-existent and there is no nuclear generation. The production of lignite, which is an important energy resource in Greece, decreased by 3.1% to 6.9 Mtoe in 1991 and is used almost exclusively for electricity generation. Greece has no indigenous production of hard coal which is consequently all imported. Greece does however produce a little crude oil - a mere 0.84 Mtoe in 1991 representing slightly more than 10% of total primary production. Therefore, Greece is a net importer of energy, mainly crude oil. Total net imports in 1991 only increased 1.6% due to depressed demand, compared to an average annual rate of increase of 3.1% since 1986.

Supply

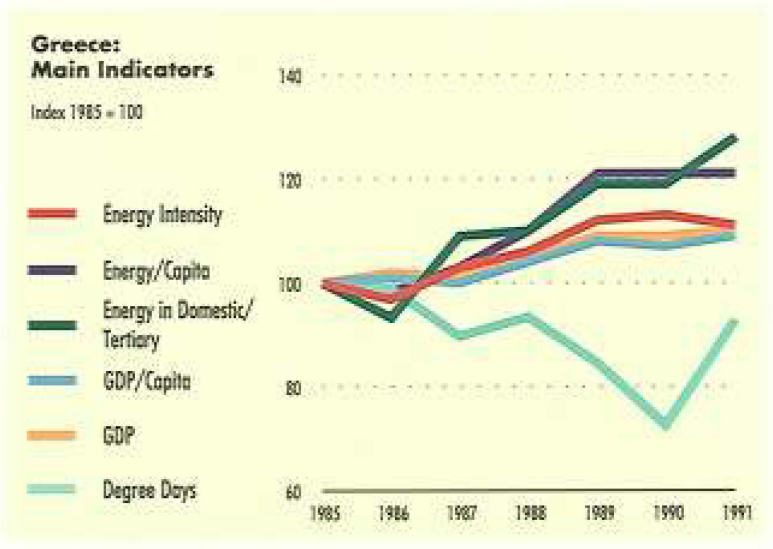
Greece	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	6.47	6.89	7.56	7.80	8.35	8.20	8.10	3.3	-1.2
Solids	4.84	5.19	5.97	6.29	7.12	7.08	6.86	5.8	-3.1
of which Lignite	*4.84*	*5.19*	*5.97*	*6.29*	*7.12*	*7.08*	*6.86*	*5.8*	*-3.1*
Oil	1.32	1.32	1.24	1.18	0.93	0.83	0.84	-8.8	0.4
Natural Gas	0.07	0.10	0.11	0.13	0.14	0.14	0.14	7.0	-0.2
Nuclear	-	-	-	-	-	-	-	-	-
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Hydro	0.24	0.28	0.24	0.20	0.16	0.15	0.27	-1.2	75.2
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Net Imports	11.78	13.38	12.64	13.68	14.25	15.38	15.62	3.1	1.6
Solids	1.20	1.13	1.11	0.86	0.77	0.99	0.93	-3.9	-5.6
of which Hard Coal	*1.19*	*1.11*	*1.07*	*0.83*	*0.75*	*0.97*	*0.91*	*-3.9*	*-5.3*
Crude Oil	10.54	15.45	14.99	14.44	14.32	14.72	13.42	-2.8	-8.8
Oil Products	-0.02	-3.32	-3.51	-1.65	-0.88	-0.39	1.21	-	-413.4
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.06	0.11	0.05	0.03	0.03	0.06	0.06	-12.9	-9.4
Gross Inland Consumption *(1)*	17.44	17.18	18.14	19.39	21.26	21.30	21.46	4.6	0.8
Solids	6.05	6.32	6.79	7.41	7.97	8.09	7.72	4.1	-4.5
Oil	11.02	10.37	10.94	11.61	12.96	12.86	13.28	5.1	3.3
Natural Gas	0.07	0.10	0.11	0.13	0.14	0.14	0.14	7.0	-0.2
Other *(2)*	0.30	0.39	0.29	0.23	0.20	0.21	0.32	-3.9	50.9

(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

Total **electricity** consumption increased by 3.0% in 1991. This compares to an annual average growth rate of 4.0% since 1986. The bulk of electricity produced uses lignite as input, explained by the fact that significant reserves of lignite have recently been discovered. Oil is the second energy source for power generation. Gas remains insignificant. Hydro power represents less than 10% of total generation. Total electricity generating capacity has been steadily increasing since 1986 at an average 3.8% per year. Given that total electricity output has grown in the same period at 4.8% per year there was an improvement in the utilisation factor of the capacity. There has been a substantial growth in renewable energy sources for power generation but they still remain negligible in absolute terms.

Electricity

Greece	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	27.73	28.28	30.27	33.40	34.45	34.99	35.81	4.8	2.3
TWh									
from pumping	*0.00*	*0.11*	*0.19*	*0.24*	*0.25*	*0.23*	*0.07*	*-8.6*	*-68.4*
Hydro (without pumping)	2.80	3.28	2.78	2.37	1.90	1.77	3.10	-1.2	75.2
Derived	24.93	24.88	27.30	30.79	32.30	33.00	32.64	5.6	-1.1
Nuclear	-	-	-	-	-	-	-	-	-
Thermal Conventional	*24.93*	*24.88*	*27.30*	*30.79*	*32.30*	*33.00*	*32.64*	*5.6*	*-1.1*
Net Imports	0.74	1.29	0.61	0.31	0.39	0.71	0.64	-12.9	-9.4
Gross Inland Consumption	28.47	29.57	30.88	33.71	34.84	35.71	36.45	4.3	2.1
Own Consumption	2.00	2.32	2.68	3.11	3.19	3.18	3.06	5.7	-3.9
Available Internal Market	26.47	27.25	28.20	30.60	31.65	32.52	33.39	4.2	2.7
Distribution Losses	2.00	2.38	2.30	2.62	2.52	2.87	2.89	4.0	0.6
Energy Branch Consumption	0.65	0.76	0.88	1.09	1.13	1.19	1.18	9.1	-1.1
Final Consumption	23.82	24.10	25.03	26.89	27.99	28.46	29.32	4.0	3.0
Power Generation Capacities	7.12	7.39	7.92	8.12	8.35	8.51	8.91	3.8	4.7
TW									
Nuclear	-	-	-	-	-	-	-	-	-
Conventional Thermal	5.08	5.25	5.78	5.97	6.04	6.10	6.40	4.0	4.9
Hydro (Incl. pumping)	2.03	2.14	2.14	2.15	2.30	2.41	2.51	3.3	4.3
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.4	0.0
Inputs to Thermal Power Stations	6.44	6.55	7.19	7.71	8.43	8.72	8.59	5.6	-1.5
Mtoe									
Solids	4.81	5.14	5.65	6.23	6.81	6.89	6.58	5.1	-4.4
of which Lignite	*4.62*	*4.92*	*5.54*	*6.21*	*6.81*	*6.89*	*6.55*	*5.9*	*-4.9*
Oil	1.64	1.40	1.53	1.47	1.60	1.80	1.98	7.2	9.8
Gas	0.00	0.01	0.01	0.02	0.02	0.03	0.03	16.4	2.6
of which Natural Gas	*0.00*	*0.01*	*0.01*	*0.02*	*0.02*	*0.03*	*0.03*	*16.4*	*2.6*
Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-



The share of net imports in total primary consumption increased in 1991 by 1.8% which pushed up Greece's dependency on imports to 65.7%. Oil dependency also increased to 61.5% in 1991 from 64.2% in 1986, after a slight tendency to decrease after 1986. Energy intensity in Greece, which is one of the highest within the Community, dropped for the first time since 1986 by 1.0%. Total CO2 emissions, which had increased 4.5% per year since 1986, dropped by 0.4% in 1991.

Main Indicators

Greece	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	9.93	9.96	9.99	10.00	10.03	10.05	10.08	0.2	0.3
GDP (bil. ECU 85)	43.7	44.4	44.1	45.9	47.5	47.4	48.3	1.7	1.8
Private Consumption (bil. ECU 85)	28.6	28.8	29.1	30.1	31.4	32.0	32.4	2.4	1.2
Industrial Production (85=100)	100.0	99.8	98.1	103.7	105.3	103.3	101.7	0.4	-1.5
GDP per capita (ECU 85/capita)	4396	4454	4413	4586	4731	4718	4789	1.5	1.5
Prim. En. Cons. per cap. (Kgoe/capita)	1756	1724	1816	1938	2119	2120	2130	4.3	0.5
Prim. En. Cons. / GDP (toe/MECU 85)	399.4	387.1	411.5	422.7	447.8	449.4	444.9	2.8	-1.0
Final En. Cons. / GDP (toe/MECU 85)	265.7	255.4	276.8	276.6	281.2	286.1	285.5	2.3	-0.2
Elect. Cons. / GDP (MWh/MECU 85)	545.4	543.0	567.7	586.0	589.7	600.4	607.7	2.3	1.2
Industrial Cons. / Ind. Prod. (85=100)	100.0	99.4	106.5	102.9	106.0	101.6	96.2	-0.6	-5.3
Import Dependency (%)	63.52	70.82	63.43	63.79	61.04	64.55	65.68	-1.5	1.8
Oil Dependency (%)	56.71	64.23	57.62	59.67	57.58	60.15	61.53	-0.9	2.3
CO2 Emissions (Mt of CO2)	58.2	58.3	63.4	67.0	72.1	73.1	72.8	4.5	-0.4
Power Generation	26.2	26.8	29.5	31.8	34.8	35.8	35.0	5.5	-2.1
Energy Sector	1.3	1.8	1.9	2.1	2.3	2.1	2.1	4.0	4.1
Industry	9.4	9.3	9.9	9.9	10.4	9.5	8.7	-1.3	-8.6
Transports	14.2	14.2	14.7	15.8	16.4	17.7	18.2	5.1	2.8
Other	7.0	6.2	7.5	7.5	8.2	8.0	8.7	7.0	8.3
CO2 Emissions per capita (t/capita)	5.9	5.8	6.3	6.7	7.2	7.3	7.2	4.3	-0.7
Degree Days	1690	1672	1516	1578	1429	1225	1569	-1.3	28.1

Energy prices to consumers in current terms generally increased from 1986 to 1991. In 1992, prices increased faster than in the last five years specially automotive diesel (48.5%) and heating oil (21.0%). Looking at prices without taxes, heating oil decreased in 1992 by 5.5% as against the increase seen by final consumers. However, looking at prices in constant 1990 terms, all energy prices (including transport fuels) decreased in the 1986 to 1991 period. In 1992, this

Energy Prices to Consumers in Current DRA per Unit

Greece	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	68.0	77.6	77.0	77.0	78.0	114.3	137.8	166.3	12.2	20.7
without taxes	*l*	*42.0*	*22.4*	*24.0*	*24.6*	*33.8*	*41.5*	*45.9*	*49.2*	*15.5*	*7.2*
Diesel	l	33.9	38.4	35.4	35.4	35.4	48.3	70.7	105.0	13.0	48.5
without taxes	*l*	*26.1*	*21.6*	*19.8*	*20.8*	*28.9*	*35.4*	*39.6*	*44.4*	*12.9*	*12.1*
Industry											
Steam coal	t	na	na	na	na	na	na	na	na	-	-
without taxes	*t*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Heavy fuel oil 3.5% S	t	24558	26949	24571	24138	24139	26204	28704	32755	1.3	14.1
without taxes	*t*	*21050*	*13981*	*13963*	*11666*	*17057*	*18857*	*17341*	*20572*	*4.4*	*18.6*
Natural gas	toe	na	na	na	na	na	na	na	na	-	-
without taxes	*toe*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Electricity	kWh	6.03	7.42	8.15	8.32	8.57	9.67	11.65	12.98	9.5	11.4
without taxes	*kWh*	*6.03*	*7.42*	*8.15*	*8.32*	*8.57*	*9.67*	*11.65*	*12.98*	*9.5*	*11.4*
Domestic/Tertiary											
Heating oil	kl	34314	38536	37500	37500	37500	51620	76657	92750	14.7	21.0
without taxes	*kl*	*26507*	*21862*	*19758*	*21171*	*29483*	*36566*	*41967*	*39663*	*13.9*	*-5.5*
Natural gas	toe	na	na	na	na	na	na	na	na	-	-
without taxes	*toe*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Electricity	kWh	8.59	10.95	12.97	13.76	14.40	16.27	20.16	23.41	13.0	16.1
without taxes	*kWh*	*7.72*	*9.85*	*10.99*	*11.86*	*12.41*	*14.03*	*17.38*	*20.21*	*12.0*	*16.3*
Memo item:											
Natural gas average import price	*toe*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Heavy fuel oil 3.5% S spot Rotterdam	*t*	*20946*	*10248*	*13308*	*9681*	*14109*	*15709*	*14068*	*15219*	*6.5*	*8.2*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

drop continued although slower for heavy fuel oil and electricity. In the transport sector real gasoline and diesel prices increased in 1992 by 2.2% and 25.8% respectively. Real heating oil prices increased 2.5% in 1992.

Considering prices on a common energy unit, the lack of information on steam coal prices to industry and of natural gas to the domestic and tertiary sectors do not allow any comparative analysis for these two sectors.

Energy Prices to Consumers in Constant 1990 ECU per toe

Greece	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1047	972	828	730	650	791	798	808	-3.9	1.2
Diesel	457	420	353	310	273	314	387	477	-1.6	23.4
Industry										
Steam coal	na	na	na	na	na	na	na	na	-	-
Heavy fuel oil 3.5% S	284	253	198	172	151	136	125	117	-13.2	-6.5
Natural gas	na	na	na	na	na	na	na	na	-	-
Electricity	775	775	731	657	595	558	563	531	-6.2	-5.7
Domestic/Tertiary										
Heating oil	462	422	353	310	273	312	388	400	-1.7	3.0
Natural gas	na	na	na	na	na	na	na	na	-	-
Electricity	1103	1144	1164	1088	1001	940	974	958	-3.2	-1.7

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

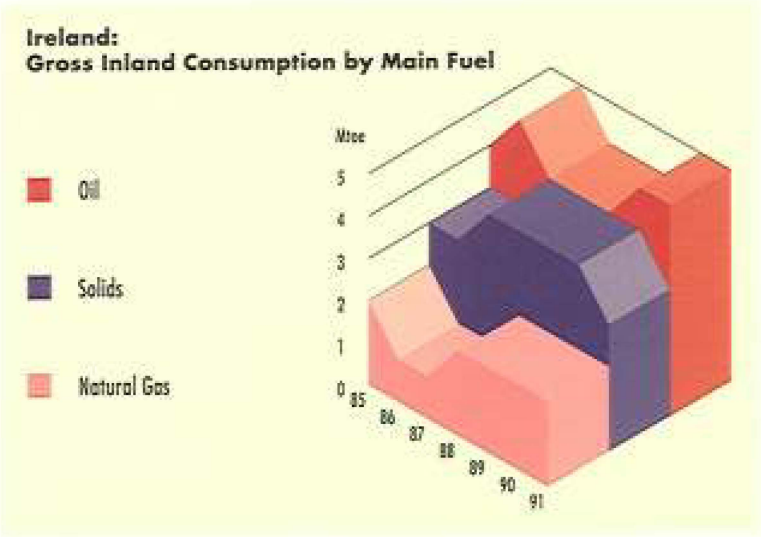
IRELAND

Final energy demand increased by 4.0% in 1991 (average annual growth of 2.3% since 1986) reaching 7.2 Mtoe. Rates of growth in the different sectors of the economy were however different. Final energy consumption in industry remained almost stable (-0.1%) and increased by 2.6% in the transport sector and by 7.9% in the domestic and tertiary sectors. The increase in the domestic and tertiary sectors was mainly due to a return to normal weather conditions in 1991 in addition to a slight increase in GDP per capita. Indeed, the income effect (5.0% per year growth in GDP per capita) seems important given that in spite of a decreasing trend in degree days since 1986, the consumption in the domestic sector shows a 1% per year growth in the same period.

Practically stable consumption in the industrial sector in 1991 can be attributed entirely to the decline of energy intensity in that sector; the ratio of industrial energy consumption to industrial production went down by 3.4%. The transport sector shows a sustained growth of 2.7% since 1986 (2.6% in 1991) relatively independent from GDP and private consumption growth rates and more in line with developments in the car parc and real prices of gasoline and diesel on a continued decline. In terms of fuels, natural gas demand in the domestic/tertiary sector continued to register a significant increase of almost 35% in 1991 (30% per year since 1986), confirming a strong penetration in this sector (2.2% in 1985 and 8.6% in 1991).

Final Energy Consumption

Ireland	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	1.73	1.71	1.81	1.79	1.87	2.07	2.07	3.9	-0.1
Solids	0.25	0.32	0.27	0.32	0.34	0.41	0.38	3.7	-5.2
Oil	0.95	0.80	0.93	0.83	0.79	0.91	0.92	2.7	0.9
Gas	0.22	0.26	0.27	0.29	0.36	0.37	0.37	7.5	-0.5
Electricity	0.31	0.33	0.34	0.35	0.37	0.39	0.40	4.1	3.1
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Transports	1.69	1.77	1.70	1.81	1.91	1.97	2.02	2.7	2.6
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Oil	1.69	1.77	1.70	1.81	1.91	1.97	2.02	2.7	2.6
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Other	2.69	3.00	3.10	3.02	3.06	2.92	3.15	1.0	7.9
Solids	1.50	1.59	1.58	1.53	1.42	1.12	1.16	-6.1	3.6
Oil	0.60	0.79	0.84	0.79	0.89	0.96	1.04	5.7	8.3
Gas	0.06	0.07	0.11	0.12	0.16	0.20	0.27	30.0	34.9
Electricity	0.53	0.55	0.57	0.57	0.60	0.63	0.67	4.1	6.2
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Total	6.12	6.48	6.60	6.61	6.84	6.96	7.24	2.3	4.0



Primary energy consumption in Ireland increased by 3.2% in 1991, a growth rate which is higher that observed over the last five years (2.7% per year). Primary demand for oil grew 6.7% in 1991 compared to an annual increase of 0.1% since 1986. Ireland's primary energy production is limited to natural gas and peat. Almost half of total peat production is consumed in power plants and most of the remainder is consumed in the domestic sector. Primary consumption of natural gas increased by 2.3% in 1991 compared to an average annual 7.1% growth in the last five years.

Supply

Ireland	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	2.78	2.69	3.09	3.23	3.27	3.28	3.40	4.7	3.4
Solids	0.76	1.26	1.68	1.53	1.37	1.35	1.42	2.4	4.7
of which Peat	*0.74*	*1.23*	*1.65*	*1.51*	*1.35*	*1.33*	*1.42*	*2.9*	*6.5*
Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Natural Gas	1.94	1.36	1.35	1.63	1.84	1.87	1.92	7.1	2.3
Nuclear	-	-	-	-	-	-	-	-	-
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Hydro	0.07	0.08	0.06	0.07	0.06	0.06	0.06	-4.0	7.0
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Net Imports	5.33	6.74	6.38	6.26	6.32	7.01	6.91	0.5	-1.3
Solids	1.26	1.74	1.92	2.29	2.21	2.08	2.05	3.4	-1.4
of which Hard Coal	*1.27*	*1.74*	*1.92*	*2.29*	*2.20*	*2.06*	*2.04*	*3.3*	*-0.9*
Crude Oil	1.25	1.50	1.49	1.38	1.61	1.94	1.74	3.0	-10.2
Oil Products	2.82	3.50	2.97	2.59	2.50	2.99	3.12	-2.3	4.5
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Gross Inland Consumption *(1)*	8.77	9.00	9.39	9.44	9.44	9.96	10.28	2.7	3.2
Solids	2.58	2.78	3.57	3.69	3.60	3.51	3.48	4.6	-0.9
Oil	4.16	4.79	4.40	4.04	3.95	4.52	4.82	0.1	6.7
Natural Gas	1.95	1.36	1.35	1.63	1.84	1.87	1.92	7.1	2.3
Other *(2)*	0.07	0.08	0.06	0.07	0.06	0.06	0.06	-4.0	7.0

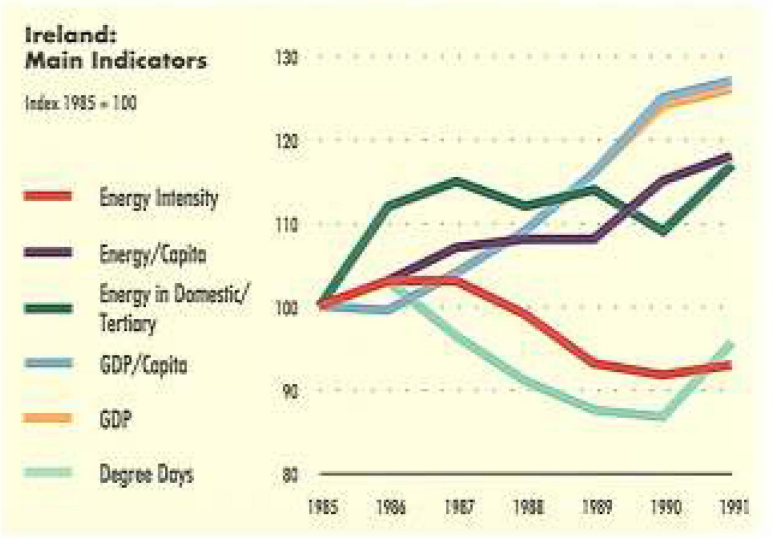
(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

Growth in **electricity** final consumption was 5.0% in 1991, compared to 4.1% annual average growth in the last five years. Total electricity generation was 15.1 TWh in 1991, or 4.4% more than in 1990. In Ireland there are no nuclear power plants and almost all electricity is produced by conventional thermal power stations. Hydro-generated electricity is small (5% of total). Total electricity generating capacity amounts to 3.8 GW in 1991, or 0.1% more than in 1990. Given that capacity has grown slower than total generation, Ireland's load factor increased from 37% in 1986 to 45% in 1991.

In 1991, due to slower economic growth (1.9%) combined with significant energy efficiency gains in the industrial sector, the import dependency of the Irish energy sector decreased slightly to 67% (75% and 70% in 1986 and 1990 respectively). The same development occurred for the oil dependency which dropped from 49% in 1990 to 47% in 1991. However, due to sustained

Electricity

Ireland	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	12.09	12.65	13.06	13.23	13.83	14.51	15.14	3.7	4.4
TWh									
from pumping	*0.35*	*0.35*	*0.43*	*0.33*	*0.30*	*0.29*	*0.22*	*-8.9*	*-23.8*
Hydro (without pumping)	0.83	0.92	0.69	0.87	0.69	0.70	0.75	-4.0	7.0
Derived	10.91	11.39	11.95	12.02	12.84	13.53	14.18	4.5	4.8
Nuclear	-	-	-	-	-	-	-	-	-
Thermal Conventional	*10.91*	*11.39*	*11.95*	*12.02*	*12.84*	*13.53*	*14.18*	*4.5*	*4.8*
Net Imports	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Gross Inland Consumption	12.09	12.65	13.06	13.23	13.83	14.51	15.14	3.7	4.4
Own Consumption	1.16	1.28	1.40	1.26	1.25	1.27	1.21	-1.0	-4.6
Available Internal Market	10.93	11.37	11.67	11.97	12.58	13.24	13.93	4.1	5.2
Distribution Losses	1.07	1.08	0.98	1.15	1.20	1.28	1.38	5.1	7.7
Energy Branch Consumption	0.10	0.10	0.10	0.10	0.10	0.10	0.10	-1.0	-4.0
Final Consumption	9.76	10.19	10.58	10.72	11.27	11.86	12.46	4.1	5.0
Power Generation Capacities	3.20	3.92	3.81	3.81	3.81	3.81	3.81	-0.5	0.1
GW									
Nuclear	-	-	-	-	-	-	-	-	-
Conventional Thermal	2.68	3.40	3.30	3.30	3.29	3.29	3.30	-0.6	0.0
Hydro (Incl. pumping)	0.52	0.52	0.51	0.51	0.51	0.51	0.52	0.0	0.6
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Inputs to Thermal Power Stations	2.63	2.70	2.84	2.82	2.91	3.12	3.24	3.7	3.8
Mtoe									
Solids	0.82	0.87	1.68	1.82	1.84	1.94	1.90	16.9	-2.4
of which Peat	*0.77*	*0.45*	*0.60*	*0.69*	*0.57*	*0.69*	*0.66*	*8.3*	*-3.9*
Oil	0.54	1.20	0.63	0.25	0.18	0.34	0.55	-14.4	63.2
Gas	1.27	0.63	0.52	0.75	0.90	0.84	0.79	4.6	-5.6
of which Natural Gas	*1.27*	*0.63*	*0.52*	*0.75*	*0.90*	*0.84*	*0.79*	*4.6*	*-5.6*
Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-



consumption in the transport sector and increased demand in the domestic and tertiary sectors, total energy intensity increased in 1991 by 1.3% reversing the decreasing trend since 1986 (-2.1% per year). Total emissions of CO2 increased in 1991 by 3.4% which is slightly more than for total primary energy consumption (3.2%). This is due to the large share of solids (mainly peat) for electricity generation and to the increase in energy demand for the transport and the domestic and tertiary sectors. The contribution of the power generation sector to total CO2 emissions is quite substantial (36%) followed by the domestic and tertiary sectors (28%), transport (19%) and industry (17%).

Main Indicators

Ireland	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	3.54	3.54	3.54	3.54	3.52	3.50	3.52	-0.1	0.5
GDP (bil. ECU 85)	24.9	24.8	25.9	27.0	28.8	30.8	31.4	4.9	1.9
Private Consumption (bil. ECU 85)	14.8	15.1	15.5	16.0	16.6	16.8	17.0	2.3	0.9
Industrial Production (85=100)	100.0	102.2	111.2	123.1	137.4	143.8	148.7	7.8	3.4
GDP per capita (ECU 85/capita)	7027	6992	7307	7644	8185	8808	8930	5.0	1.4
Prim. En. Cons. per cap. (Kgoe/capita)	2476	2543	2650	2667	2686	2847	2923	2.8	2.7
Prim. En. Cons. / GDP (toe/MECU 85)	352.4	363.7	362.6	348.9	328.1	323.2	327.4	-2.1	1.3
Final En. Cons. / GDP (toe/MECU 85)	245.9	261.6	255.0	244.5	237.6	225.9	230.6	-2.5	2.1
Elect. Cons. / GDP (MWh/MECU 85)	392.3	411.7	408.8	396.3	391.8	384.9	396.6	-0.7	3.1
Industrial Cons. / Ind. Prod. (85=100)	100.0	96.3	93.6	83.6	78.4	83.1	80.2	-3.6	-3.4
Import Dependency (%)	60.62	74.65	67.84	66.18	66.78	70.23	67.03	-2.1	-4.6
Oil Dependency (%)	46.25	55.41	47.38	41.97	43.44	49.36	47.13	-3.2	-4.5
CO2 Emissions (Mt of CO2)	26.2	28.0	29.4	29.3	29.9	30.8	31.8	2.6	3.4
Power Generation	8.3	9.0	10.2	10.0	10.1	11.0	11.4	4.9	3.5
Energy Sector	0.1	0.1	0.1	0.1	0.2	0.2	0.2	12.9	-29.6
Industry	4.5	4.4	4.7	4.6	4.7	5.4	5.3	3.7	-1.3
Transports	5.1	5.4	5.2	5.5	5.8	6.0	6.1	2.8	2.7
Other	8.2	9.2	9.4	9.1	9.0	8.2	8.8	-0.8	7.7
CO2 Emissions per capita (t/capita)	7.4	7.9	8.3	8.3	8.5	8.8	9.0	2.7	2.8
Degree Days	2632	2702	2536	2396	2302	2281	2516	-1.4	10.3

All energy prices to consumers decreased in both current and real terms from 1986 to 1992. However, heating oil and transport fuel prices increased from 1986 to 1991 and only decreased in 1992. Looking at prices without taxes, while for heavy fuel oil they decreased faster than those in the spot market until 1991, in 1992 they decreased almost parallel to the spot market. Energy prices in current terms for industry showed a general decline from 1986 to 1991 which stagnated in 1992, except for heavy fuel oil the price of which continued to drop. Developments in energy prices for the domestic/tertiary sector were different from those in industry. Since 1986, only heating oil

Energy Prices to Consumers in Current IRL per Unit

Ireland	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	0.659	0.595	0.589	0.582	0.616	0.628	0.622	0.589	0.9	-5.2
without taxes	*l*	*0.281*	*0.204*	*0.191*	*0.172*	*0.190*	*0.206*	*0.210*	*0.196*	*0.6*	*-6.6*
Diesel	l	0.482	0.417	0.409	0.406	0.426	0.433	0.446	0.428	1.4	-4.1
without taxes	*l*	*0.295*	*0.207*	*0.193*	*0.184*	*0.202*	*0.210*	*0.224*	*0.206*	*1.6*	*-7.8*
Industry											
Steam coal	t	na	na	na	na	na	na	na	na	-	-
without taxes	*t*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Heavy fuel oil 3.5% S	t	192	110	115	88	97	90	85	83	-5.0	-2.8
without taxes	*t*	*192*	*103*	*107*	*80*	*89*	*83*	*78*	*75*	*-5.6*	*-3.1*
Natural gas	toe	254	249	199	200	200	200	200	200	-4.3	0.0
without taxes	*toe*	*254*	*249*	*199*	*200*	*200*	*200*	*200*	*200*	*-4.3*	*0.0*
Electricity	kWh	0.054	0.054	0.043	0.043	0.041	0.041	0.041	0.041	-5.5	0.0
without taxes	*kWh*	*0.054*	*0.054*	*0.043*	*0.043*	*0.041*	*0.041*	*0.041*	*0.041*	*-5.5*	*0.0*
Domestic/Tertiary											
Heating oil	kl	376	274	284	241	256	270	291	247	1.3	-15.4
without taxes	*kl*	*302*	*213*	*204*	*166*	*178*	*190*	*201*	*162*	*-1.2*	*-19.2*
Natural gas	toe	405	414	379	291	291	291	296	298	-6.5	0.5
without taxes	*toe*	*372*	*376*	*345*	*265*	*265*	*265*	*265*	*265*	*-6.8*	*0.0*
Electricity	kWh	0.084	0.088	0.081	0.081	0.081	0.081	0.082	0.083	-1.4	0.6
without taxes	*kWh*	*0.084*	*0.088*	*0.081*	*0.077*	*0.077*	*0.073*	*0.073*	*0.073*	*-3.5*	*0.0*
Memo item:											
Natural gas average import price	*toe*	-	-	-	-	-	-	-	-	-	-
Heavy fuel oil 3.5% S spot Rotterdam	t	143.5	54.9	66.2	44.9	61.5	60.1	47.9	47.2	-2.7	-1.6

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

prices increased in current terms; in 1992 they dropped 15.4%. However, looking at prices in constant 1990 terms, all energy prices (including transport fuels) decreased in the 1986 to 1991 period. In 1992, this drop continued although slower, except for heating oil and transport fuels for which prices fell quicker than in the past five years.

Considering prices on a common energy unit, the prices of natural gas for industry were, in 1992, more than double those for heavy fuel oil; the gap between these two fuels increased slightly. In the domestic sector, gas has been cheaper than heating oil as of 1987, but in 1992 heating oil is slightly cheaper.

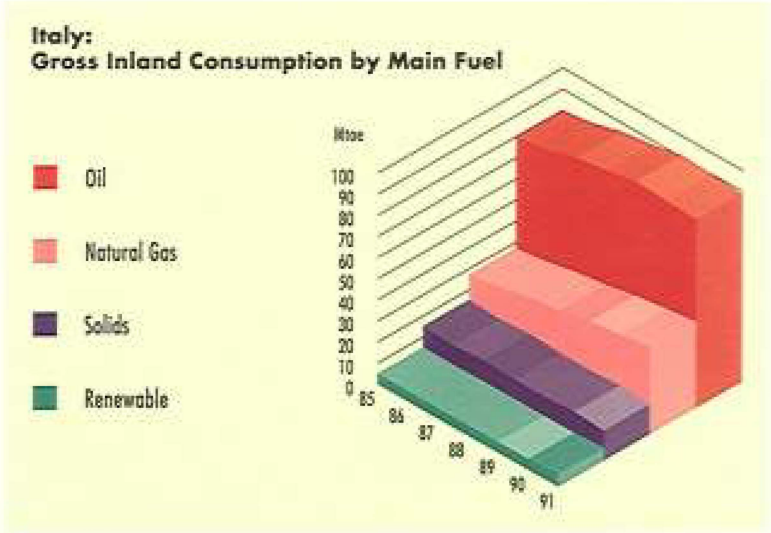
Energy Prices to Consumers in Constant 1990 ECU per toe

Ireland	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1407	1223	1175	1136	1154	1140	1095	1000	-2.2	-8.6
Diesel	890	742	705	686	690	680	680	629	-1.7	-7.5
Industry										
Steam coal	na	na	na	na	na	na	na	na	-	-
Heavy fuel oil 3.5% S	308	170	172	129	136	123	112	105	-7.9	-6.2
Natural gas	na	368	285	281	269	261	253	244	-7.2	-3.5
Electricity	na	930	715	700	640	619	601	579	-8.4	-3.5
Domestic/Tertiary										
Heating oil	694	487	490	407	415	424	444	362	-1.8	-18.4
Natural gas	620	610	542	408	392	379	374	363	-9.3	-3.0
Electricity	1493	1507	1344	1315	1263	1222	1204	1168	-4.4	-3.0

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

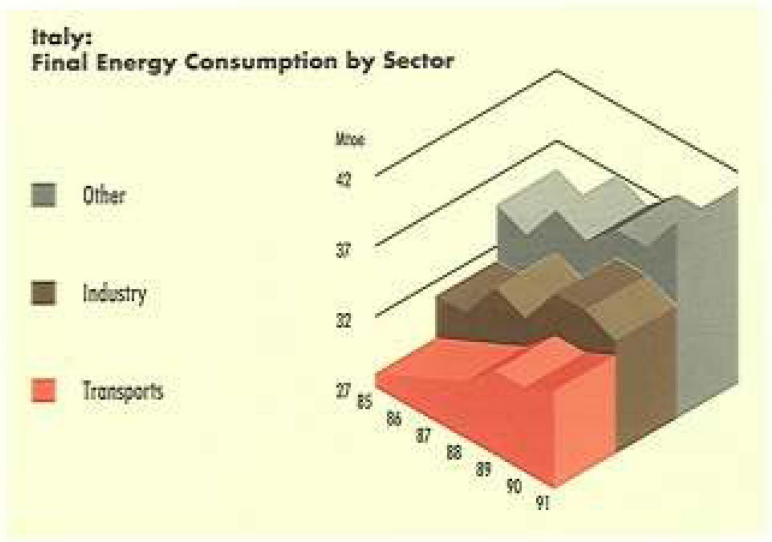
ITALY

Final **energy consumption** in the last five years did not evolve regularly.While in 1987 and 1989 it grew by 5.5% and 5.4% respectively, it almost stagnated in 1988 and 1990. In 1991, it increased 2.6%. This evolution results from different development patterns across sectors. While the transport sector show a continuous growth in demand, industry and the domestic and tertiary sectors show quite irregular evolution. Demand in the domestic and tertiary sector seems very tied up with climatic conditions. In industry, the energy intensity varies up and down and only a detailed analysis at the level of each branch would allow the clarification of such behaviour. In 1991, due to harder climatic conditions consumption in the domestic and tertiary sectors grew 7.5%. Transport demand continued to increase by 2.7% in 1991 while industrial consumption dropped 2.6%, mainly due to a loss in activity (-2.0%).



Final Energy Consumption

Italy	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	31.01	31.24	33.55	33.20	35.79	36.01	35.07	2.3	-2.6
Solids	4.89	3.88	4.36	3.64	3.94	4.28	4.18	1.5	-2.3
Oil	8.94	9.43	9.15	8.62	9.14	8.49	7.50	-4.5	-11.7
Gas	9.20	9.75	11.54	11.95	13.31	13.72	13.85	7.3	1.0
Electricity	7.99	8.17	8.50	8.99	9.39	9.53	9.54	3.1	0.1
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Transports	27.75	29.40	29.67	31.11	32.67	33.40	34.31	3.1	2.7
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Oil	27.09	28.73	28.98	30.43	31.99	32.66	33.53	3.1	2.7
Gas	0.24	0.24	0.24	0.22	0.21	0.21	0.21	-2.5	2.9
Electricity	0.42	0.43	0.45	0.46	0.47	0.54	0.56	5.5	4.6
Other	35.09	34.36	37.02	36.43	37.74	37.74	40.58	3.4	7.5
Solids	0.23	0.17	0.17	0.11	0.11	0.10	0.11	-8.8	10.7
Oil	16.55	14.85	16.43	15.32	14.66	13.55	13.46	-1.9	-0.6
Gas	11.78	12.54	13.16	13.42	15.04	15.76	18.29	7.8	16.1
Electricity	6.53	6.79	7.26	7.58	7.93	8.34	8.72	5.1	4.6
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Total	93.86	95.00	100.24	100.74	106.20	107.16	109.96	3.0	2.6



Total **primary energy consumption** rose by 1.0% in 1991. The penetration and substitution of natural gas for oil continued in 1991. In fact, while oil demand lost 2 Mtoe from 1989 to 1991, natural gas consumption increased almost 5 Mtoe in the same period. Primary demand for solids, although with annual fluctuations, seems to be on a slight downward trend. Italy's primary production of energy is dominated by natural gas which amounted to 14 Mtoe in 1991, or 34% of gross inland consumption. Italy is also resourceful in terms of renewable energy sources (24% of total production in 1991). Italy is the only Member State having an important use of geothermal. Italy is a net importer of all energy sources. In particular, electricity imports show an upward trend since 1986 of 9.7% growth per year.

Supply

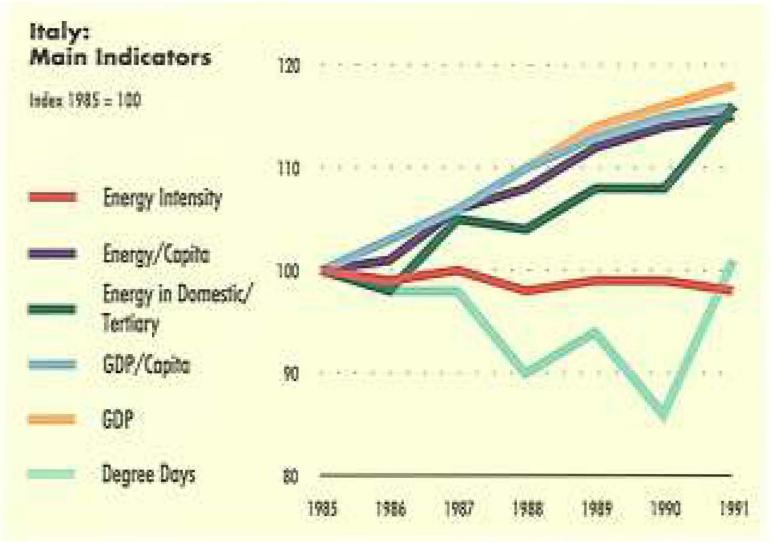
Italy	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	21.70	23.60	22.96	24.09	23.61	24.05	24.59	0.8	2.3
Solids	0.33	0.27	0.29	0.29	0.32	0.34	0.28	0.7	-16.9
of which Lignite	*0.33*	*0.25*	*0.28*	*0.27*	*0.29*	*0.30*	*0.27*	*1.2*	*-11.3*
Oil	2.39	2.57	4.03	4.83	4.60	4.70	4.36	11.1	-7.4
Natural Gas	11.54	12.93	13.22	13.50	13.75	14.03	14.11	1.8	0.6
Nuclear	1.98	2.44	0.05	0.00	0.00	0.00	0.00	-	-
Geothermal	1.70	1.73	1.85	1.84	1.87	1.98	1.95	2.5	-1.2
Hydro	3.53	3.53	3.40	3.50	2.93	2.72	3.63	0.6	33.6
Other Renewable	0.22	0.14	0.13	0.13	0.14	0.28	0.26	13.5	-6.8
Net Imports	114.06	113.91	123.66	120.09	130.44	132.29	128.98	2.5	-2.5
Solids	14.77	13.94	14.48	13.24	13.96	13.77	13.70	-0.3	-0.5
of which Hard Coal	*14.98*	*14.00*	*14.48*	*13.38*	*14.01*	*13.83*	*13.41*	*-0.9*	*-3.0*
Crude Oil	73.40	81.07	78.60	78.09	80.78	84.63	82.61	0.4	-2.4
Oil Products	7.82	0.58	9.44	6.56	9.36	5.60	2.12	29.8	-62.1
Natural Gas	16.04	16.41	19.14	19.51	23.45	25.31	27.52	10.9	8.7
Electricity	2.04	1.90	1.99	2.69	2.90	2.98	3.02	9.7	1.2
Gross Inland Consumption *(1)*	132.30	134.42	140.67	143.64	149.49	151.76	153.32	2.7	1.0
Solids	15.16	14.23	14.79	13.92	13.70	14.62	13.98	-0.4	-4.4
Oil	80.48	81.58	86.41	88.00	91.05	90.16	89.01	1.8	-1.3
Natural Gas	27.20	28.88	32.06	33.57	36.90	39.02	41.46	7.5	6.3
Other *(2)*	9.47	9.74	7.41	8.16	7.84	7.96	8.86	-1.9	11.4

(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

Total **electricity generation** was 222 TWh in 1991, up by 2.4% compared to 1990. This rate of increase is even slightly higher than the growth in final demand for electricity. This was not the case for the last five years where final demand was growing faster than total generation. One of the main characteristics of electricity restructuring in Italy is the fact that the use of nuclear power has been abandoned since 1988. Besides hydro, geothermal and some renewable energy sources (22% of total generation) the bulk of electricity is provided by thermal generation. This thermal generation is mainly made up by oil, gas and solids accounting for 60%, 23% and 17% of inputs in 1991 respectively. The use of solids seem quite stable since 1986 while oil and gas inputs have increased annually in the order of almost 6% in the same period. However, in 1991, while there was an increase in the use of oil (0.8%), gas and solids dropped by 7.4% and 10.7% respectively. The construction of new power plants has not matched electricity demand growth. Installed capacity increased only by 0.6% on average over the last five years (4.1% per year growth in final electricity consumption), obliging Italy to increase its imports. These accounted for 16% of final electricity demand in 1991 (14% in 1985). On average, the load factor

Electricity

Italy	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	185.71	192.30	201.34	203.52	210.71	216.85	222.00	2.9	2.4
TWh									
from pumping	*3.50*	*3.44*	*3.08*	*2.87*	*3.43*	*3.45*	*3.37*	*-0.4*	*-2.5*
Hydro (without pumping)	41.08	41.09	39.50	40.67	34.05	31.62	42.23	0.6	33.6
Derived	141.12	147.77	158.76	159.99	173.23	181.78	176.40	3.6	-3.0
Nuclear	*7.02*	*8.76*	*0.17*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Thermal Conventional	*134.10*	*139.02*	*158.58*	*159.99*	*173.23*	*181.78*	*176.40*	*4.9*	*-3.0*
Net Imports	23.66	22.11	23.14	31.25	33.72	34.65	35.08	9.7	1.2
Gross Inland Consumption	209.37	214.41	224.48	234.78	244.44	251.50	257.08	3.7	2.2
Own Consumption	14.91	15.01	15.21	14.85	16.30	17.10	16.86	2.4	-1.4
Available Internal Market	194.46	199.40	209.27	219.93	228.14	234.40	240.21	3.8	2.5
Distribution Losses	17.46	16.91	17.20	18.07	17.41	16.43	17.35	0.5	5.6
Energy Branch Consumption	3.35	3.46	3.62	3.77	3.87	3.93	4.00	3.0	1.8
Final Consumption	173.65	179.03	188.44	198.08	206.86	214.04	218.86	4.1	2.3
Power Generation Capacities	55.63	56.21	56.40	56.74	57.45	56.55	57.87	0.6	2.3
GW									
Nuclear	1.27	1.27	1.27	1.12	1.12	0.00	0.00	-	-
Conventional Thermal	36.10	36.62	36.75	37.18	37.59	37.28	38.23	0.9	2.5
Hydro (Incl. pumping)	17.82	17.86	17.88	17.94	18.24	18.77	19.08	1.3	1.6
Other Renewable	0.44	0.45	0.51	0.51	0.50	0.50	0.57	4.6	14.3
Inputs to Thermal Power Stations	28.21	29.00	33.04	33.37	35.89	37.79	36.53	4.7	-3.3
Mtoe									
Solids	5.92	6.11	6.66	6.68	6.17	7.07	6.32	0.7	-10.7
of which Lignite	*0.32*	*0.25*	*0.28*	*0.27*	*0.29*	*0.29*	*0.24*	*-0.6*	*-16.7*
Oil	16.15	16.53	19.13	19.14	21.69	21.53	21.71	5.6	0.8
Gas	5.92	6.22	7.13	7.41	7.89	8.90	8.24	5.8	-7.4
of which Natural Gas	*5.18*	*5.50*	*6.50*	*6.68*	*7.09*	*8.08*	*7.45*	*6.3*	*-7.8*
Renewable	0.22	0.14	0.13	0.13	0.14	0.28	0.26	13.5	-6.8



of the Italian generating system has improved from 38% in 1985 to 44% in 1991.

Oil dependency shows a downward trend with a significant drop in 1991. The energy efficiency of the Italian system has not improved much since 1986. In fact the energy intensity has been fairly stable since 1986. This is also the case of industrial energy intensity. CO2 emissions increased 2.4% per year since 1986. In 1991 there was a rather small drop (0.4%). Power generation and the transport sector are the two most responsible for these emissions with 30% and 26% of the total in 1991 respectively.

Main Indicators

Italy	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	57.14	57.25	57.35	57.40	57.54	57.58	57.75	0.2	0.3
GDP (bil. ECU 85)	559.8	576.2	594.2	618.4	637.1	649.6	658.7	2.7	1.4
Private Consumption (bil. ECU 85)	342.4	357.4	373.3	390.4	404.5	414.8	426.5	3.6	2.8
Industrial Production (85=100)	100.0	104.1	106.8	114.2	118.6	117.8	115.4	2.1	-2.0
GDP per capita (ECU 85/capita)	9797	10065	10362	10773	11073	11282	11406	2.5	1.1
Prim. En. Cons. per cap. (Kgoe/capita)	2315	2348	2453	2502	2598	2636	2655	2.5	0.7
Prim. En. Cons. / GDP (toe/MECU 85)	236.3	233.3	236.7	232.3	234.6	233.6	232.8	0.0	-0.4
Final En. Cons. / GDP (toe/MECU 85)	167.7	164.9	168.7	162.9	166.7	165.0	166.9	0.2	1.2
Elect. Cons. / GDP (MWh/MECU 85)	310.2	310.7	317.1	320.3	324.7	329.5	332.3	1.3	0.8
Industrial Cons. / Ind. Prod. (85=100)	100.0	96.8	101.3	93.7	97.3	98.6	98.0	0.3	-0.6
Import Dependency (%)	84.05	82.53	85.92	81.86	85.68	85.67	82.76	0.1	-3.4
Oil Dependency (%)	59.85	59.15	61.17	57.71	59.20	58.43	54.37	-1.7	-6.9
CO2 Emissions (Mt of CO2)	351.5	355.3	378.4	375.7	397.7	402.7	400.9	2.4	-0.4
Power Generation	94.1	96.3	108.6	109.7	117.2	123.1	119.0	4.3	-3.4
Energy Sector	17.0	18.5	16.8	19.0	20.3	18.9	16.8	-1.9	-11.2
Industry	77.9	76.7	82.1	74.9	81.7	82.1	78.4	0.4	-4.6
Transports	82.9	88.0	88.7	93.1	97.8	99.8	102.4	3.1	2.7
Other	79.7	75.9	82.1	78.9	80.6	78.8	84.4	2.2	7.2
CO2 Emissions per capita (t/capita)	6.2	6.2	6.6	6.5	6.9	7.0	6.9	2.3	-0.7
Degree Days	2042	1994	2004	1838	1917	1749	2072	0.8	18.5

Energy prices to consumers in current terms generally increased from 1986 to 1991. In 1992, while prices for the domestic and tertiary sectors and electricity for industry continued to increase, fossil fuel prices dropped in industry and in transport. Looking at prices without taxes, for heavy fuel oil they increased until 1991 while those in the spot market dropped. In 1992 they decreased more than in the spot market. In real terms the evolution is different. Gasoline real prices declined continuously since 1986 while they increased for automotive diesel until 1991. In industry, real prices increased, except for electricity until 1991. Real prices for the domestic and tertiary sectors increased since 1986 and only showed a drop in 1992.

Energy Prices to Consumers in Current LIT per Unit

Italy	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	1331	1286	1304	1354	1376	1480	1532	1521	3.6	-0.7
without taxes	*l*	*474*	*291*	*279*	*290*	*337*	*375*	*370*	*369*	*4.9*	*-0.2*
Diesel	l	612	529	552	600	671	827	945	943	12.3	-0.2
without taxes	*l*	*495*	*318*	*278*	*263*	*292*	*331*	*334*	*319*	*1.0*	*-4.6*
Industry											
Steam coal	t	na	na	na	na	na	na	na	na	-	-
without taxes	*t*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Heavy fuel oil 3.5% S	kg	330	145	156	116	163	226	227	218	9.3	-3.6
without taxes	*kg*	*323*	*135*	*146*	*106*	*139*	*152*	*137*	*128*	*0.2*	*-6.1*
Natural gas	kgoe	314	151	153	117	148	188	212	211	7.0	-0.1
without taxes	*kgoe*	*314*	*151*	*153*	*117*	*148*	*178*	*194*	*185*	*5.1*	*-4.4*
Electricity	kWh	118	104	100	100	103	117	130	144	4.5	11.1
without taxes	*kWh*	*113*	*99*	*94*	*91*	*92*	*100*	*112*	*126*	*2.6*	*12.7*
Domestic/Tertiary											
Heating oil	l	665	545	590	647	750	950	1111	1129	15.3	1.6
without taxes	*l*	*445*	*259*	*225*	*205*	*247*	*306*	*329*	*324*	*4.9*	*-1.7*
Natural gas	kgoe	611	519	500	574	645	770	944	994	12.7	5.3
without taxes	*kgoe*	*528*	*443*	*426*	*429*	*471*	*522*	*560*	*604*	*4.8*	*8.0*
Electricity	kWh	168	160	162	166	171	188	214	227	6.0	6.1
without taxes	*kWh*	*147*	*139*	*139*	*139*	*140*	*152*	*179*	*190*	*5.2*	*6.3*
Memo item:											
Natural gas average import price	*toe*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Heavy fuel oil 3.5% S spot Rotterdam	*kg*	*290*	*110*	*128*	*89*	*119*	*119*	*96*	*95*	*-2.6*	*-0.6*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

Considering prices on a common energy unit, the prices of natural gas for industry were, in 1992, 4% lower than those for heavy fuel oil; in 1986 these two prices were at the same level. The domestic sector also saw the prices of gas becoming increasingly less expensive relatively to heating oil. But while gas prices were 30% cheaper than heating oil in 1991, they fell less in 1992, ending up at 28% cheaper.

Energy Prices to Consumers in Constant 1990 ECU per toe

Italy	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1637	1495	1447	1430	1367	1381	1338	1253	-2.2	-6.4
Diesel	646	527	525	543	572	662	708	666	6.1	-5.9
Industry										
Steam coal	na	na	na	na	na	na	na	na	-	-
Heavy fuel oil 3.5% S	299	124	127	90	119	155	146	132	3.2	-9.1
Natural gas	na	124	120	87	103	124	130	123	1.0	-5.8
Electricity	na	994	910	863	834	894	929	973	-1.3	4.7
Domestic/Tertiary										
Heating oil	701	544	561	586	639	761	832	797	8.9	-4.2
Natural gas	530	425	390	426	451	506	580	576	6.4	-0.7
Electricity	1693	1524	1475	1431	1390	1436	1532	1532	0.1	0.0

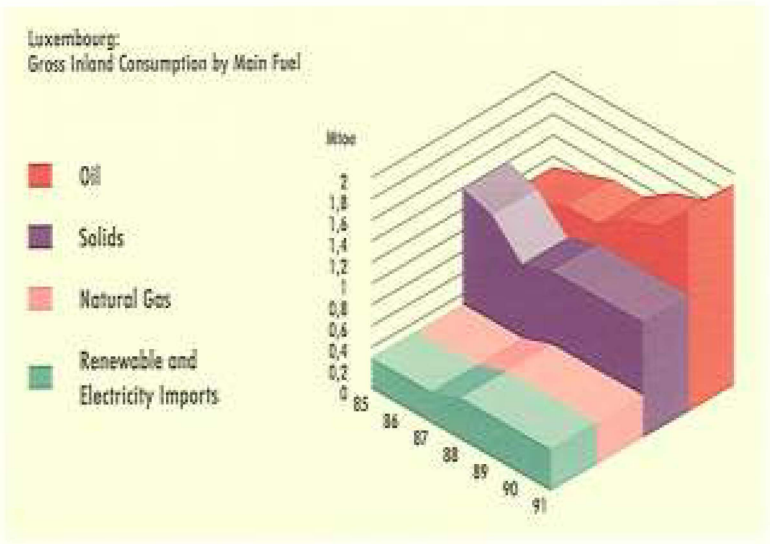
Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

LUXEMBOURG

Total **final energy demand** increased by 7.6% in 1991. This rate of growth is significantly higher than the last five years' average (4.1%). This faster growth in final energy consumption is to a great extent due to a 17% increase in degree days. In fact, the domestic and tertiary sectors show a 16.9% increase in energy consumption in 1991. Industry dropped its energy demand by 1.4% against a 0.5% increase in activity. The transport sector shows a 17.8% increase in energy consumption mainly due to a drop in real gasoline and diesel prices. However, it is known that a part of the energy consumption for transport corresponds to exports to neighbouring Member states where the gap of gasoline prices further increased in 1991. In Belgium, France and Germany gasoline prices were 39%, 42% and 29% more expensive than in Luxembourg respectively in 1991.

Final Energy Consumption

Luxembourg	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	1.77	1.67	1.55	1.63	1.76	1.72	1.69	0.3	-1.4
Solids	0.97	0.89	0.70	0.72	0.76	0.74	0.69	-4.9	-6.6
Oil	0.13	0.15	0.25	0.26	0.31	0.27	0.30	14.6	10.5
Gas	0.46	0.41	0.38	0.43	0.47	0.48	0.48	3.1	-0.6
Electricity	0.22	0.21	0.22	0.22	0.23	0.23	0.22	1.0	-0.3
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Transports	0.60	0.63	0.71	0.74	0.85	1.01	1.19	13.6	17.8
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Oil	0.60	0.62	0.70	0.74	0.85	1.00	1.18	13.7	17.9
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Other	0.58	0.61	0.61	0.60	0.59	0.58	0.68	1.9	16.9
Solids	0.02	0.02	0.01	0.01	0.01	0.01	0.01	-17.5	8.1
Oil	0.30	0.33	0.32	0.30	0.29	0.31	0.38	2.6	23.2
Gas	0.15	0.16	0.16	0.17	0.16	0.14	0.16	0.3	12.5
Electricity	0.11	0.11	0.11	0.12	0.12	0.13	0.13	3.9	6.7
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Total	2.95	2.91	2.87	2.97	3.19	3.30	3.55	4.1	7.6



Primary energy consumption is almost all supplied by imports (98.6% in 1991). However, this dependency has decreased by 0.2% per year since 1986. In 1991 it even decreased by 0.8%. Oil has an increasing share in total gross consumption from 34% in 1985 to 50% in 1991. The second fastest growing fuel is natural gas while solids show a decreasing trend since 1986.

Supply

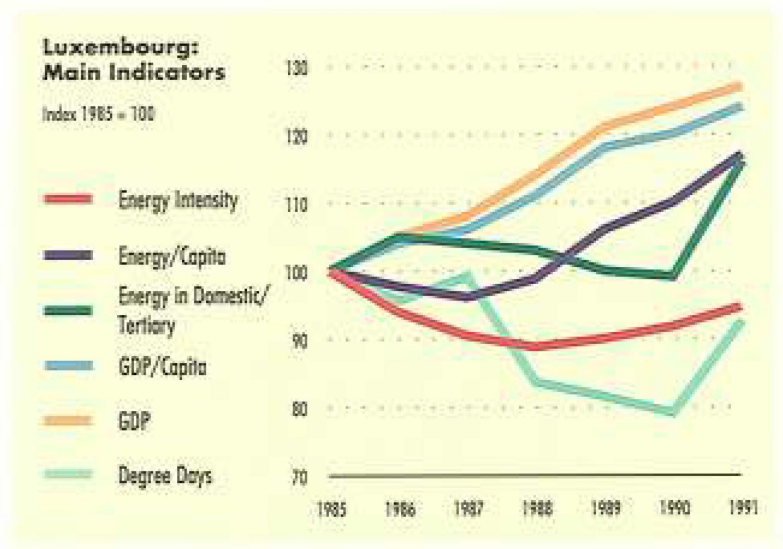
Luxembourg	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	0.03	0.02	0.03	0.04	0.04	0.03	0.03	4.1	-6.8
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Nuclear	-	-	-	-	-	-	-	-	-
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Hydro	0.01	0.01	0.01	0.01	0.01	0.01	0.00	-8.9	-20.5
Other Renewable	0.03	0.02	0.03	0.03	0.03	0.03	0.03	8.1	-3.8
Net Imports	3.10	3.05	3.02	3.09	3.34	3.51	3.70	3.9	5.4
Solids	1.42	1.29	1.05	1.09	1.15	1.12	1.06	-3.9	-5.8
of which Hard Coal	*0.14*	*0.13*	*0.14*	*0.11*	*0.13*	*0.14*	*0.14*	*2.1*	*3.6*
Crude Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Oil Products	1.07	1.16	1.32	1.32	1.46	1.62	1.85	9.7	14.1
Natural Gas	0.30	0.30	0.34	0.35	0.41	0.43	0.45	8.2	4.0
Electricity	0.30	0.30	0.31	0.32	0.33	0.34	0.34	2.8	2.2
Gross Inland Consumption *(1)*	3.11	3.07	3.03	3.14	3.39	3.53	3.75	4.1	6.2
Solids	1.42	1.29	1.05	1.09	1.15	1.12	1.06	-3.9	-5.8
Oil	1.06	1.15	1.30	1.34	1.47	1.61	1.87	10.2	16.2
Natural Gas	0.30	0.30	0.34	0.35	0.41	0.43	0.45	8.2	4.0
Other *(2)*	0.34	0.32	0.34	0.36	0.37	0.37	0.37	2.9	1.4

(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

In Luxembourg there is very little production of **electricity.** Hydro (mainly from pumping stations) corresponds to 53% of total output in 1991 (45% in 1985). Electricity imported (almost all from Germany) covered 95% of final electricity consumption in 1991 (94% in 1985). Total electricity generating capacity has been stable since 1985 at 1.24 GW. Given that total output has increased, the load factor has improved from 8.7% in 1985 to 13.3% in 1991.

Electricity

Luxembourg	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	0.94	1.02	1.04	1.33	1.38	1.38	1.44	7.1	4.3
TWh									
from pumping	*0.42*	*0.44*	*0.45*	*0.72*	*0.75*	*0.75*	*0.77*	*11.6*	*2.0*
Hydro (without pumping)	0.08	0.09	0.10	0.09	0.07	0.07	0.05	-8.9	-20.5
Derived	0.44	0.49	0.48	0.52	0.56	0.56	0.62	4.7	10.4
Nuclear	-	-	-	-	-	-	-	-	-
Thermal Conventional	*0.44*	*0.49*	*0.48*	*0.52*	*0.56*	*0.56*	*0.62*	*4.7*	*10.4*
Net Imports	3.54	3.49	3.55	3.73	3.82	3.91	4.00	2.8	2.2
Gross Inland Consumption	4.48	4.51	4.59	5.07	5.20	5.29	5.43	3.8	2.7
Own Consumption	0.66	0.67	0.67	1.04	1.09	1.11	1.11	10.7	-0.4
Available Internal Market	3.82	3.84	3.92	4.03	4.12	4.18	4.33	2.4	3.6
Distribution Losses	0.04	0.03	0.03	0.05	0.06	0.06	0.12	32.5	102.4
Energy Branch Consumption	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Final Consumption	3.78	3.81	3.89	3.98	4.06	4.12	4.21	2.0	2.2
Power Generation Capacities	1.24	1.24	1.24	1.24	1.24	1.24	1.24	0.0	0.0
GW									
Nuclear	-	-	-	-	-	-	-	-	-
Conventional Thermal	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.0	0.0
Hydro (Incl. pumping)	1.13	1.13	1.13	1.13	1.13	1.13	1.13	0.0	0.0
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Inputs to Thermal Power Stations	0.15	0.16	0.16	0.17	0.19	0.20	0.20	4.7	-0.8
Mtoe									
Solids	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-	-
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Oil	0.00	0.02	0.01	0.02	0.01	0.01	0.00	-	-
Gas	0.10	0.11	0.13	0.13	0.15	0.16	0.17	8.7	4.5
of which Natural Gas	*0.00*	*0.00*	*0.02*	*0.01*	*0.01*	*0.01*	*0.01*	*110.3*	*-29.5*
Renewable	0.03	0.02	0.03	0.03	0.03	0.03	0.03	8.1	-3.8



Energy intensity in Luxembourg is the highest in the Community due in part to the high share of the iron and steel industry in total consumption. The level of intensity, which had been almost stable since 1986 increased 3.2% in 1991. However, this increase is not due to loss of efficiency in industry but to the significant increases of demand in the domestic and tertiary sectors as well as in transport. For the same reasons, total CO2 emissions, which had been increasing at 2.4% per year since 1986, increased 5.7% in 1991.

Main Indicators

Luxembourg	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	0.37	0.37	0.37	0.38	0.38	0.38	0.38	0.4	0.1
GDP (bil. ECU 85)	4.6	4.8	4.9	5.2	5.5	5.6	5.8	4.0	2.9
Private Consumption (bil. ECU 85)	2.7	2.8	2.9	3.0	3.1	3.2	3.4	4.1	4.1
Industrial Production (85=100)	100.0	102.1	101.2	110.0	118.6	118.0	118.6	3.0	0.5
GDP per capita (ECU 85/capita)	12452	12943	13220	13848	14642	14984	15403	3.5	2.8
Prim. En. Cons. per cap. (Kgoe/capita)	8483	8288	8149	8381	8982	9368	9938	3.7	6.1
Prim. En. Cons. / GDP (toe/MECU 85)	681.2	640.4	616.4	605.2	613.4	625.2	645.2	0.2	3.2
Final En. Cons. / GDP (toe/MECU 85)	645.5	606.9	582.9	571.8	578.7	584.2	611.0	0.1	4.6
Elect. Cons. / GDP (MWh/MECU 85)	827.6	795.5	790.9	766.2	735.8	729.3	724.2	-1.9	-0.7
Industrial Cons. / Ind. Prod. (85=100)	100.0	92.3	86.6	83.8	83.9	82.2	80.6	-2.7	-1.9
Import Dependency (%)	99.53	99.55	99.58	98.19	98.75	99.39	98.60	-0.2	-0.8
Oil Dependency (%)	34.50	37.89	43.64	41.84	43.12	45.87	49.27	5.4	7.4
CO2 Emissions (Mt of CO2)	12.2	11.7	11.0	11.5	12.3	12.5	13.2	2.4	5.7
Power Generation	1.1	1.2	1.1	1.2	1.4	1.5	1.6	6.3	4.1
Energy Sector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industry	7.9	7.2	6.3	6.7	7.1	6.6	6.5	-2.1	-2.5
Transports	1.8	1.9	2.1	2.2	2.6	3.1	3.6	13.8	17.9
Other	1.4	1.5	1.4	1.4	1.3	1.3	1.6	1.4	20.2
CO2 Emissions per capita (t/capita)	33.1	31.6	29.5	30.7	32.8	33.1	35.0	2.0	5.5
Degree Days	3442	3290	3410	2877	2804	2721	3189	-0.6	17.2

Energy prices to consumers in current terms generally decreased from 1985 to 1992, except for transport fuels. Looking at prices without taxes, for heavy fuel oil they decreased less than those in the spot market until 1991, but in 1992 they dropped faster than in the spot market. Energy prices in current terms for industry showed a general decline from 1986 to 1992, except for electricity and heavy fuel oil after 1991.

In 1992 while oil prices increased by 4.9%, prices for natural gas dropped 2.9% in current terms (from 1986 to 1991 they dropped 9.2% per year on average). Electricity prices in 1992 had a slight increase against an average annual decrease of 1.5% between 1986 and 1991. Developments in energy prices for the domestic/tertiary sector were similar to those in industry. Since 1986, all energy prices have been decreasing.

Energy Prices to Consumers in Current LUF per Unit

Luxembourg	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	27.4	20.9	20.2	21.2	22.6	22.9	22.6	24.0	1.6	6.2
without taxes	*l*	*15.5*	*9.7*	*9.1*	*8.9*	*10.2*	*10.5*	*10.2*	*9.1*	*1.2*	*-11.3*
Diesel	l	19.2	13.3	12.2	11.6	12.5	13.5	13.4	14.6	0.1	9.1
without taxes	*l*	*14.9*	*8.9*	*7.9*	*7.3*	*8.2*	*9.2*	*9.1*	*7.9*	*0.2*	*-12.7*
Industry											
Steam coal	t	na	na	na	na	na	na	na	na	-	-
without taxes	*t*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Heavy fuel oil 3.5% S	t	11060	7566	4720	3541	4645	4432	4007	4304	-11.9	7.4
without taxes	*t*	*10967*	*4325*	*4620*	*3441*	*4545*	*4332*	*3907*	*3752*	*-2.0*	*-4.0*
Natural gas	toe	13667	12834	6470	6470	5855	7440	7920	7692	-9.2	-2.9
without taxes	*toe*	*13667*	*12834*	*6470*	*6470*	*5855*	*7440*	*7920*	*7692*	*-9.2*	*-2.9*
Electricity	kWh	2.48	2.37	2.44	2.41	2.37	2.37	2.20	2.21	-1.5	0.6
without taxes	*kWh*	*2.48*	*2.37*	*2.44*	*2.41*	*2.37*	*2.37*	*2.20*	*2.21*	*-1.5*	*0.6*
Domestic/Tertiary											
Heating oil	kl	15064	9525	7662	7218	8173	8967	9064	7807	-1.0	-13.9
without taxes	*kl*	*14212*	*8986*	*7229*	*6759*	*7712*	*8459*	*8550*	*7280*	*-1.0*	*-14.9*
Natural gas	toe	15727	14969	8096	7346	6656	8485	9468	8796	-8.8	-7.1
without taxes	*toe*	*15727*	*14969*	*8096*	*7346*	*6656*	*8485*	*9468*	*8796*	*-8.8*	*-7.1*
Electricity	kWh	4.22	4.16	4.21	4.31	4.13	4.22	4.06	4.08	-0.5	0.5
without taxes	*kWh*	*3.98*	*3.92*	*3.97*	*4.06*	*3.90*	*3.98*	*3.83*	*3.85*	*-0.5*	*0.5*
Memo item:											
Natural gas average import price	*toe*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Heavy fuel oil 3.5% S spot Rotterdam	*t*	*9017*	*3283*	*3676*	*2513*	*3430*	*3318*	*2640*	*2594*	*-4.3*	*-1.7*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

In 1992, developments were totally different with heating oil prices dropping 15.3% but electricity increasing 0.5%; natural gas prices continued to drop by 7.1%. However, looking at prices in constant 1990 terms, all energy prices (including transport fuels) decreased in the 1986 to 1991 period. In 1992, this drop continued, except for transport fuels and heavy fuel oil for industry.

Considering prices on a common energy unit, heavy fuel oil for industry was in 1992 some 43% cheaper than natural gas, while it had been only 17% less expensive in 1989. The domestic sector saw the prices of natural gas becoming gradually cheaper relative to heating oil until 1991. While gas was 30% more expensive than heating oil in 1986, it was 7% cheaper in 1992.

Energy Prices to Consumers in Constant 1990 ECU per toe

Luxembourg	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1000	759	735	759	78	768	734	757	-0.7	3.2
Diesel	602	414	382	358	373	387	372	394	-2.1	6.0
Industry										
Steam coal	na	na	na	na	na	na	na	na	-	-
Heavy fuel oil 3.5% S	297	203	127	94	119	109	96	100	-13.9	4.3
Natural gas	na	329	166	163	143	175	181	171	-11.2	-5.7
Electricity	na	705	726	708	673	649	584	571	-3.7	-2.3
Domestic/Tertiary										
Heating oil	466	294	236	219	240	254	249	209	-3.2	-16.4
Natural gas	404	383	208	186	163	200	216	195	-10.8	-9.8
Electricity	1260	1238	1254	1265	1174	1157	1079	1053	-2.7	-2.4

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

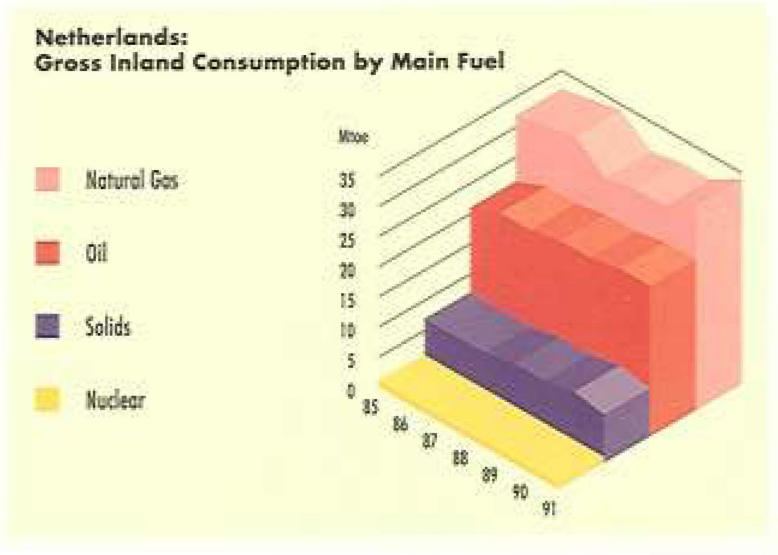
NETHERLANDS

The rate of growth in total **final energy consumption** in 1991 was 5.0% against a quite stable level over the past five years. This relatively stable demand resulted mainly from the reduction of energy consumption in industry, which dropped 2.0% per year on average since 1986 and 4.8% in 1991. The high growth rate for total final demand in 1991 is due, as in other Member States, to a return to average winter conditions. In fact, energy demand in the domestic and tertiary sectors increased 13.4%. This increase was reflected mainly in a growth in demand for natural gas (16.1%), oil (8.2%) and electricity (5.1%). Energy demand in transport increased only 1.8% in 1991, against an annual average of 2.7% since 1986.

Total **primary energy consumption** increased 4.6% in 1991, mainly for natural gas which is the predominant fuel (50% of total demand). Oil consumption also increased (1.9%) but in line with the trend of the last five years. Solids demand had increased until 1990 but lost 11.5% in 1991, mainly due to lower use in power generation and in industry to a lesser extent.

Final Energy Consumption

Netherlands	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	13.80	13.90	13.33	13.02	12.14	13.23	12.59	-2.0	-4.8
Solids	1.99	1.72	1.73	1.69	1.43	1.70	1.37	-4.4	-19.4
Oil	1.77	2.46	2.44	1.73	0.97	1.37	1.00	-16.5	-26.9
Gas	7.37	6.93	6.34	6.62	6.70	7.03	7.06	0.4	0.4
Electricity	2.43	2.45	2.54	2.71	2.78	2.86	2.86	3.1	0.0
Heat	0.25	0.35	0.28	0.27	0.26	0.27	0.30	-3.1	9.7
Transports	8.80	9.20	9.30	9.69	11.65	10.32	10.51	2.7	1.8
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Oil	8.71	9.11	9.20	9.59	11.54	10.21	10.39	2.7	1.8
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.10	0.10	0.10	0.10	0.10	0.11	0.12	3.4	6.4
Other	19.72	20.38	20.52	18.98	18.87	19.21	21.79	1.3	13.4
Solids	0.04	0.03	0.02	0.02	0.01	0.02	0.01	-12.7	-39.8
Oil	1.72	2.20	1.64	1.84	1.70	1.62	1.75	-4.5	8.2
Gas	15.20	15.35	15.89	14.05	13.97	14.21	16.50	1.5	16.1
Electricity	2.76	2.80	2.96	3.07	3.18	3.35	3.53	4.7	5.1
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Total	42.32	43.49	43.15	41.69	42.66	42.75	44.89	0.6	5.0



Domestic production is dominated by natural gas (93%). There is also some production of oil and nuclear, both in decline, and of renewable energy sources (mainly wind) which have been increasing quite rapidly. The Netherlands is an important net exporter of natural gas for the rest of the Community. These exports increased 14.6% in 1991 to a level of 27.3 Mtoe. Oil trade is also an important feature in the Netherlands. While it imports a large amount of crude oil (51.9 Mtoe in 1991) it shows significant exports of finished oil products (19.2 Mtoe in 1991).

Supply

Netherlands	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	64.75	62.18	61.88	55.22	59.29	59.74	66.58	1.4	11.4
Solids	0.07	0.00	0.00	0.00	0.00	0.00	0.00	-	-
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Oil	4.10	5.04	4.71	4.30	3.87	4.03	3.76	-5.7	-6.7
Natural Gas	59.52	55.97	56.13	49.59	54.22	54.61	61.74	2.0	13.1
Nuclear	0.98	1.06	0.90	0.92	1.00	0.88	0.84	-4.6	-4.9
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Hydro	0.00	0.00	0.00	0.00	0.01	0.01	0.01	107.4	-10.1
Other Renewable	0.08	0.11	0.14	0.40	0.20	0.20	0.22	15.8	10.7
Net Imports	4.40	13.33	11.38	20.27	16.22	17.51	14.53	1.7	-17.0
Solids	6.60	6.90	7.08	8.21	8.22	9.49	8.32	3.8	-12.3
of which Hard Coal	*6.85*	*6.56*	*7.39*	*8.47*	*8.48*	*9.77*	*8.79*	*6.0*	*-10.0*
Crude Oil	38.69	46.11	47.73	50.75	50.55	48.11	51.93	2.4	7.9
Oil Products	-14.12	-16.41	-21.23	-20.07	-19.96	-17.08	-19.22	3.2	12.5
Natural Gas	-27.21	-23.45	-22.50	-19.12	-23.01	-23.80	-27.29	3.1	14.6
Electricity	0.44	0.19	0.31	0.50	0.42	0.79	0.79	33.3	-0.6
Gross Inland Consumption *(1)*	61.21	64.05	65.27	64.53	64.92	66.39	69.43	1.6	4.6
Solids	6.59	7.05	6.84	8.19	8.16	9.12	8.07	2.8	-11.5
Oil	20.80	23.13	23.47	24.06	23.92	24.58	25.04	1.6	1.9
Natural Gas	32.32	32.52	33.61	30.45	31.21	30.81	34.45	1.2	11.8
Other *(2)*	1.50	1.35	1.35	1.83	1.63	1.89	1.86	6.6	-1.5

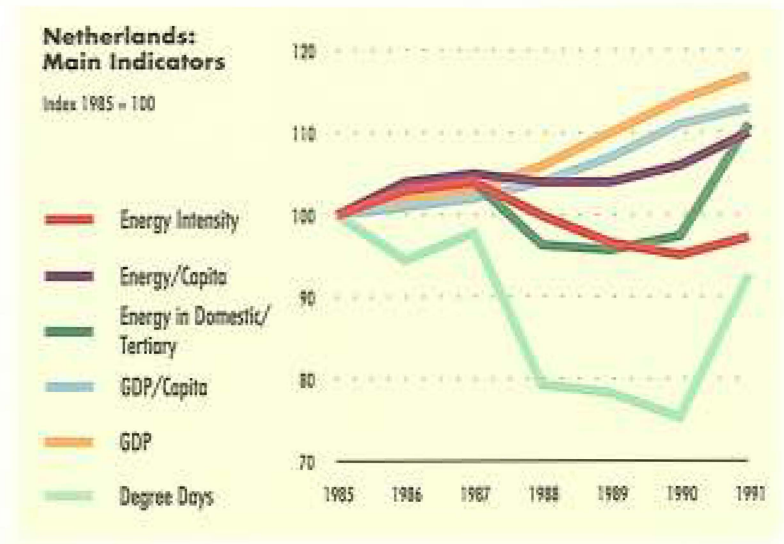
(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

Total final consumption of **electricity** grew more modestly in 1991 (2.8%) compared to the annual average of the last five years (4.0%). Electricity is produced almost wholly by conventional thermal power stations. Conventional thermal electricity generating stations mostly use natural gas. In 1991, 55% of the fuel inputs for thermal electricity generation were covered by this fuel. Solids covered 34% of inputs and oil and wind covered 5% and 2% respectively. The remaining 4% were covered by derived gases. The Netherlands is an important net importer of electricity. These imports, which show an increasing trend and accounted for 12% of final electricity demand in 1991, result from a very small expansion of the total generating system. In fact while demand increased 23% from 1985 to 1991, total capacity only increased 3.5% (600 MW: 480 MW of thermal and 120 MW in hydro and wind). The average load factor of the Dutch system has improved from 42% in 1985 to 48% in 1991.

Large natural gas exports make the Netherlands one of the least dependent countries in the European Community. Import dependency was only 6.3% in 1985 but in fact almost tripled to

Electricity

Netherlands	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	62.92	67.15	68.41	69.60	73.04	71.85	74.24	2.0	3.3
TWh									
from pumping	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Hydro (without pumping)	0.00	0.00	0.00	0.02	0.06	0.17	0.15	107.4	-10.1
Derived	62.92	67.14	68.40	69.58	72.98	71.68	74.09	2.0	3.4
Nuclear	*3.90*	*4.22*	*3.56*	*3.67*	*4.02*	*3.50*	*3.33*	*-4.6*	*-4.9*
Thermal Conventional	*59.02*	*62.93*	*64.85*	*65.91*	*68.96*	*68.18*	*70.76*	*2.4*	*3.8*
Net Imports	5.13	2.18	3.63	5.84	4.92	9.21	9.15	33.3	-0.6
Gross Inland Consumption	68.05	69.32	72.04	75.44	77.96	81.06	83.39	3.8	2.9
Own Consumption	2.39	2.57	2.29	2.47	2.47	2.49	2.60	0.3	4.5
Available Internal Market	65.66	66.75	69.74	72.98	75.49	78.57	80.79	3.9	2.8
Distribution Losses	2.61	2.79	2.79	2.79	2.88	3.07	3.16	2.5	3.0
Energy Branch Consumption	1.60	1.70	1.82	1.88	2.02	2.00	2.03	3.7	1.7
Final Consumption	61.44	62.27	65.14	68.31	70.59	73.50	75.59	4.0	2.8
Power Generation Capacities	16.95	17.43	17.28	17.44	17.29	17.46	17.55	0.1	0.5
GW									
Nuclear	0.51	0.51	0.51	0.51	0.51	0.51	0.51	-0.1	-0.6
Conventional Thermal	16.44	16.92	16.76	16.91	16.73	16.85	16.92	0.0	0.4
Hydro (Incl. pumping)	0.00	0.00	0.00	0.01	0.03	0.04	0.04	83.1	2.8
Other Renewable	0.00	0.00	0.01	0.02	0.03	0.06	0.08	94.7	32.9
Inputs to Thermal Power Stations	12.42	13.07	13.72	14.07	14.44	14.25	14.71	2.4	3.2
Mtoe									
Solids	3.17	3.49	3.87	5.00	4.91	5.70	5.05	7.7	-11.3
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Oil	0.60	0.59	0.76	0.77	0.75	0.70	0.75	4.8	6.8
Gas	8.57	8.88	8.96	7.89	8.59	7.65	8.68	-0.4	13.5
of which Natural Gas	*8.05*	*8.32*	*8.45*	*7.32*	*7.94*	*7.11*	*8.13*	*-0.5*	*14.4*
Renewable	0.08	0.11	0.14	0.40	0.20	0.20	0.22	15.8	10.7



reach 18.1% already in 1991. The main reason for this development was increased imports of crude oil prompted by the collapse of the oil price in 1986. Indeed, the oil dependency which was 35% in 1985 jumped to 40% in 1986. Since 1988, oil dependency has been fairly stable. The energy intensity of the Netherlands shows a steady decline until 1990. In 1991, there was a loss of overall efficiency and intensity increased 2.3%. This was not due to industrial behaviour given that its intensity has a clear downward trend since 1986. Due to harder climatic conditions, the demand increase in the domestic and tertiary sectors (+13.4%) was mainly responsible

Main Indicators

Netherlands	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	14.49	14.57	14.67	14.76	14.85	14.89	15.01	0.6	0.8
GDP (bil. ECU 85)	166.5	169.9	171.2	175.7	182.8	189.9	194.1	2.7	2.2
Private Consumption (bil. ECU 85)	98.7	101.8	105.8	106.8	108.6	112.5	115.9	2.6	3.0
Industrial Production (85=100)	100.0	100.0	101.0	101.0	106.0	109.0	113.0	2.5	3.7
GDP per capita (ECU 85/capita)	11492	11658	11674	11904	12308	12754	12936	2.1	1.4
Prim. En. Cons. per cap. (Kgoe/capita)	4224	4395	4451	4372	4372	4458	4626	1.0	3.8
Prim. En. Cons. / GDP (toe/MECU 85)	367.6	377.0	381.2	367.3	355.2	349.5	357.6	-1.0	2.3
Final En. Cons. / GDP (toe/MECU 85)	254.1	256.0	252.0	237.3	233.4	225.1	231.2	-2.0	2.7
Elect. Cons. / GDP (MWh/MECU 85)	368.9	366.5	380.5	388.8	386.3	387.0	389.4	1.2	0.6
Industrial Cons. / Ind. Prod. (85=100)	100.0	100.7	95.6	93.4	83.0	87.9	80.7	-4.3	-8.2
Import Dependency (%)	6.30	18.09	15.24	27.01	21.57	22.68	18.04	0.0	-20.4
Oil Dependency (%)	35.17	40.30	35.47	40.88	40.69	40.19	40.62	0.2	1.1
CO2 Emissions (Mt of CO2)	145.4	150.5	152.6	152.6	157.3	157.4	161.5	1.4	2.6
Power Generation	37.3	39.7	41.5	44.5	45.6	45.8	46.0	3.0	0.4
Energy Sector	8.7	8.7	11.1	12.0	13.2	13.1	13.2	8.7	0.8
Industry	32.4	31.9	29.9	28.5	25.7	29.3	26.8	-3.4	-8.5
Transports	26.2	27.4	27.7	28.9	34.8	30.8	31.4	2.7	1.8
Other	40.8	42.8	42.4	38.6	38.0	38.4	44.1	0.6	14.9
CO2 Emissions per capita (t/capita)	10.0	10.3	10.4	10.3	10.6	10.6	10.8	0.8	1.8
Degree Days	3072	2904	3003	2435	2404	2314	2849	-0.4	23.1

for the loss in overall efficiency. Total CO2 emissions increased 2.6% in 1991 against an annual average of 1.4% since 1986. Power generation is the largest CO2 emitter (28% of total) closely followed by the domestic and tertiary sectors (27%) and transport (19%). Industry shows a steady decline in CO2 emissions due to both a drop in total energy demand and a clear substitution of solids and oil by gas and electricity.

Oil prices to consumers generally decreased in both current and real terms from 1986 to 1992, except for transport fuels and heating oil. Indeed, the prices of these fuels had an increase even in real terms from 1986 to 1991. In 1992, while the price of gasoline continued to increase, automotive diesel and heating oil prices dropped for the first time since 1986. Looking at prices without taxes, heavy fuel oil prices have decrea-

Energy Prices to Consumers in Current HFL per Unit

Netherlands	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	1.84	1.48	1.59	1.57	1.67	1.74	1.87	1.97	4.8	5.5
without taxes	*l*	*0.82*	*0.50*	*0.48*	*0.45*	*0.55*	*0.58*	*0.57*	*0.52*	*2.6*	*-7.5*
Diesel	l	1.04	0.71	0.74	0.69	0.76	0.91	0.96	0.95	6.2	-0.6
without taxes	*l*	*0.84*	*0.52*	*0.45*	*0.40*	*0.47*	*0.51*	*0.51*	*0.47*	*-0.2*	*-8.0*
Industry											
Steam coal	t	na	na	na	na	na	na	na	na	-	-
without taxes	*t*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Heavy fuel oil 3.5% S	t	615	1451	316	259	325	336	305	312	-26.8	2.3
without taxes	*t*	*603*	*268*	*280*	*220*	*285*	*290*	*251*	*248*	*-1.3*	*-1.0*
Natural gas	toe	521	314	227	218	221	224	214	216	-7.4	0.9
without taxes	*toe*	*520*	*314*	*226*	*218*	*219*	*217*	*205*	*201*	*-8.2*	*-1.9*
Electricity	kWh	0.132	0.109	0.099	0.087	0.090	0.090	0.088	0.085	-4.2	-3.6
without taxes	*kWh*	*0.132*	*0.109*	*0.099*	*0.087*	*0.090*	*0.090*	*0.088*	*0.085*	*-4.2*	*-3.6*
Domestic/Tertiary											
Heating oil	kl	975	597	612	551	640	693	709	671	3.5	-5.3
without taxes	*kl*	*787*	*457*	*385*	*337*	*422*	*463*	*474*	*426*	*0.7*	*-10.1*
Natural gas	toe	813	802	576	556	530	611	687	675	-3.1	-1.8
without taxes	*toe*	*683*	*674*	*479*	*462*	*446*	*510*	*569*	*538*	*-3.3*	*-5.3*
Electricity	kWh	0.290	0.230	0.218	0.207	0.210	0.216	0.219	0.211	-1.0	-3.6
without taxes	*kWh*	*0.244*	*0.192*	*0.182*	*0.175*	*0.177*	*0.182*	*0.185*	*0.178*	*-0.7*	*-3.6*
Memo item:											
Natural gas average import price	*toe*	-	-	-	-	-	-	-	-	-	-
Heavy fuel oil 3.5% S spot Rotterdam	*t*	*504*	*180*	*199*	*135*	*185*	*181*	*144*	*142*	*-4.3*	*-1.5*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

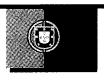
sed less than those in the spot market until 1992. Energy prices in current terms for industry showed a general decline from 1986 to 1991, particularly heavy fuel oil (-26.8% per year). Looking at prices in constant 1990 terms, all energy prices, except gasoline, decreased in 1992.

Considering prices on a common energy unit, natural gas for industry has always been cheaper than heavy fuel oil. However, the competitiveness gap has been narrowing. In fact, while natural gas was 79% cheaper than heavy fuel oil in 1986, it is now only 34% cheaper. The price of natural gas for the domestic and tertiary sectors has always been cheaper than that of heating oil, except in 1986 when it was 12% more expensive. Since 1987, however, the gap between the prices of these two fuels has narrowed.

Energy Prices to Consumers in Constant 1990 ECU per toe

Netherlands	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1178	947	1018	996	1052	1066	1104	1119	3.1	1.3
Diesel	569	388	405	375	409	480	486	464	4.6	-4.5
Industry										
Steam coal	na	na	na	na	na	na	na	na	-	-
Heavy fuel oil 3.5% S	290	683	149	121	151	152	133	130	-27.9	-1.7
Natural gas	na	141	102	98	98	97	89	86	-8.9	-3.0
Electricity	na	567	518	451	463	453	424	393	-5.7	-7.4
Domestic/Tertiary										
Heating oil	529	323	333	297	341	361	355	323	1.9	-9.0
Natural gas	367	361	260	249	235	264	286	270	-4.6	-5.6
Electricity	1522	1205	1147	1080	1081	1085	1060	982	-2.5	-7.4

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

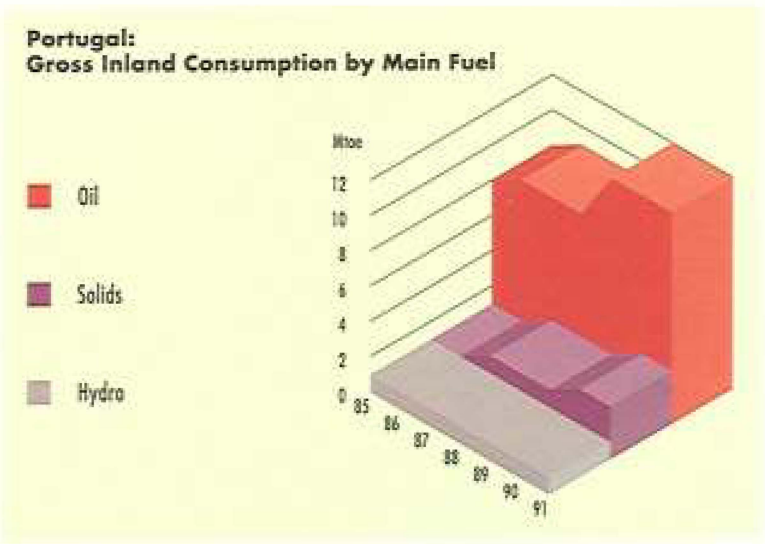


PORTUGAL

Total **final energy consumption** in 1991 was 5.2% higher than in 1990, compared to an average annual increase of 6.0% between 1986 and 1991. In 1991, GDP growth was only 1.8% but private consumption continued to show a substantial increase of 4.4%; Industrial production dropped slightly (6% per year increase on average from 1986 to 1990). In comparison with these three indicators, energy demand increased 3.5% in industry, 5.5% in the domestic/tertiary sector and 6.8% in transport. Looking at each final sector, industry increased its demand for solids by 6.5% (11.2% per year from 1986 to 1991), for oil by 4.3% (4.2% per year from 1986 to 1991) and for electricity by 2.4% (4.7% per year from 1986 to 1991). The domestic and tertiary sectors accelerated their demand for electricity from an annual average of 7.6% per year between 1986 and 1991 to 9.2% in 1991. In these two sectors, electricity penetration continued to increase from 40% in 1985 to 45% in 1991, thus displacing oil, in part due to the development of the service sector.

Final Energy Consumption

Portugal	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	3.10	2.85	3.03	3.23	3.35	3.54	3.67	5.1	3.5
Solids	0.42	0.39	0.57	0.63	0.64	0.62	0.66	11.2	6.5
Oil	1.83	1.53	1.50	1.58	1.68	1.80	1.88	4.2	4.3
Gas	0.05	0.05	0.04	0.05	0.05	0.05	0.03	-9.5	-43.8
Electricity	0.78	0.85	0.90	0.93	0.95	1.05	1.08	4.7	2.4
Heat	0.03	0.04	0.03	0.03	0.03	0.03	0.03	-6.4	12.0
Transports	2.66	2.81	3.04	3.31	3.51	3.73	3.99	7.2	6.8
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.0
Oil	2.64	2.79	3.02	3.29	3.48	3.71	3.96	7.3	6.8
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.02	0.02	0.02	0.02	0.03	0.03	0.03	4.2	3.8
Other	1.73	1.78	1.91	2.00	2.08	2.18	2.30	5.3	5.5
Solids	0.01	0.01	0.00	0.00	0.00	0.00	0.00	-27.6	0.0
Oil	0.98	1.01	1.11	1.11	1.11	1.18	1.21	3.8	2.6
Gas	0.05	0.05	0.05	0.05	0.05	0.05	0.05	3.1	3.2
Electricity	0.70	0.72	0.75	0.83	0.91	0.95	1.03	7.6	9.2
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Total	7.49	7.44	7.97	8.54	8.93	9.46	9.95	6.0	5.2



Except for hydro power and other renewable energy sources, there is almost no **primary production** of energy in Portugal. There has been a small production of solid fuels but fully dedicated to one power station. Almost 98% of **gross inland consumption** in 1991 was ensured by external supplies. Imported crude oil amounted to 68% of total net imports followed by solid fuels (18%) and finished oil products (14%). Total primary consumption is satisfied by the use of solids (19% of total demand in 1991) and oil (75% of total demand). The remaining 6% is covered by renewable energy sources. There is no natural gas use in Portugal.

Supply

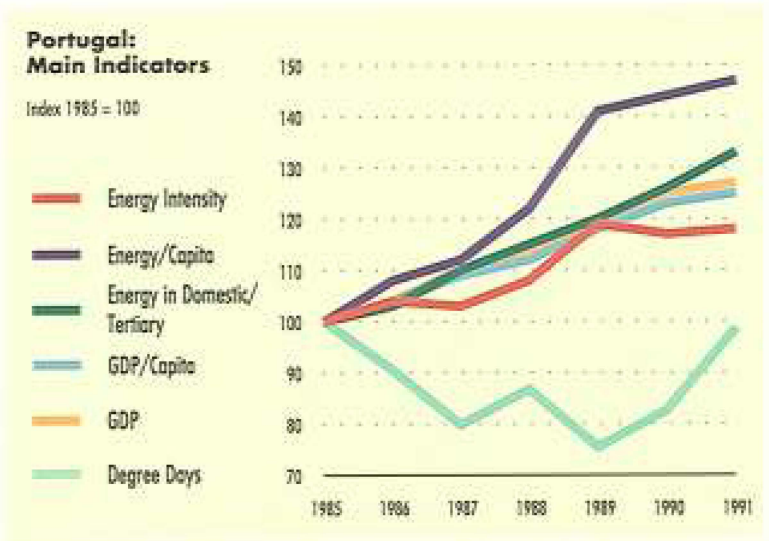
Portugal	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	1.12	0.91	1.04	1.25	0.72	1.02	1.04	2.6	1.8
Solids	0.10	0.09	0.11	0.09	0.11	0.12	0.11	5.0	-3.9
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Nuclear	-	-	-	-	-	-		-	-
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Hydro	0.93	0.73	0.79	1.05	0.50	0.79	0.78	1.1	-1.2
Other Renewable	0.10	0.09	0.14	0.10	0.11	0.11	0.15	10.4	28.1
Net Imports	9.64	10.76	11.52	11.65	14.45	15.16	15.06	7.0	-0.6
Solids	0.94	1.07	1.66	1.80	2.17	2.79	2.73	20.6	-2.2
of which Hard Coal	*0.83*	*1.02*	*1.65*	*1.79*	*2.12*	*2.79*	*2.73*	*22.0*	*-1.6*
Crude Oil	7.19	8.21	8.02	8.60	10.31	11.36	10.18	4.4	-10.4
Oil Products	1.32	1.32	1.59	1.05	1.87	1.01	2.15	10.3	113.2
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.19	0.16	0.26	0.21	0.10	0.00	0.01	-45.3	148.0
Gross Inland Consumption *(1)*	10.30	11.13	11.64	12.71	14.73	15.10	15.43	6.8	2.2
Solids	0.67	1.12	1.67	1.97	2.41	2.58	2.94	21.3	13.9
Oil	8.42	9.03	8.77	9.38	11.61	11.61	11.56	5.1	-0.4
Natural Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Other *(2)*	1.22	0.99	1.19	1.36	0.71	0.91	0.93	-1.1	3.0

(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

Electricity consumption continued to show a sustained high growth in Portugal. Total final consumption of electricity reached almost 25 TWh in 1991, increased by 5.6% compared to 1990. Electricity in Portugal is generated by hydro power (30% of total generation in 1991) and conventional thermal power stations using solids and oil. However, hydro power in Portugal is highly dependent on rainfall conditions. For example, hydro power generation in 1989 (a relatively dry year) was only 5.8 TWh compared to 12.2 TWh in 1988. Due to the strong demand increase in combination with a fairly stable hydro output, thermal power generation increased significantly by almost 12% per year since 1986. In 1991 it increased 7.8%. This development was reflected in the fuel input mix. While in 1986 solids were only 30% of total thermal inputs, they were almost 50% in 1991. Total installed capacity was 7.4 GW in 1991 which represents an annual average increase of 2.8% since 1986 (4.3% per year for thermal capacity). The increased share of thermal generating capacity resulted in an overall improvement of the average load factor from 31% in 1985 to 58% in 1991.

Electricity

Portugal	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	19.10	20.38	20.14	22.48	25.80	28.49	29.87	7.9	4.8
TWh									
from pumping	*0.09*	*0.03*	*0.03*	*0.07*	*0.26*	*0.15*	*0.13*	*36.6*	*-8.9*
Hydro (without pumping)	10.76	8.54	9.16	12.23	5.82	9.16	9.04	1.1	-1.2
Derived	8.26	11.81	10.95	10.19	19.72	19.19	20.69	11.9	7.8
Nuclear	-	-	-	-	-	-	-	-	-
Thermal Conventional	*8.26*	*11.81*	*10.95*	*10.19*	*19.72*	*19.19*	*20.69*	*11.9*	*7.8*
Net Imports	2.25	1.88	3.02	2.39	1.16	0.04	0.09	-45.3	148.0
Gross Inland Consumption	21.35	22.26	23.16	24.87	26.97	28.53	29.96	6.1	5.0
Own Consumption	0.81	0.92	0.87	0.91	1.57	1.43	1.40	8.8	-1.5
Available Internal Market	20.54	21.34	22.29	23.97	25.40	27.11	28.55	6.0	5.3
Distribution Losses	2.82	2.43	2.52	2.83	2.97	3.17	3.31	6.4	4.5
Energy Branch Consumption	0.33	0.36	0.34	0.37	0.39	0.41	0.39	1.7	-4.0
Final Consumption	17.40	18.55	19.43	20.77	22.03	23.53	24.85	6.0	5.6
Power Generation Capacities	6.08	6.46	6.85	6.87	6.38	7.40	7.41	2.8	0.2
GW									
Nuclear	-	-	-	-	-	-	-	-	-
Conventional Thermal	3.00	3.30	3.62	3.63	3.33	4.05	4.08	4.3	0.7
Hydro (Incl. pumping)	3.08	3.16	3.23	3.23	3.05	3.34	3.33	1.1	-0.3
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.0	100.0
Inputs to Thermal Power Stations	1.84	2.61	2.50	2.25	4.38	4.26	4.53	11.7	6.4
Mtoe									
Solids	0.22	0.75	1.13	1.31	1.66	2.03	2.15	23.6	6.2
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Oil	1.51	1.76	1.20	0.81	2.58	2.10	2.21	4.6	5.1
Gas	0.02	0.02	0.02	0.02	0.02	0.02	0.03	10.4	37.1
of which Natural Gas	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Renewable	0.10	0.09	0.14	0.10	0.11	0.11	0.15	10.4	28.1



The almost nonexistant conventional primary energy resources impose on Portugal a continued high dependence on imports. Restructuring of the energy system however, continued to reduce oil dependency from 82% in 1986 to 77% in 1991. Energy intensity continues to show no sign of improvement. In fact intensity increased on average 2.6% per year since 1986. In 1991 however, it only increased by 0.4%. Despite the industrialisation of the country, industry is not responsible for this development. In fact, industrial intensity decreased 0.4% per year between 1986 and 1990. Only in 1991 did it increase by 3.6%. The overall increase in energy intensity is mainly due to the strong increases in energy consumption in transport and the domestic and tertiary sectors reflecting the improve-

Main Indicators

Portugal	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	10.16	10.21	10.25	10.29	10.32	10.34	10.35	0.3	0.1
GDP (bil. ECU 85)	27.1	28.2	29.7	30.8	32.4	33.8	34.4	4.1	1.8
Private Consumption (bil. ECU 85)	18.3	19.3	20.3	21.7	22.4	23.6	24.6	5.0	4.4
Industrial Production (85=100)	100.0	107.3	112.0	116.2	124.1	135.3	135.1	0.5	-0.1
GDP per capita (ECU 85/capita)	2663.7	2760.1	2893.2	2995.5	3140.2	3272.8	3328.3	3.8	1.7
Prim. En. Cons. per cap. (Kgoe/capita)	1014	1091	1135	1235	1427	1461	1492	6.5	2.1
Prim. En. Cons. / GDP (toe/MECU 85)	380.7	395.1	392.4	412.3	454.4	446.4	448.2	2.6	0.4
Final En. Cons. / GDP (toe/MECU 85)	276.7	264.1	268.9	277.0	275.7	279.6	289.0	1.8	3.4
Elect. Cons. / GDP (MWh/MECU 85)	643.0	658.4	655.3	673.9	679.8	695.7	721.8	1.9	3.7
Industrial Cons. / Ind. Prod. (85=100)	100.0	85.8	87.2	89.6	87.1	84.5	87.5	0.4	3.6
Import Dependency (%)	89.5	92.5	94.9	88.5	94.6	96.5	93.9	0.3	-2.8
Oil Dependency (%)	79.0	81.9	79.1	73.3	79.7	78.8	76.8	-1.3	-2.5
CO2 Emissions (Mt of CO2)	26.1	28.6	29.9	30.8	39.2	40.0	41.9	7.9	4.7
Power Generation	6.1	9.0	8.9	8.2	15.4	15.2	16.2	12.4	6.4
Energy Sector	1.0	1.3	1.1	1.3	1.6	1.4	1.2	-0.9	-15.5
Industry	7.9	6.7	7.3	7.9	8.2	8.4	8.7	5.3	3.4
Transports	8.1	8.5	9.2	10.1	10.6	11.3	12.1	7.2	6.8
Other	3.0	3.1	3.4	3.4	3.4	3.6	3.7	3.4	2.4
CO2 Emissions per capita (t/capita)	2.6	2.8	2.9	3.0	3.8	3.9	4.0	7.6	4.6
Degree Days	1489	1348	1189	1292	1123	1231	1470	1.7	19.4

ment in living standards. Finally, CO2 emissions grew more or less in line with energy consumption (7.9% increase since 1986). This growth reflects the increased use of fossil fuels for power generation and transport. These two sectors together represented 68% of total CO2 emissions in 1991 (54% in 1985).

Energy prices to consumers generally increased in current terms from 1986 to 1991, except for steam coal in industry. In 1992, while electricity prices continued to increase in current terms, gasoline and diesel prices slightly decreased and steam coal prices showed a significant drop. Looking at prices without taxes, heavy fuel oil prices decreased more than those for steam coal until 1991; Heavy fuel oil prices before taxes are significantly more expensive than the corresponding spot levels. While in 1985 they were 39% higher than in the spot market, they were 47%

Energy Prices to Consumers in Current ESC per Unit

Portugal	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	109.0	112.9	115.3	119.0	123.8	136.6	146.6	146.0	5.4	-0.4
without taxes	*l*	*58.2*	*35.7*	*33.8*	*37.8*	*43.7*	*43.3*	*40.8*	*36.7*	*2.7*	*-10.1*
Diesel	l	66.0	62.3	64.9	68.5	72.2	83.0	96.2	94.6	9.1	-1.6
without taxes	*l*	*43.7*	*29.2*	*30.5*	*34.3*	*38.2*	*39.9*	*41.1*	*36.0*	*7.0*	*-12.3*
Industry											
Steam coal	t	9672	8025	7259	7231	7924	7312	7576	6721	-1.1	-11.3
without taxes	*t*	*9672*	*8025*	*7259*	*7231*	*7924*	*7312*	*7576*	*6721*	*-1.1*	*-11.3*
Heavy fuel oil 3.5% S	t	30000	25906	20637	22222	23285	26215	26249	26439	0.3	0.7
without taxes	*t*	*35931*	*18974*	*21663*	*19829*	*21398*	*20976*	*17126*	*15622*	*-2.0*	*-8.8*
Natural gas	toe	na	na	na	na	na	na	na	na	-	-
without taxes	*toe*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
LPG	t	61000	53208	39750	42000	45500	52667	66600	69600	4.6	4.5
without taxes	*t*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Electricity	kWh	9.6	10.9	11.9	13.6	14.4	16.5	18.5	19.5	11.1	5.5
without taxes	*kWh*	*8.9*	*10.1*	*11.0*	*12.6*	*13.3*	*15.3*	*17.1*	*18.1*	*11.1*	*5.5*
Domestic/Tertiary											
Heating oil	kl	na	na	na	na	na	na	na	na	-	-
without taxes	*kl*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Natural gas	toe	na	na	na	na	na	na	na	na	-	-
without taxes	*toe*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
LPG	kg	79.0	71.5	74.4	78.5	74.5	91.3	98.5	109.6	6.6	11.3
without taxes	*kg*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Electricity	kWh	12.7	14.6	16.1	17.6	19.0	21.0	23.5	25.3	9.9	7.8
without taxes	*kWh*	*11.8*	*12.5*	*13.8*	*15.1*	*16.3*	*18.0*	*20.0*	*21.5*	*9.8*	*7.9*
Memo item:											
Natural gas average import price	*toe*	-	-	-	-	-	-	-	-	-	-
Heavy fuel oil 3.5% S spot Rotterdam	*t*	*25783*	*10886*	*13861*	*9838*	*13676*	*15597*	*11155*	*10647*	*0.5*	*-4.5*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

higher in 1992. However, in 1986 they were 74% more expensive thus not fully reflecting the world-wide fall in oil prices.

In constant money terms, however, the picture is different given that prices to consumers for all energy vectors continuously dropped from 1986 to 1992, except for LPG in the domestic and tertiary sectors. During 1992, the sharpest drop in real prices occurred in steam coal (-18.3%) followed by automotive diesel (-9.5%), gasoline (-8.3%) and heavy fuel oil (-7.3%). While electricity real prices to industry dropped in 1992 by almost 3%, they only decreased by under 1% for the domestic/tertiary sector. Considering prices on a common energy unit, heavy fuel oil price was in 1992 more than double that of steam coal, while it was only 72% more expensive in 1987. Electricity prices for industry are over eight times higher than those for heavy fuel oil. In the domestic and tertiary sectors LPG prices have been dropping much faster than those for electricity, except in 1992 when LPG prices increased. In 1992, the electricity average price was triple that of LPG while it was only double in 1985.

Energy Prices to Consumers in Constant 1990 ECU per toe

Portugal	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1441	1336	1248	1175	1085	1057	1023	938	-5.2	-8.3
Diesel	745	630	600	578	540	548	573	519	-1.9	-9.5
Industry										
Steam coal	159	118	97	89	86	70	66	54	-11.1	-18.3
Heavy fuel oil 3.5% S	296	229	167	164	152	151	137	127	-9.8	-7.3
Natural gas	na	na	na	na	na	na	na	na	-	-
LPG	524	409	279	269	259	265	302	290	-5.9	-3.8
Electricity	na	1073	1069	1115	1043	1061	1072	1041	0.0	-2.9
Domestic/Tertiary										
Heating oil	na	na	na	na	na	na	na	na	-	-
Natural gas	na	na	na	na	na	na	na	na	-	-
LPG	678	550	452	439	424	459	446	457	-4.1	2.4
Electricity	1398	1437	1442	1440	1382	1347	1359	1349	-1.1	-0.7

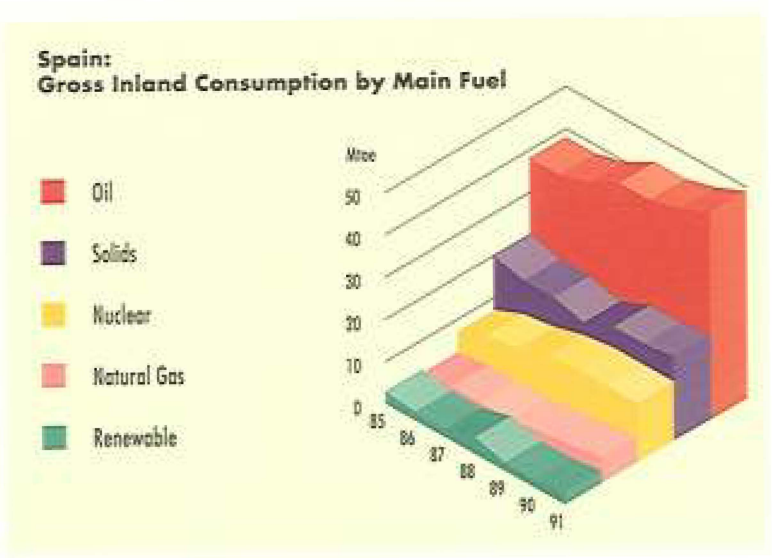
Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

SPAIN

Total **final energy consumption** in 1991 shows an acceleration (+7.5%) compared to the last five years (+5.1%). Although there was a significant increase in spacing heating needs, similarly to what happened in other Member States, the overall increase is mainly the result of a sustained increase in the transport sector (8.3%) and a strong growth in industrial demand (+4.8%), compared to the annual average growth of the last five years (2.4%). In fact, industry and transport together accounted, in 1991, for 76% of total final energy consumption. However, the growth in demand for industrial uses corresponded to a high loss in efficiency. Indeed, industrial activity lost 1% in 1991 which led to an increase of intensity in this sector of almost 6%. In terms of growth for each fuel in 1991, solids rank first with 10% followed by oil, gas and electricity with 9%, 6% and 2% respectively. However, oil continues to be the predominant fuel accounting for 65% of total final demand. Natural gas has shown a fast penetration in industry and in the domestic and tertiary sectors. Its share in the total demand of these two sectors passed from 9% in 1985 to 16% in 1991.

Final Energy Consumption

Spain	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	17.02	16.89	16.90	17.82	17.68	18.16	19.03	2.4	4.8
Solids	3.78	3.42	3.27	3.11	2.86	3.14	3.37	-0.3	7.2
Oil	6.37	6.50	6.13	6.59	5.73	5.54	5.95	-1.7	7.5
Gas	2.00	2.12	2.51	3.06	3.68	4.04	4.15	14.4	2.6
Electricity	4.87	4.85	4.99	5.06	5.41	5.44	5.56	2.8	2.3
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Transports	15.06	16.06	17.02	20.24	21.40	22.33	24.17	8.5	8.3
Solids	0.01	0.00	0.00	0.00	0.00	0.00	0.00	-	0.0
Oil	14.81	15.81	16.76	19.96	21.11	22.01	23.85	8.6	8.3
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.24	0.25	0.26	0.28	0.29	0.32	0.32	5.3	2.2
Other	11.57	11.35	11.64	11.75	11.58	12.35	13.60	3.7	10.1
Solids	0.46	0.43	0.35	0.34	0.38	0.38	0.51	3.6	34.3
Oil	6.84	6.40	6.53	6.24	5.61	6.05	6.85	1.4	13.3
Gas	0.55	0.59	0.63	0.69	0.77	0.86	1.06	12.7	23.7
Electricity	3.73	3.93	4.13	4.48	4.83	5.06	5.17	5.6	2.3
Heat	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Total	43.66	44.29	45.57	49.81	50.66	52.84	56.80	5.1	7.5



Gross inland consumption increased by 5.5% in 1991 reaching 90.5 Mtoe. At the same time total domestic production slightly decreased accounting, in 1991, for one third of total energy demand. Solids production continued to decrease (6.3% in 1991) whereas nuclear energy seems to be more or less stable after its peak in 1989 (14.4 Mtoe). In terms of fuels being consumed, oil has the largest share (54%) but natural gas shows the highest growth rate among them in 1991 (12.7%). Solid fuels consumption recorded an increase of 5.1% in 1991 against 1.6% per year on average since 1986, mainly due to a growth in industry and in the domestic sector, but not in electricity generation where it lost 1%.

Supply

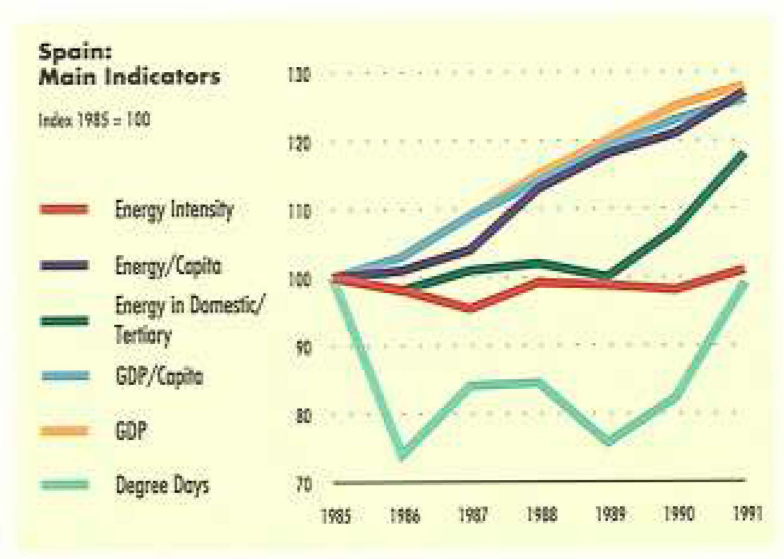
Spain	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	26.84	27.67	27.11	30.04	30.40	29.78	29.75	1.5	-0.1
Solids	13.94	13.12	11.67	11.20	11.81	11.68	10.94	-3.6	-6.3
of which Lignite	4.99	4.39	2.64	2.43	2.88	2.69	2.76	-8.8	2.8
Oil	2.44	2.11	1.63	1.48	1.04	0.79	1.05	-13.0	32.8
Natural Gas	0.23	0.33	0.64	0.81	1.37	1.27	1.19	29.0	-6.5
Nuclear	7.38	9.72	10.74	13.02	14.41	13.70	14.03	7.6	2.4
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Hydro	2.69	2.28	2.34	3.03	1.66	2.19	2.35	0.6	7.3
Other Renewable	0.16	0.12	0.10	0.50	0.12	0.15	0.19	9.4	21.3
Net Imports	45.92	45.72	48.98	53.47	57.20	60.24	63.65	6.8	5.7
Solids	5.23	5.36	5.38	5.30	6.46	7.04	8.51	9.7	20.9
of which Hard Coal	*5.03*	*5.20*	*5.27*	*5.25*	*6.33*	*6.80*	*8.45*	*10.2*	*24.2*
Crude Oil	43.72	46.82	45.30	49.95	51.31	53.63	52.88	2.5	-1.4
Oil Products	-5.07	-8.55	-3.54	-4.26	-3.48	-4.09	-2.07	-24.7	-49.3
Natural Gas	2.14	2.20	1.97	2.59	3.06	3.69	4.40	14.8	19.2
Electricity	-0.09	-0.11	-0.13	-0.11	-0.16	-0.04	-0.06	-11.6	61.6
Gross Inland Consumption *(1)*	70.27	71.29	73.10	80.00	83.41	85.84	90.53	4.9	5.5
Solids	19.68	18.40	17.57	15.72	18.75	18.94	19.91	1.6	5.1
Oil	38.10	38.33	39.87	44.49	44.19	45.92	48.51	4.8	5.6
Natural Gas	2.35	2.55	2.62	3.35	4.44	4.97	5.60	17.0	12.7
Other *(2)*	10.13	12.00	13.04	16.44	16.03	16.00	16.51	6.6	3.1

(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

Total **electricity generation** increased by 2.6% in 1991 reaching 155.7 TWh, compared to an increase of 2.3% in final electricity consumption. Spain has been a net exporter of electricity since 1985. In 1990 however, there was a break in the trend with a very significant drop in exported volumes. In 1991, exported volumes recovered (0.7 TWh) but they remain quite below their peak in 1989 (1.8 TWh). Hydro power in Spain, which is highly dependent on rainfall conditions, has lost its importance in total electricity generation from 25% in 1985 to 18% in 1991. Nuclear energy, on the contrary, has increased its participation in total generation from 22% in 1985 to 36% in 1991. As a result of these two developments, thermal generation also lost its share from 50% to 46% in the 1986 to 1991 period. Fuel inputs for thermal generation are dominated by solid fuels with 81% in 1991. While the consumption of oil has increased significantly (11% per year on average since 1986) natural gas use has steadily decreased since 1985. Indeed, natural gas use in power generation in 1991 was less than half of the volume used in 1985. Total installed capacity increased slightly in 1991. Conventional thermal capacity, which represents some 47% of total, has been practically stable since 1989. While hydro capacity has increased

Electricity

Spain	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	127.34	129.18	133.15	139.58	147.82	151.71	155.68	3.8	2.6
TWh									
from pumping	*1.77*	*0.97*	*0.78*	*1.03*	*0.70*	*0.77*	*1.01*	*0.8*	*31.3*
Hydro (without pumping)	31.26	26.49	27.22	35.23	19.35	25.41	27.28	0.6	7.3
Derived	94.31	101.72	105.15	103.32	127.77	125.53	127.39	4.6	1.5
Nuclear	*28.04*	*37.45*	*41.25*	*50.46*	*56.12*	*54.26*	*55.57*	*8.2*	*2.4*
Thermal Conventional	*66.27*	*64.26*	*63.90*	*52.86*	*71.66*	*71.28*	*71.82*	*2.2*	*0.8*
Net Imports	-1.07	-1.26	-1.53	-1.32	-1.82	-0.42	-0.68	-11.6	61.6
Gross Inland Consumption	126.27	127.92	131.62	138.26	146.00	151.29	155.00	3.9	2.4
Own Consumption	10.41	8.02	7.52	7.79	8.43	8.48	8.68	1.6	2.3
Available Internal Market	115.86	119.91	124.10	130.46	137.56	142.81	146.32	4.1	2.5
Distribution Losses	11.84	11.98	12.11	13.51	12.19	13.68	14.27	3.6	4.3
Energy Branch Consumption	1.21	2.92	2.93	2.83	2.97	3.36	3.44	3.3	2.3
Final Consumption	102.80	105.01	109.06	114.13	122.40	125.77	128.61	4.1	2.3
Power Generation Capacities	39.70	40.25	43.53	43.72	43.44	43.41	43.62	1.6	0.5
GW									
Nuclear	5.61	5.61	6.62	7.60	7.47	6.97	6.99	4.5	0.2
Conventional Thermal	19.53	19.54	20.75	20.62	20.03	20.20	20.30	0.8	0.5
Hydro (Incl. pumping)	14.56	15.10	16.16	15.50	15.95	16.23	16.34	1.6	0.7
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Inputs to Thermal Power Stations	15.88	14.71	14.75	13.00	16.98	16.69	17.03	3.0	2.0
Mtoe									
Solids	13.01	12.41	12.43	10.20	13.99	13.88	13.75	2.1	-1.0
of which Lignite	*4.86*	*4.47*	*2.67*	*2.17*	*3.04*	*2.88*	*2.75*	*-9.2*	*-4.2*
Oil	1.97	1.56	1.67	1.87	2.30	2.17	2.61	10.8	20.2
Gas	0.73	0.62	0.56	0.43	0.56	0.49	0.49	-4.6	0.2
of which Natural Gas	*0.55*	*0.47*	*0.36*	*0.22*	*0.37*	*0.27*	*0.26*	*-10.9*	*-3.0*
Renewable	0.16	0.12	0.10	0.50	0.12	0.15	0.19	9.4	21.3



in the last five years, nuclear capacity dropped slightly after 1989 due to the closure of some small units. Overall, the average Spanish load factor has improved from 37% in 1985 to 41% in 1991.

The **efficiency** of the Spanish energy system has not evolved regularly. Looking at the 1986 to 1991 period, the energy intensity oscillated until 1990 and increased 3% in 1991 mainly due to two facts: a loss of energy efficiency in industry; and an energy demand for transport growing twice as fast as GDP. While Spain has kept its oil dependency almost stable, its overall dependency shows an upward trend. A direct result of higher primary consumption, in spite of some nuclear increase, was also the rise in the general level of

Main Indicators

Spain	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	38.51	38.67	38.70	38.77	38.81	38.93	39.01	0.2	0.2
GDP (bil. ECU 85)	218.3	225.5	238.2	250.5	262.4	271.9	278.4	4.3	2.4
Private Consumption (bil. ECU 85)	140.0	145.0	153.4	160.7	169.7	176.1	181.4	4.6	3.0
Industrial Production (85=100)	100.0	103.1	107.9	111.1	116.1	116.2	115.0	2.2	-1.0
GDP per capita (ECU 85/capita)	5670	5831	6156	6462	6762	6986	7138	4.1	2.2
Prim. En. Cons. per cap. (Kgoe/capita)	1825	1844	1889	2064	2149	2205	2321	4.7	5.2
Prim. En. Cons. / GDP (toe/MECU 85)	321.8	316.1	306.9	319.3	317.8	315.7	325.1	0.6	3.0
Final En. Cons. / GDP (toe/MECU 85)	200.0	196.4	191.3	198.8	193.0	194.3	204.0	0.8	5.0
Elect. Cons. / GDP (MWh/MECU 85)	470.9	465.7	457.8	455.6	466.4	462.5	461.9	-0.2	-0.1
Industrial Cons. / Ind. Prod. (85=100)	100.0	96.2	92.0	94.2	89.4	91.8	97.2	0.2	5.9
Import Dependency (%)	63.00	61.24	63.81	64.27	66.07	67.20	67.46	2.0	0.4
Oil Dependency (%)	53.03	51.26	54.41	54.93	55.25	55.27	53.84	1.0	-2.6
CO2 Emissions (Mt of CO2)	184.8	182.7	184.0	188.7	205.2	209.9	223.4	4.1	6.5
Power Generation	62.7	58.2	58.1	50.3	66.5	65.4	66.5	2.7	1.7
Energy Sector	9.0	10.3	10.2	11.2	11.3	11.7	12.7	4.3	8.9
Industry	44.2	43.8	42.1	44.6	43.0	44.1	46.6	1.2	5.7
Transports	45.3	48.3	51.2	61.0	64.6	67.3	72.9	8.6	8.3
Other	23.6	22.2	22.4	21.5	19.9	21.4	24.7	2.1	15.3
CO2 Emissions per capita (t/capita)	4.8	4.7	4.8	4.9	5.3	5.4	5.7	3.9	6.2
Degree Days	1800	1332	1513	1521	1362	1481	1784	6.0	20.5

CO2 emissions, up by 6.5% in 1991 (+4.1% per year since 1986). The transport sector is largest CO2 emitter with 33% of total in 1991. Power generation ranks second with 30%.

Energy prices to industrial consumers of fossil fuels generally decreased in current terms from 1986 to 1992, while electricity tariffs increased. The prices of transport fuels have increased in the same period but not in real terms; gasoline real price increased in 1992. The domestic and tertiary sectors saw their energy prices increase up to 1991, except for natural gas but in real terms there was a general drop in energy prices, except electricity. In 1992, however, the price of heating oil dropped while that for natural gas

Energy Prices to Consumers in Current PTA per Unit

Spain	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	93.0	82.0	78.0	75.5	76.6	82.8	88.3	96.2	1.5	9.0
without taxes	*l*	*56.5*	*27.0*	*27.5*	*26.1*	*27.7*	*30.6*	*30.3*	*29.0*	*2.3*	*-4.3*
Diesel	l	62.0	53.6	51.8	50.2	50.9	55.6	62.2	65.3	3.0	5.0
without taxes	*l*	*50.0*	*26.8*	*26.3*	*24.3*	*26.5*	*28.7*	*29.9*	*27.5*	*2.2*	*-8.0*
Industry											
Steam coal	t	na	na	na	na	na	na	na	na	-	-
without taxes	*t*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Heavy fuel oil 3.5% S	t	32500	22401	14286	13830	14118	14745	13306	12955	-9.9	-2.6
without taxes	*t*	*32000*	*17715*	*14133*	*9744*	*12101*	*13343*	*11623*	*11255*	*-8.1*	*-3.2*
Natural gas	toe	42683	36210	29705	28886	29296	34179	31696	28059	-2.6	-11.5
without taxes	*toe*	*42042*	*35675*	*29266*	*28459*	*28863*	*33674*	*31228*	*27644*	*-2.6*	*-11.5*
Electricity	kWh	7.88	8.63	9.49	9.91	10.47	10.88	11.64	12.08	6.2	3.8
without taxes	*kWh*	*7.08*	*7.71*	*8.47*	*8.85*	*9.35*	*9.71*	*10.39*	*10.79*	*6.2*	*3.8*
Domestic/Tertiary											
Heating oil	kl	45000	41252	34000	32903	33411	39113	41723	41363	0.2	-0.9
without taxes	*kl*	*43000*	*23550*	*21994*	*19879*	*20615*	*25160*	*27253*	*26355*	*3.0*	*-3.3*
Natural gas	toe	70453	75736	56900	56293	57366	60122	63039	68244	-3.6	8.3
without taxes	*toe*	*69401*	*66891*	*50132*	*49597*	*50848*	*53291*	*55876*	*60490*	*-3.5*	*8.3*
Electricity	kWh	14.59	15.57	16.02	16.97	18.10	18.89	21.40	22.35	6.6	4.4
without taxes	*kWh*	*13.39*	*13.90*	*14.31*	*15.15*	*16.16*	*16.87*	*19.11*	*19.96*	*6.6*	*4.4*
Memo item:											
Natural gas average import price	*toe*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	-	-
Heavy fuel oil 3.5% S spot Rotterdam	*t*	*25803*	*10284*	*12161*	*7962*	*10307*	*10121*	*8031*	*7976*	*-4.8*	*-0.7*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

increased, even in real terms. Looking at prices without taxes, heavy fuel oil prices decreased more than those in the spot market. In 1992, while the price of natural gas (before taxes) to industry dropped 11.5%, the corresponding price to the domestic and tertiary sectors increased substantially (8.3%).

Considering prices on a common energy unit, heavy fuel oil price was in 1992 about half that of natural gas, while it was only 20% less expensive in 1985. Heating oil for the domestic sector was in 1992 27% cheaper than natural gas; in 1986 and 1991 heating oil was 34% and 20% cheaper than natural gas respectively.

Energy Prices to Consumers in Constant 1990 ECU per toe

Spain	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1379	1117	1010	933	886	897	902	929	-4.2	2.9
Diesel	789	627	576	532	506	518	546	542	-2.7	-0.8
Industry										
Steam coal	na	na	na	na	na	na	na	na	-	-
Heavy fuel oil 3.5% S	360	228	138	128	122	119	102	93	-14.9	-8.1
Natural gas	452	352	274	255	242	264	231	193	-8.1	-16.4
Electricity	969	976	1020	1016	1005	978	987	968	0.2	-2.0
Domestic/Tertiary										
Heating oil	573	483	378	349	332	364	366	343	-5.4	-6.4
Natural gas	745	736	526	496	473	465	460	470	-9.0	2.2
Electricity	1795	1760	1721	1740	1737	1699	1815	1790	0.6	-1.4

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

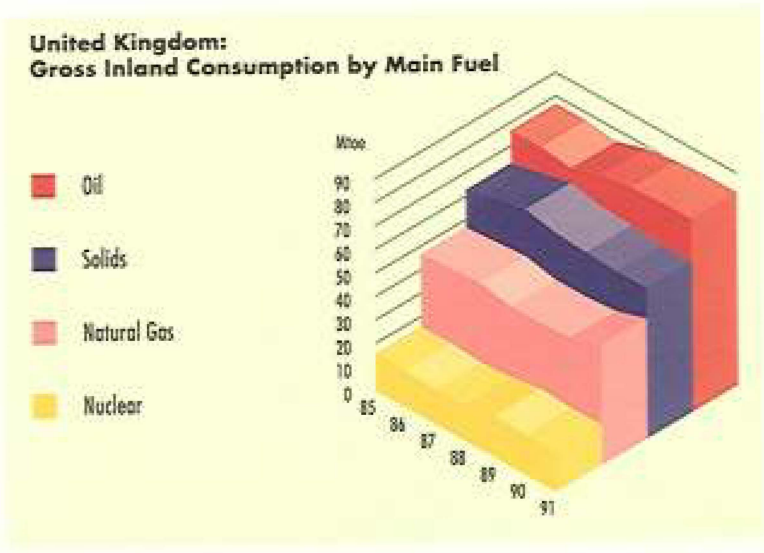
UNITED KINGDOM

Total **final energy consumption** increased in 1991 by 3.3%. This development was mainly due to the fact that 1990 energy demand levels were abnormally low due to very mild climatic conditions. Since 1986, final demand for energy grew at 1.4% per year on average reflecting a 2.0% annual average of GDP growth combined with a reduction in energy intensity of some 1.1% per year. In spite of a drop in GDP growth (-2.2%) in 1991, a more normal winter with a general decrease in energy prices resulted in an increase in energy demand. This is why only the domestic and tertiary sectors showed an increase in consumption (10.1%) while both industry and transport dropped 1.3% and 1.7% in energy demand respectively. Electricity demand in 1991 recorded the smallest growth among all fuels for the domestic and tertiary sectors, although the rate is more than double that of the last five years. In this sector, natural gas in 1991 continued its penetration, accounting for 54% of total consumption of these sectors. Oil and solids saw their downward trend reversed in 1991 but to levels 13% and 31% lower than in 1986. In industry, solids continued to diminish and gas and electricity consumption dropped 4.9% and 1.1% respectively. In 1991, oil increased by 8.9% in industry but it presented approximately the same level as in 1986.

Primary energy production in the United Kingdom is highly diversified. In 1991, the production of crude oil registered the first modest annual increase (0.6%). In fact oil production

Final Energy Consumption

United Kingdom	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Industry	32.25	32.57	33.79	35.14	34.85	34.00	33.56	0.6	-1.3
Solids	6.82	7.17	7.06	7.61	6.74	6.86	6.47	-2.0	-5.8
Oil	6.98	7.45	6.61	7.44	7.62	6.89	7.50	0.1	8.9
Gas	10.88	10.32	12.11	11.29	11.50	11.15	10.60	0.5	-4.9
Electricity	7.57	7.63	8.01	8.36	8.55	8.65	8.56	2.3	-1.1
Heat	0.00	0.00	0.00	0.44	0.44	0.45	0.43	0.0	-2.7
Transports	34.82	37.17	39.20	41.66	44.34	45.45	44.70	3.8	-1.7
Solids	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Oil	34.56	36.91	38.93	41.38	44.06	45.00	44.24	3.7	-1.7
Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Electricity	0.25	0.26	0.26	0.28	0.27	0.45	0.45	11.9	-0.2
Other	58.81	60.98	60.07	59.05	56.92	56.44	62.13	0.4	10.1
Solids	9.13	8.69	7.88	7.23	6.31	5.18	6.00	-7.1	16.0
Oil	8.65	8.45	7.60	7.59	7.08	6.90	7.31	-2.8	6.0
Gas	28.03	30.20	30.60	30.06	29.10	29.87	33.67	2.2	12.7
Electricity	12.99	13.63	13.99	14.18	14.43	14.49	15.15	2.1	4.6
Heat	0.01	0.01	0.00	0.00	0.00	0.00	0.00	-	-
Total	125.87	130.71	133.06	135.84	136.10	135.88	140.39	1.4	3.3



had been dropping since its peak of 129.9 Mtoe in 1985. However, due to accrued demand for oil, the United Kingdom for the first time in 1991 recorded a net import of crude oil, while in 1985 it net exported 45.7 Mtoe. Coal continued to be the second most important source of primary energy in the United Kingdom. An increase in production of 3.4% in 1991 reversed the trend of 2.3% per year average drop since 1986. The United Kingdom is also the second producer of natural gas in the Community, after the Netherlands. Primary production in 1991 significantly increased (11.3%) compared to the annual average growth of almost 4% per year since 1986. However, production of natural gas is not yet enough to cover primary consumption, and net imports, although they continued to drop, amounted to 5.6 Mtoe in 1991.

Supply

United Kingdom	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
Mtoe								Annual % Change	
Primary Production	236.70	246.20	241.40	232.21	208.47	204.87	212.65	-2.9	3.8
Solids	54.74	62.94	60.86	60.51	58.92	54.05	55.88	-2.3	3.4
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Oil	129.91	129.61	125.89	116.75	93.95	92.18	92.76	-6.5	0.6
Natural Gas	35.72	37.56	39.32	37.85	37.07	40.92	45.55	3.9	11.3
Nuclear	15.98	15.69	14.98	16.34	17.73	16.57	17.29	2.0	4.3
Geothermal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	-
Hydro	0.35	0.40	0.35	0.40	0.40	0.44	0.39	-0.5	-11.8
Other Renewable	0.00	0.00	0.00	0.36	0.40	0.71	0.76	0.0	8.0
Net Imports	-31.90	-34.79	-32.53	-19.04	7.99	7.35	11.24	-	53.0
Solids	6.58	4.92	5.58	7.89	7.59	9.12	11.54	18.6	26.4
of which Hard Coal	*7.21*	*5.66*	*5.73*	*7.76*	*7.54*	*9.17*	*11.52*	*15.3*	*25.6*
Crude Oil	-45.72	-44.37	-40.40	-28.07	-0.99	-3.13	1.98	-	-
Oil Products	-4.15	-6.31	-8.68	-8.90	-8.50	-5.86	-9.26	8.0	58.1
Natural Gas	11.39	10.61	9.97	8.93	8.80	6.18	5.57	-12.1	-9.8
Electricity	0.00	0.37	1.00	1.10	1.09	1.03	1.41	31.0	37.4
Gross Inland Consumption *(1)*	203.69	207.75	208.97	209.68	211.82	211.93	216.92	0.9	2.4
Solids	62.77	66.23	68.99	66.28	64.97	64.25	63.99	-0.7	-0.4
Oil	77.48	76.90	74.95	78.99	81.49	81.73	82.18	1.3	0.6
Natural Gas	47.11	48.17	48.70	46.21	45.76	47.20	50.90	1.1	7.8
Other *(2)*	16.33	16.45	16.33	18.20	19.61	18.75	19.85	3.8	5.9

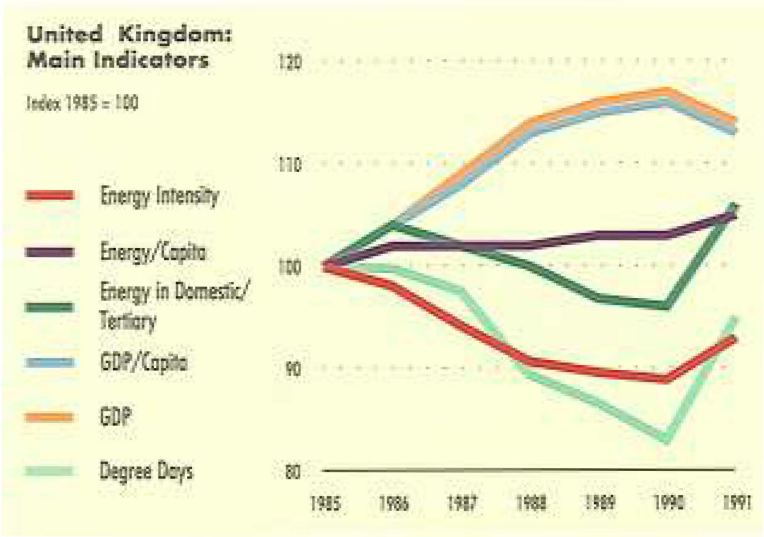
(1) Excluding bunkers
(2) Includes nuclear,hydro and other renewable

Final **electricity** demand continued to increase in 1991 by 2.4%. In the United Kingdom electricity is generated mainly by both nuclear and conventional power stations, with hydro accounting only for some 1%. In 1991, nuclear output increased significantly by 7.3% (3.6% per year on average since 1986) while conventional thermal generation was kept almost constant. Solids accounted for 84% of inputs for thermal generation (77% in 1985). Oil for power generation has decreased while natural gas continued to penetrate this market, although still kept at a rather low level. Total installed capacity has been fairly stable attaining 70 GW in 1991. Nuclear capacity grew from 9.7 GW in 1985 to 11.4 GW in 1990 and 1991. It is clear that the construction of generating capacity has not kept pace with growth in final electricity demand. Thus the United Kingdom has increasingly imported electricity, accounting in 1991 for 6% of final demand (0% in 1985). On average the load factor of the United Kingdom electricity system improved from 49% in 1985 to 53% in 1991.

The United Kingdom has become a net energy importer since 1989. While it continues to be a net exporter of oil products, the United Kingdom is a net importer of all other energy forms

Electricity

United Kingdom	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Total Generation	298.04	301.56	302.40	308.08	313.77	318.86	322.08	1.3	1.0
TWh									
from pumping	*2.83*	*2.42*	*2.21*	*2.32*	*1.94*	*1.92*	*1.52*	*-8.9*	*-20.8*
Hydro (without pumping)	4.09	4.61	4.04	4.65	4.63	5.08	4.48	-0.5	-11.8
Derived	291.11	294.53	296.15	301.11	307.20	311.85	316.07	1.4	1.4
Nuclear	*61.08*	*59.07*	*55.23*	*63.44*	*71.72*	*65.74*	*70.53*	*3.6*	*7.3*
Thermal Conventional	*230.03*	*235.46*	*240.93*	*237.67*	*235.48*	*246.12*	*245.54*	*0.8*	*-0.2*
Net Imports	0.00	4.25	11.63	12.83	12.63	11.94	16.40	31.0	37.4
Gross Inland Consumption	298.04	305.82	314.03	320.91	326.40	330.80	338.48	2.1	2.3
Own Consumption	24.33	23.32	22.95	23.25	22.95	22.13	22.19	-1.0	0.3
Available Internal Market	273.71	282.50	291.08	297.66	303.44	308.67	316.29	2.3	2.5
Distribution Losses	22.64	22.53	22.57	23.34	24.25	24.41	25.63	2.6	5.0
Energy Branch Consumption	9.05	9.75	9.65	8.99	8.85	9.88	9.68	-0.2	-2.1
Final Consumption	242.02	250.22	258.86	265.32	270.34	274.38	280.99	2.3	2.4
Power Generation Capacities	70.19	69.02	70.50	73.63	74.09	73.01	70.02	0.3	-4.1
GW									
Nuclear	9.65	9.65	10.13	11.85	11.08	11.35	11.35	3.3	0.0
Conventional Thermal	56.35	55.18	56.18	57.61	58.83	57.48	54.49	-0.3	-5.2
Hydro (Incl. pumping)	4.19	4.19	4.19	4.16	4.18	4.17	4.18	-0.1	0.2
Other Renewable	0.00	0.00	0.00	0.00	0.00	0.01	0.01	38.0	-16.7
Inputs to Thermal Power Stations	55.00	55.32	55.50	54.36	54.02	57.74	56.48	0.4	-2.2
Mtoe									
Solids	42.15	46.95	48.93	46.97	46.67	47.88	47.27	0.1	-1.3
of which Lignite	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	-	-
Oil	11.65	7.43	5.51	6.09	6.02	7.59	6.77	-1.8	-10.8
Gas	1.20	0.94	1.05	0.95	0.92	1.57	1.68	12.4	7.5
of which Natural Gas	*0.75*	*0.48*	*0.52*	*0.36*	*0.35*	*1.01*	*1.06*	*17.2*	*4.6*
Renewable	0.00	0.00	0.00	0.36	0.40	0.71	0.76	0.0	8.0



(solids, natural gas, crude oil and electricity). However, the United Kingdom is the only Member State with a negative oil (crude oil and finished products) dependency, in other words (more than) self-sufficient as regards this energy vector.

Energy intensity in the United Kingdom, had dropped steadily since 1986 at an annual average of 1.1%. In 1991, this trend was reversed and intensity increased 4.7%. This development is in part due to the evolution of industrial intensity, which showed some improvement until 1990 but registered an efficiency loss of 1.7% 1991. In addition, the 1991 loss of efficiency is also due to the fact that the energy growth in the domestic and tertiary sectors as well as in transport was

Main Indicators

United Kingdom	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Population (millions)	56.62	56.76	56.93	57.07	57.21	57.33	57.49	0.3	0.3
GDP (bil. ECU 85)	602.6	626.3	656.3	684.0	699.7	705.4	689.9	2.0	-2.2
Private Consumption (bil. ECU 85)	357.8	379.9	399.7	428.9	443.1	446.5	438.9	2.9	-1.7
Industrial Production (85=100)	100.0	102.4	105.7	109.5	109.9	109.3	106.1	0.7	-2.9
GDP per capita (ECU 85/capita)	10643	11033	11527	11987	12231	12305	12000	1.7	-2.5
Prim. En. Cons. per cap. (Kgoe/capita)	3598	3660	3671	3674	3703	3697	3773	0.6	2.1
Prim. En. Cons. / GDP (toe/MECU 85)	338.0	331.7	318.4	306.5	302.7	300.4	314.4	-1.1	4.7
Final En. Cons. / GDP (toe/MECU 85)	208.9	208.7	202.7	198.6	194.5	192.6	203.5	-0.5	5.6
Elect. Cons. / GDP (MWh/MECU 85)	401.6	399.6	394.4	387.9	386.4	389.0	407.3	0.4	4.7
Industrial Cons. / Ind. Prod. (85=100)	100.0	98.6	99.1	99.5	98.3	96.5	98.1	-0.1	1.7
Import Dependency (%)	-15.47	-16.55	-15.42	-9.00	3.73	3.43	5.12	-	49.5
Oil Dependency (%)	-24.19	-24.11	-23.27	-17.48	-4.43	-4.19	-3.32	-32.7	-20.8
CO2 Emissions (Mt of CO2)	553.7	569.7	575.9	579.4	573.5	581.6	588.0	0.6	1.1
Power Generation	208.7	213.2	215.9	210.9	209.5	221.5	217.2	0.4	-1.9
Energy Sector	29.1	30.0	29.6	30.4	28.1	28.4	29.1	-0.6	2.4
Industry	81.7	82.5	85.3	89.4	86.5	82.8	81.7	-0.2	-1.4
Transports	104.9	112.0	118.2	125.6	133.9	136.7	134.4	3.7	-1.7
Other	129.4	132.0	127.0	123.0	115.5	112.2	125.5	-1.0	11.9
CO2 Emissions per capita (t/capita)	9.8	10.0	10.1	10.2	10.0	10.1	10.2	0.4	0.8
Degree Days	2852	2846	2784	2551	2470	2367	2708	-1.0	14.4

higher than the GDP growth rate. Emissions of CO2 in the United Kingdom increased by 1.1% in 1991, the comparable rate having been 0.6% over the last five years. The relatively modest increase in 1991 compared to the growth in energy demand is mainly due to a reduction of emissions from the power generation sector (due to the already mentioned increase in nuclear generation) that made up for a part of the increase from transport and the domestic and tertiary sectors. In 1991, the power generation sector accounted for 37% of total CO2 emissions, while transport and the domestic and tertiary sectors accounted for 23% and 21% respectively.

Oil prices to consumers generally decreased in both current and real terms from 1985 to 1992, except for transport fuels. Looking at prices without taxes, while for heavy fuel oil they decreased faster than those in the spot market until 1991, in 1992 they decreased significantly more than in the spot market. Except electricity in current terms, energy prices for industry in both current and real terms showed a general

Energy Prices to Consumers in Current UKL per Unit

United Kingdom	Unit	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
										Annual % Change	
Transport											
Premium Gasoline	l	0.432	0.373	0.379	0.374	0.404	0.449	0.486	0.503	5.4	3.6
without taxes	*l*	*0.198*	*0.134*	*0.136*	*0.123*	*0.147*	*0.170*	*0.165*	*0.153*	*4.3*	*-6.9*
Diesel	l	0.365	0.309	0.301	0.296	0.315	0.353	0.375	0.381	3.9	1.6
without taxes	*l*	*0.215*	*0.154*	*0.137*	*0.125*	*0.142*	*0.167*	*0.166*	*0.156*	*1.4*	*-5.7*
Industry											
Steam coal	t	na	50	48	43	44	45	44	44	-2.4	0.2
without taxes	*t*	*na*	*50*	*48*	*43*	*44*	*45*	*44*	*44*	*-2.4*	*0.2*
Heavy fuel oil 3.5% S	t	155	82	89	65	74	77	67	65	-3.9	-3.8
without taxes	*t*	*147*	*74*	*81*	*57*	*66*	*69*	*58*	*55*	*-4.7*	*-5.4*
Natural gas	toe	114	101	94	92	87	89	92	90	-2.0	-2.2
without taxes	*toe*	*114*	*101*	*94*	*92*	*87*	*89*	*92*	*90*	*-2.0*	*-2.2*
Electricity	kWh	0.036	0.036	0.035	0.037	0.037	0.038	0.041	0.042	2.2	4.0
without taxes	*kWh*	*0.036*	*0.036*	*0.035*	*0.037*	*0.037*	*0.038*	*0.041*	*0.042*	*2.2*	*4.0*
Domestic/Tertiary											
Heating oil	kl	218	143	132	109	116	147	139	125	-0.5	-10.2
without taxes	*kl*	*210*	*133*	*121*	*99*	*105*	*135*	*127*	*112*	*-0.9*	*-11.9*
Natural gas	toe	162	164	162	169	178	185	190	200	3.0	5.4
without taxes	*toe*	*162*	*164*	*162*	*169*	*178*	*185*	*190*	*200*	*3.0*	*5.4*
Electricity	kWh	0.052	0.053	0.052	0.054	0.058	0.059	0.068	0.070	5.0	3.3
without taxes	*kWh*	*0.052*	*0.053*	*0.052*	*0.054*	*0.058*	*0.059*	*0.068*	*0.070*	*5.0*	*3.3*
Memo item:											
Natural gas average import price	*toe*	-	-	-	-	-	-	-	-	-	-
Heavy fuel oil 3.5% S spot Rotterdam	*t*	*118.2*	*50.1*	*60.3*	*38.4*	*53.2*	*55.9*	*44.0*	*43.9*	*-2.5*	*-0.4*

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.

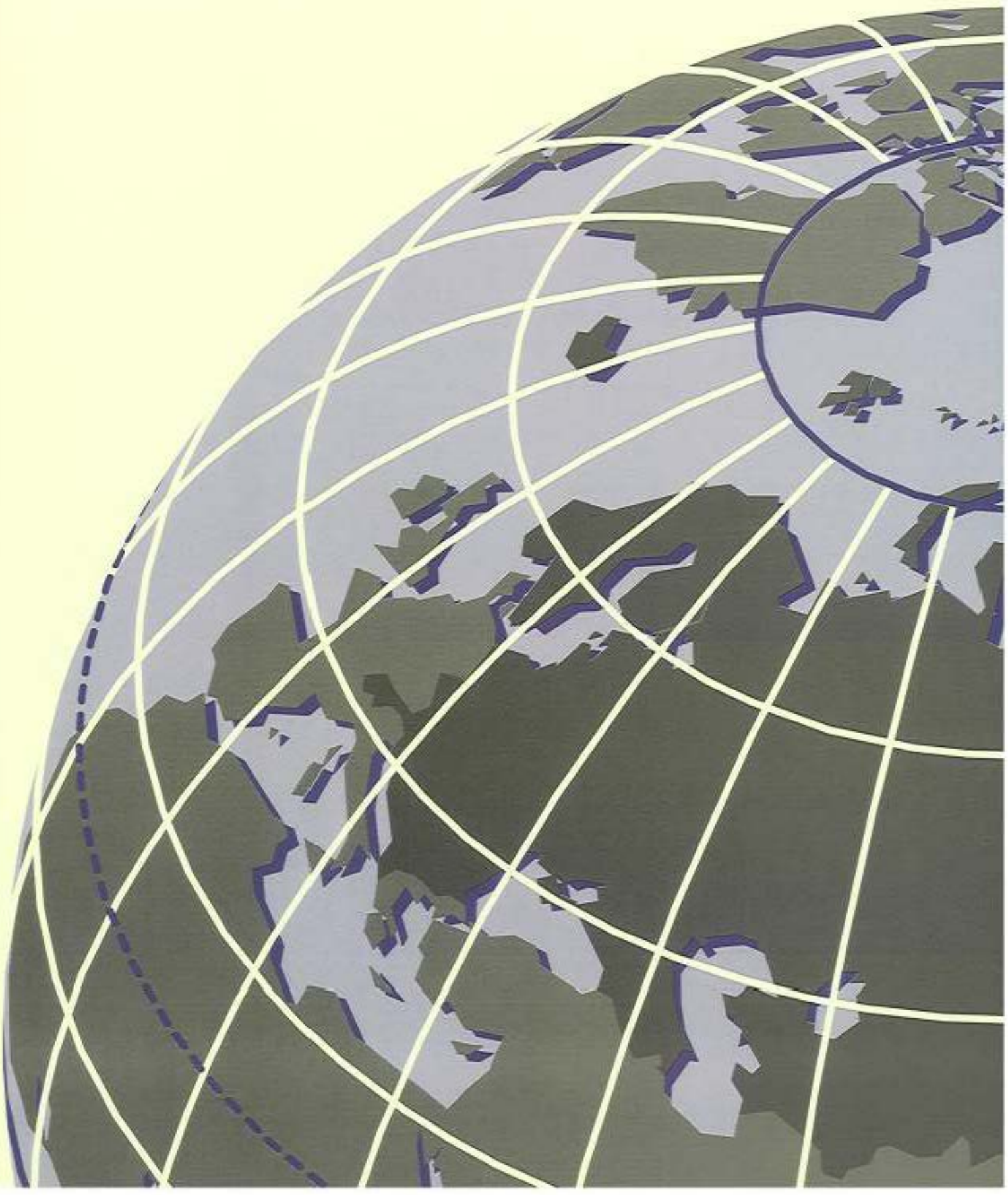
decline from 1986 to 1991. In 1992, real energy prices for industry were on a downward trend. Developments in energy prices for the domestic and tertiary sectors were different from those in industry. Since 1986, only heating oil prices dropped in current terms while prices for natural gas and electricity increased continuously. However, looking at prices in constant 1990 terms, all energy prices for the domestic and tertiary sectors have decreased since 1985, except for natural gas in 1992.

Considering prices on a common energy unit, while in 1987 heavy fuel oil and natural gas for industry had the same price, which was 24% more expensive than steam coal, in 1992 heavy fuel oil was the cheapest (3% and 25% cheaper than steam coal and natural gas respectively). The domestic sector also saw the prices of gas increased relatively to those of heating oil. While gas was 5% cheaper than heating oil in 1986, it was 33% higher in 1992.

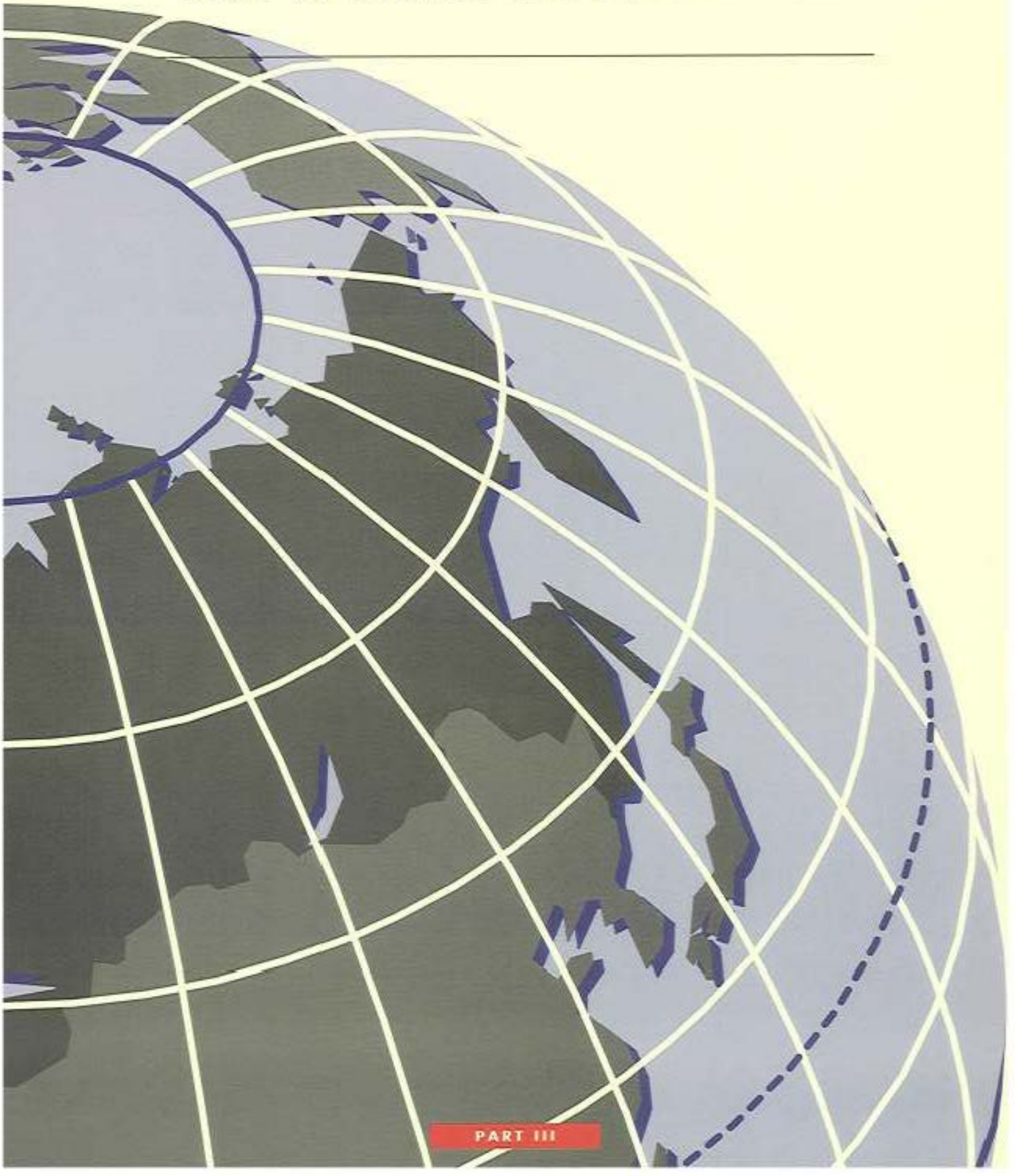
Energy Prices to Consumers in Constant 1990 ECU per toe

United Kingdom	1985	1986	1987	1988	1989	1990	1991	1992	91/86	92/91
									Annual % Change	
Transport										
Premium Gasoline	1148	959	936	880	882	895	915	911	-0.9	-0.5
Diesel	815	668	624	584	577	591	594	579	-2.3	-2.5
Industry										
Steam coal	151	143	131	113	107	99	92	89	-8.3	-3.8
Heavy fuel oil 3.5% S	303	155	162	112	119	113	93	86	-9.6	-7.6
Natural gas	na	183	163	152	134	125	122	114	-7.9	-6.1
Electricity	na	762	710	711	665	624	623	623	-3.9	-0.1
Domestic/Tertiary										
Heating oil	490	311	276	217	215	248	222	192	-6.5	-13.8
Natural gas	303	296	281	278	273	260	252	255	-3.2	1.2
Electricity	1133	1117	1048	1045	1038	959	1046	1038	-1.3	-0.8

Note: VAT is only included in the case of Premium gasoline and for the Domestic/Tertiary sector.



REST OF EUROPE AND FORMER USSR



PART III

EFTA

This region comprises the rest of Western Europe. These countries are: Austria, Finland, Iceland, Norway, Sweden and Switzerland. Due to lack of information, Lichtenstein is not included in the analysis. As a whole, this region became a net exporter of energy since 1988 and it has steadily increased its export volumes since then. This development is due to Norway, which is an important supplier of oil and natural gas to the whole of Western Europe. Except for Iceland, all other EFTA countries show a similar level of net imports. In general, the growth of gross energy

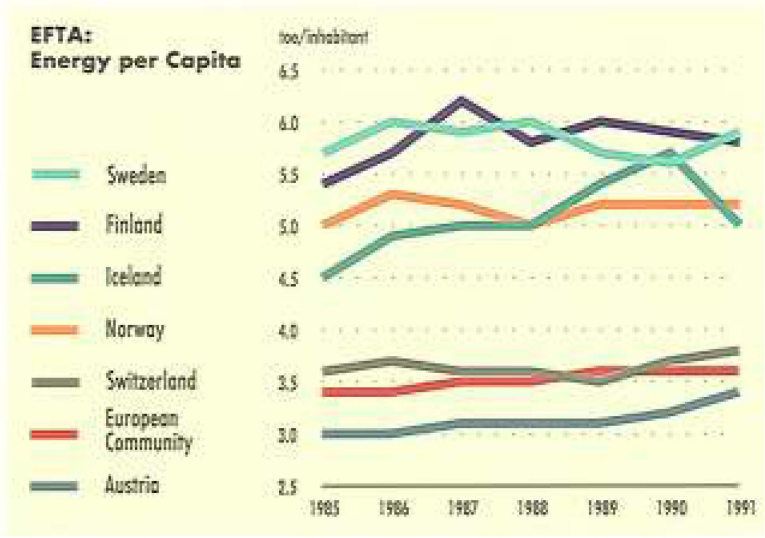
EFTA: Energy Indicators

ENERGY INTENSITY	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
(toe/MECU of 1985)								Annual % Change	
TOTAL	291	295	292	280	273	272	282	-0.9	4.0
Austria	266	266	270	256	250	249	260	-0.5	4.5
Finland	376	384	404	361	356	352	376	-0.4	6.9
Iceland	286	289	284	290	319	337	304	1.0	-10.0
Norway	272	278	271	259	270	264	260	-1.4	-1.5
Sweden	364	371	358	354	334	331	352	-1.0	6.4
Switzerland	191	193	185	182	173	180	187	-0.6	4.1

GROSS CONSUMPTION	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
PER CAPITA (toe/inhabitant)								Annual % Change	
TOTAL	4.49	4.67	4.73	4.64	4.63	4.64	4.76	0.4	2.6
Austria	3.01	3.05	3.15	3.08	3.13	3.18	3.42	2.3	7.4
Finland	5.43	5.65	6.16	5.78	5.98	5.90	5.85	0.7	-0.9
Iceland	4.49	4.85	4.99	5.04	5.39	5.73	5.04	0.7	-12.1
Norway	4.99	5.30	5.24	5.00	5.24	5.20	5.19	-0.4	-0.1
Sweden	5.75	5.99	5.91	5.96	5.71	5.63	5.85	-0.5	4.0
Switzerland	3.58	3.72	3.61	3.63	3.54	3.73	3.83	0.6	2.8

ENERGY DEPENDENCY	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
(Net Imports/Consumption in %)								Annual % Change	
TOTAL	9.8	11.3	1.5	-5.7	-17.3	-17.3	-24.3	-	40.8
Austria	68.4	69.8	67.1	65.1	65.3	69.7	68.4	-0.4	-1.8
Finland	60.6	63.0	60.9	56.4	61.9	62.2	58.4	-1.5	-6.2
Iceland	57.3	54.9	55.4	52.0	55.8	56.4	53.4	-0.5	-5.2
Norway	-252.8	-248.4	-294.0	-347.7	-418.1	-437.1	-491.9	14.6	12.5
Sweden	42.8	45.0	36.6	37.4	37.4	38.3	36.3	-4.2	-5.3
Switzerland	58.2	62.2	57.2	57.7	60.6	61.3	62.3	0.0	1.5

CO2 EMISSIONS	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
(Mt of CO2)								Annual % Change	
TOTAL	233	239	240	236	235	240	254	1.2	5.6
Austria	52	52	53	51	51	55	60	3.1	8.7
Finland	43	45	48	49	50	52	54	3.8	3.7
Iceland	2	2	2	2	2	2	2	2.2	-7.9
Norway	30	33	34	32	31	31	31	-1.5	-2.0
Sweden	60	62	58	57	54	53	57	-1.6	6.5
Switzerland	45	46	45	45	46	46	50	1.9	8.6



consumption in 1991 (3.5%) was mainly due to harder climatic conditions, similarly to what happened in the European Community. However, this growth was not equally shared by all EFTA countries. While Austria showed a growth in 1991 of 7.8%, Iceland had a significant drop of 8.6%.

The table shows the comparison of some energy indicators for all countries of EFTA. In terms of gross consumption per capita, there are two groups. One with levels similar to that of the European Community comprising Austria and Switzerland and the other four countries with levels which are 38% to 64% higher than Community average. However, this higher consumption is due to their geographic situation (climate). In terms of energy intensity, the average within EFTA is somewhat below the Community average.

EFTA: Total Energy (in Mtoe)

PRODUCTION	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
TOTAL	127.2	135.1	145.0	153.6	173.5	179.2	191.2	7.2	6.7
Austria	7.4	7.5	7.9	8.0	8.1	7.9	8.0	1.5	2.2
Finland	10.4	11.3	10.7	11.2	11.6	11.4	10.7	-1.1	-5.9
Iceland	0.5	0.5	0.6	0.6	0.6	0.6	0.6	2.6	-3.1
Norway	72.9	77.3	86.7	94.2	115.0	120.2	130.6	11.0	8.6
Sweden	26.7	28.9	29.4	29.7	28.8	29.6	31.6	1.8	6.7
Switzerland	9.4	9.5	9.8	9.9	9.3	9.6	9.7	0.3	1.5
NET IMPORTS	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**91/86**	**91/90**
								Annual % Change	
TOTAL	14.0	16.8	2.3	-8.5	-25.7	-26.1	-38.0	-	45.7
Austria	15.6	16.1	16.0	15.2	15.6	17.3	18.3	2.6	5.8
Finland	16.1	17.5	18.5	16.1	18.4	18.3	17.2	-0.4	-6.2
Iceland	0.6	0.6	0.7	0.7	0.8	0.8	0.7	1.8	-13.4
Norway	-52.4	-54.9	-64.6	-73.1	-92.8	-96.3	-108.7	14.6	12.9
Sweden	20.6	22.5	18.2	18.8	18.1	18.5	18.4	-4.0	-0.6
Switzerland	13.5	15.0	13.5	13.8	14.2	15.4	16.2	1.5	5.5
GROSS CONSUMPTION	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**91/86**	**91/90**
								Annual % Change	
TOTAL	142.3	148.3	150.7	148.5	149.0	150.9	156.1	1.0	3.5
Austria	22.7	23.0	23.8	23.4	23.8	24.8	26.7	3.0	7.8
Finland	26.6	27.8	30.4	28.6	29.7	29.4	29.4	1.1	-0.1
Iceland	1.1	1.2	1.2	1.3	1.3	1.4	1.3	2.4	-8.6
Norway	20.7	22.1	22.0	21.0	22.2	22.0	22.1	0.0	0.3
Sweden	48.0	50.1	49.6	50.3	48.5	48.2	50.6	0.2	5.0
Switzerland	23.2	24.2	23.6	23.9	23.5	25.0	26.0	1.5	4.0

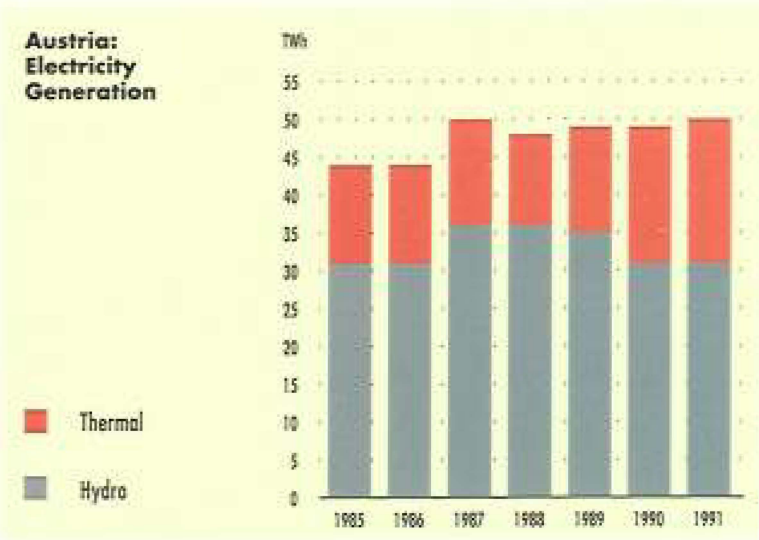
AUSTRIA

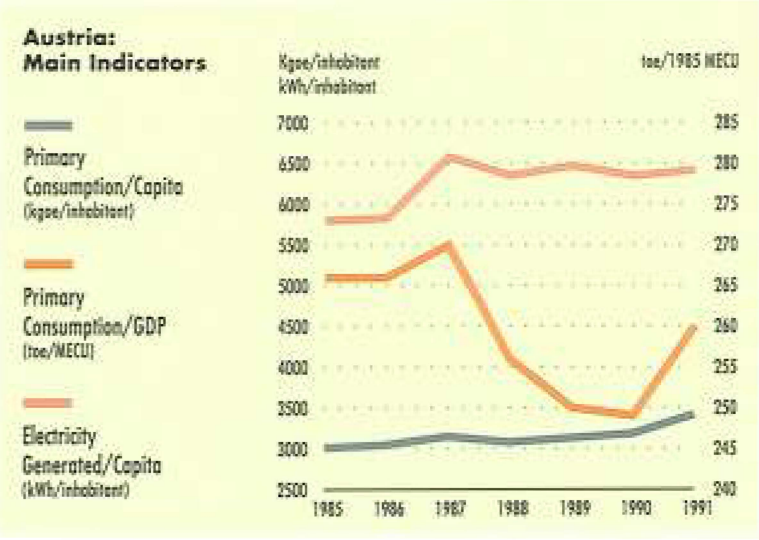
Austria's accession to the European Communities is being discussed. In energy supply terms Austria presents a fairly stable degree of dependency on foreign supplies of slightly more than two thirds of total consumption. Renewable energy sources dominate domestic production (63% in 1991) followed by oil and natural gas. There is a rather small production of solids and there is no nuclear energy. Total net imports of energy have grown at 2.6% per year in the last five years and 5.8% in 1991. In particular, natural gas net imports present a rather high average growth rate since 1986 with a strong acceleration in 1991 (+9.0%)

Gross energy consumption, which grew on average by 3.0% since 1986, had a strong increase of almost 8% in 1991. As for other European countries, this development is mainly due to harder climatic conditions in 1991 compared to 1990. Since 1986, natural gas is the fastest growing primary fuel. Indeed, its growth rate is more than triple those of solids and oil. Total **final energy demand** has more or less increased in line with primary needs. Gas is also here the fastest growing fuel, particularly in 1991 due to needs for the domestic and tertiary sectors. Only solids consumption fell since 1985, to attain in 1991 a level 28% below that in 1985.

Electricity generation in 1991 was covered by hydro (63%) and thermal (37%). Total electricity generation increased steadily until 1987 (6.5% per year) it dropped 3% in 1988 and resumed a more modest annual growth of 1.1% until 1990. In 1991 it increased by 1.5%. Thermal electricity generation is mainly based on solids (42%) and gas (40%). Oil for power generation has been declining quite quickly. On the other hand, biomass for power generation has increased rapidly although it only accounted for 7% of thermal inputs in 1991.

Austria's energy intensity has been on a decreasing path since 1986 at an annual average of 0.5%. In 1991, it increased 4.5%. In absolute terms, energy intensity is lower than that of the average European Community. In terms of per capita energy consumption, Austria is very close to the Community average.





AUSTRIA: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Primary Production	7.4	7.5	7.9	8.0	8.1	7.9	8.0	1.5	2.2
Solids	0.9	0.9	0.7	0.6	0.5	0.6	0.5	-9.6	-15.3
Oil	1.2	1.2	1.1	1.2	1.2	1.2	1.4	3.1	10.9
Natural gas	0.9	0.9	0.9	1.0	1.0	1.0	1.1	5.6	14.4
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	2.7	2.7	3.1	3.1	3.0	2.7	2.7	0.2	-0.3
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	1.7	1.9	2.0	2.2	2.2	2.3	2.3	4.3	0.1
Net Imports	15.6	16.1	16.0	15.2	15.6	17.3	18.3	2.6	5.8
Solids	3.6	3.4	3.6	3.3	3.2	3.1	3.3	-0.8	5.5
Crude Oil	7.0	7.3	7.5	6.8	7.4	8.1	8.3	2.5	2.6
Oil products	1.8	2.1	2.2	2.2	1.9	2.0	2.1	-0.4	6.1
Total Oil	8.7	9.4	9.7	9.0	9.3	10.0	10.4	1.9	3.3
Natural gas	3.3	3.2	3.0	2.9	3.1	4.0	4.4	6.8	9.0
Electricity	-0.1	-0.1	-0.5	-0.2	-0.2	0.0	0.1	-	-
Biomass	0.1	0.2	0.2	0.2	0.1	0.1	0.2	2.0	33.4
Gross Consumption *(1)*	22.7	23.0	23.8	23.4	23.8	24.8	26.7	3.0	7.8
Solids	4.3	3.9	4.0	3.7	3.7	4.1	4.3	2.0	3.0
Oil	10.0	10.6	10.9	10.5	10.6	10.8	11.7	2.0	7.6
Natural gas	4.1	4.0	4.2	4.0	4.3	4.7	5.5	6.6	17.6
Other *(2)*	4.3	4.6	4.8	5.2	5.2	5.1	5.2	2.8	3.0
Electricity Generation in TWh	43.9	44.1	49.8	48.3	49.3	49.4	50.2	2.6	1.5
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	30.9	31.1	36.0	35.8	35.3	31.5	31.4	0.2	-0.2
Thermal	12.9	13.0	13.8	12.5	14.0	17.9	18.8	7.6	4.6
Fuel Inputs for Thermal Power Generation	3.0	2.9	3.4	3.1	3.4	4.3	4.5	8.7	4.4
Solids	1.1	1.0	1.2	1.1	1.2	1.7	1.9	14.2	8.0
Oil	0.7	0.8	0.8	0.7	0.6	0.7	0.5	-10.1	-31.3
Gas	1.1	1.1	1.2	1.1	1.3	1.6	1.8	11.4	13.2
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.1	0.1	0.2	0.3	0.3	0.3	0.3	17.2	16.0
Total Final Energy Demand	18.5	18.7	18.9	18.9	19.1	19.5	21.0	2.4	7.6
Solids	2.9	2.6	2.4	2.3	2.2	2.1	2.1	-3.8	3.3
Oil	7.6	8.0	8.1	8.0	8.0	8.3	8.9	2.3	8.1
Gas	2.7	2.6	2.6	2.5	2.6	2.8	3.3	5.2	19.4
Electricity	3.2	3.2	3.3	3.5	3.6	3.7	3.9	3.8	4.3
Heat	0.5	0.5	0.5	0.5	0.5	0.6	0.6	4.7	7.2
Biomass	1.6	1.9	2.0	2.1	2.1	2.1	2.2	2.8	0.8
CO2 Emissions in Mt of CO2	52.3	51.6	53.0	50.8	51.4	55.2	60.0	3.1	8.7
Indicators									
Population (Million)	7.56	7.56	7.57	7.60	7.62	7.79	7.82	0.7	0.4
GDP (Index 1985 = 100)	100.0	101.2	103.4	107.2	111.4	116.5	120.1	3.5	3.1
Primary Consumption/GDP (toe/MECU)	266	266	270	256	250	249	260	-0.5	4.5
Primary Consumption/Capita (toe/inhabitant)	3.01	3.05	3.15	3.08	3.13	3.18	3.42	2.3	7.4
Electricity Generated/Capita (kWh/inhabitant)	5801	5830	6579	6352	6470	6344	6417	1.9	1.2
CO2 Emissions/Capita (t of CO2/inhabitant)	6.92	6.82	7.00	6.68	6.75	7.09	7.67	2.4	8.3
Net Imports/Consumption (%)	68.4	69.8	67.1	65.1	65.3	69.7	68.4	-0.4	-1.8

(1) Including bunkers.

(2) Includes nuclear, hydro and other renewable energy sources.

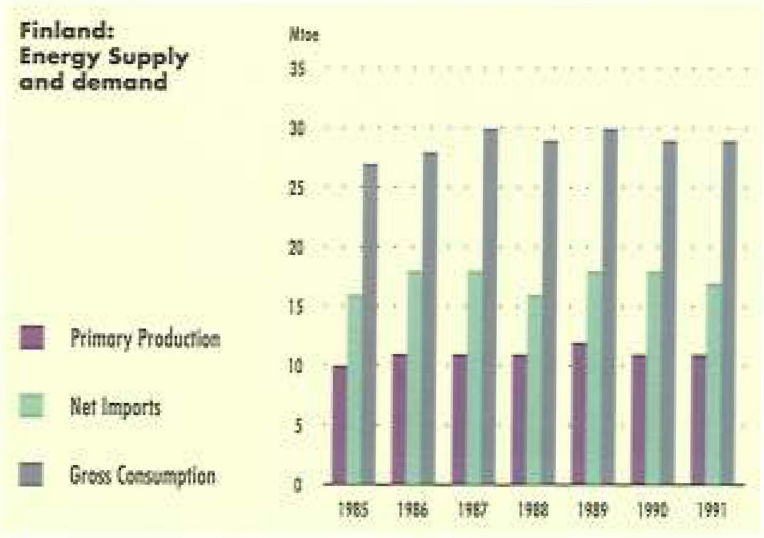
FINLAND

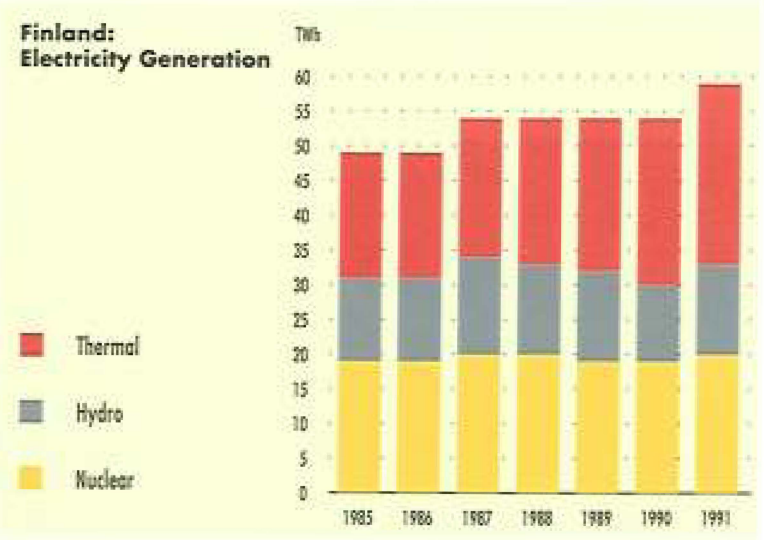
The accession of Finland to the European Communities is being discussed. In energy supply terms this country presents a steady but strong degree of dependency on foreign supplies (61% in 1985 and 58% in 1991). Domestic energy production, which presents a downward trend, is dominated by nuclear energy and biomass, accounting for 48% and 42% of total in 1991 respectively. There is also some production of hydro power. Crude oil is the main fuel in terms of net imports followed by solids and natural gas. In particular, natural gas net imports present a rather high average growth rate since 1986 (+19.3%).

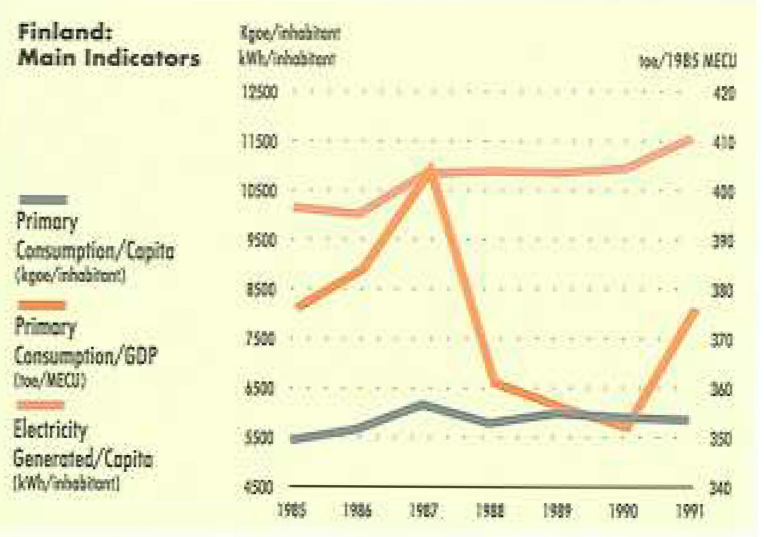
Gross energy consumption grew on average by 2% until 1990 and practically stabilised in 1991. This stabilisation is due, in spite of harder climatic conditions in 1991 compared to 1990, to a significant loss in economic activity. Since 1986, natural gas is the fastest growing primary fuel. Indeed, its growth rate is almost seven times that of solids. Total **final energy demand** has more or less increased in line with primary needs, but with a drop of 2.5% in 1991. Gas is here also the fastest growing fuel. Only biomass shows a decline after 1990.

Electricity generation in 1991 was covered by thermal (44%), nuclear (34%) and hydro (23%). Total electricity generation has increased steadily since 1985 with an acceleration in 1991 (6.6%) resulting in a significant decrease (percentage wise) of net imports. Thermal electricity generation is based on solids, biomass and gas (47%, 31% and 18% of fuel inputs in 1991 respectively). In particular, biomass for power generation has been increasing quite rapidly with 6% per year on average in the last five years and 21% in 1991.

Finland's energy intensity, which had been on a mildly decreasing path since between 1987 and 1990, increased 6.9% in 1991. This results from the combination of a lot colder winter with depressed economic activity. In absolute terms, energy intensity is some 20% higher than that of the average European Community. In terms of per capita energy consumption, Finland shows a ratio 73% higher than the Community average.







FINLAND: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Primary Production	10.4	11.3	10.7	11.2	11.6	11.4	10.7	-1.1	-5.9
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Nuclear	5.0	5.0	5.1	5.1	5.0	5.0	5.1	0.5	1.4
Hydro	1.1	1.1	1.2	1.1	1.1	0.9	1.1	1.2	20.2
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	4.3	5.3	4.4	5.0	5.6	5.4	4.5	-3.1	-17.1
Net Imports	16.1	17.5	18.5	16.1	18.4	18.3	17.2	-0.4	-6.2
Solids	4.0	4.2	4.0	3.7	4.2	4.6	3.9	-1.6	-16.1
Crude Oil	10.0	9.5	10.9	9.1	9.0	8.9	10.1	1.3	13.9
Oil products	0.9	2.3	1.8	1.3	2.5	1.6	0.2	-39.5	-88.5
Total Oil	10.9	11.8	12.7	10.4	11.5	10.5	10.3	-2.7	-2.1
Natural gas	0.8	1.0	1.3	1.4	1.9	2.3	2.4	19.3	5.8
Electricity	0.4	0.5	0.5	0.6	0.8	0.9	0.6	4.7	-33.0
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	26.6	27.8	30.4	28.6	29.7	29.4	29.4	1.1	-0.1
Solids	4.2	3.6	4.4	4.3	4.3	4.6	4.2	2.8	-9.6
Oil	10.7	12.1	12.9	11.3	11.6	10.5	11.0	-1.9	4.1
Natural gas	0.8	1.0	1.3	1.4	1.9	2.3	2.4	19.3	5.8
Other *(2)*	10.9	11.1	11.7	11.6	11.9	12.1	11.9	1.4	-1.2
Electricity Generation in TWh	49.7	49.3	53.4	53.9	53.8	54.6	58.1	3.4	6.6
Nuclear	19.1	19.1	19.6	19.6	19.1	19.2	19.5	0.5	1.5
Hydro	12.3	12.4	13.8	13.4	13.0	10.9	13.1	1.1	19.8
Thermal	18.3	17.8	20.0	21.0	21.7	24.4	25.5	7.5	4.6
Fuel Inputs for Thermal Power Generation	4.0	4.2	4.4	4.7	4.6	5.1	5.5	5.5	8.3
Solids	2.4	2.1	2.5	2.5	2.3	2.5	2.6	4.4	3.2
Oil	0.2	0.4	0.4	0.3	0.3	0.3	0.3	-9.1	-10.7
Gas	0.3	0.4	0.4	0.6	0.7	0.9	1.0	18.5	9.8
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	1.2	1.3	1.2	1.3	1.3	1.4	1.7	5.7	20.5
Total Final Energy Demand	18.7	19.4	20.6	20.6	21.5	22.2	21.6	2.2	-2.5
Solids	1.1	1.0	1.1	1.1	1.3	1.3	1.1	2.7	-17.3
Oil	7.9	8.6	8.7	8.8	8.9	8.9	8.9	0.7	-0.9
Gas	0.5	0.5	0.7	0.7	1.0	1.3	1.3	19.7	0.9
Electricity	4.2	4.3	4.6	4.7	4.9	5.1	5.1	3.6	0.4
Heat	1.9	1.8	2.0	1.9	1.8	1.9	2.0	2.2	5.5
Biomass	3.1	3.3	3.4	3.3	3.6	3.6	3.2	-0.3	-10.4
CO2 Emissions in Mt of CO2	43.3	44.9	47.6	48.7	49.7	52.2	54.1	3.8	3.7
Indicators									
Population (Million)	4.90	4.92	4.93	4.95	4.96	4.99	5.03	0.4	0.8
GDP (Index 1985 = 100)	100.0	102.1	106.2	111.9	117.8	118.1	110.5	1.6	-6.5
Primary Consumption/GDP (toe/MECU)	376	384	404	361	356	352	376	-0.4	6.9
Primary Consumption/Capita (toe/inhabitant)	5.43	5.65	6.16	5.78	5.98	5.90	5.85	0.7	-0.9
Electricity Generated/Capita (kWh/inhabitant)	10146	10013	10832	10884	10850	10934	11558	2.9	5.7
CO2 Emissions/Capita (t of CO2/inhabitant)	8.83	9.13	9.66	9.84	10.01	10.46	10.76	3.3	2.9
Net Imports/Consumption (%)	60.6	63.0	60.9	56.4	61.9	62.2	58.4	-1.5	-6.2

(1) Including bunkers.
(2) Includes nuclear, hydro and other renewable energy sources.

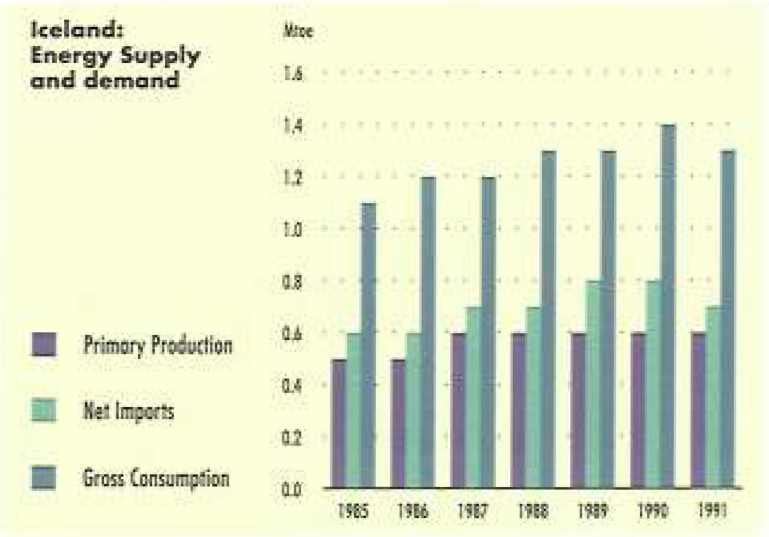
ICELAND

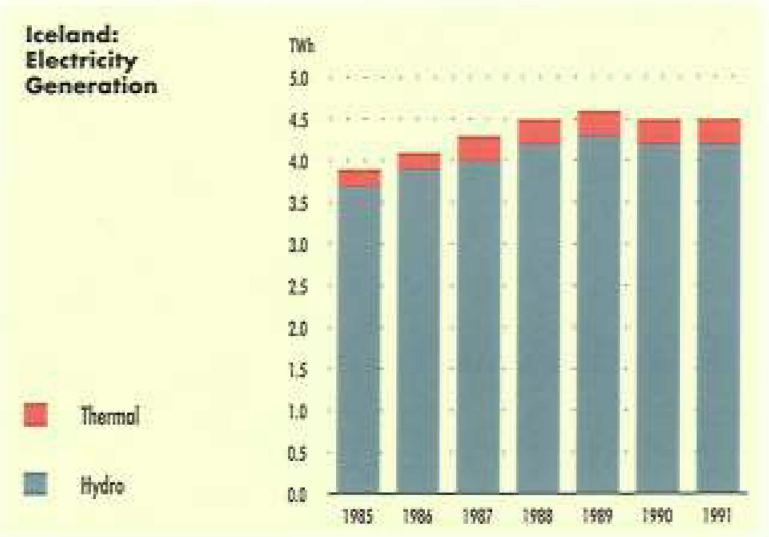
This is the smallest member of EFTA except for Lichtenstein. The energy system of this island depends on external supplies for more than 50%, but shows a decreasing trend. This development is due to a faster growth in domestic production compared to total energy consumption. Domestic energy production is limited to hydro and geothermal accounting for two thirds and one third of total respectively. there is no oil refining capacity and all oil products are imported.

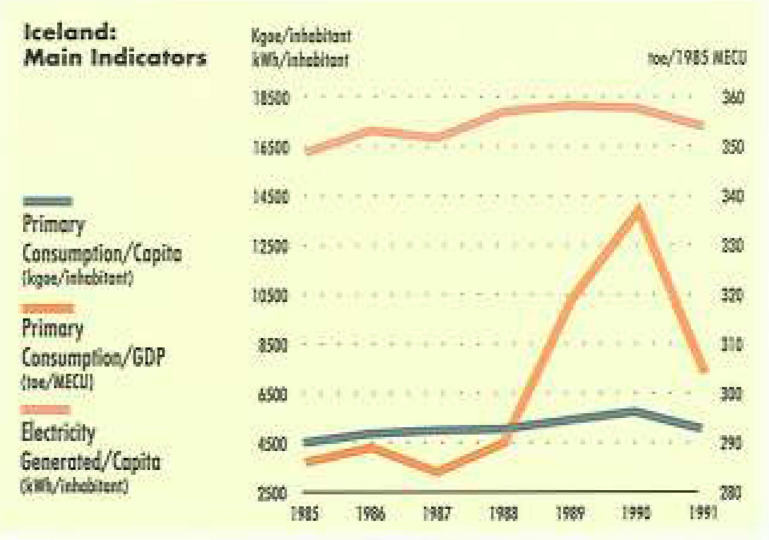
Gross energy consumption increased steadily until 1990. In 1991, it dropped almost 9%. The dominant fuel is oil accounting for 54% of total consumption in 1991. Renewable energy sources rank second with 46%. There is a rather small consumption of solid fuels but these have shown a downward trend of almost 4% per year in the last five years. There is no use of natural gas. Total **final energy demand**, which has grown 1.7% per year since 1986, is practically made up of oil and electricity. There is an insignificant contribution of solid fuels.

Electricity generation is practically all ensured by renewable energy sources. In the last five years, total generation has grown by about 2% per year with a slight drop in 1991.

Iceland's energy intensity shows an upward trend since 1985 but, contrary to most European economies, it dropped in 1991 (10%). In absolute terms, both energy intensity and per capita energy consumption are above the Community average.







ICELAND: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Primary Production	0.5	0.5	0.6	0.6	0.6	0.6	0.6	2.6	-3.1
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Nuclear	-	-	-	-	-	-		-	-
Hydro	0.3	0.3	0.3	0.4	0.4	0.4	0.4	1.5	-0.4
Geothermal	0.2	0.2	0.2	0.2	0.2	0.3	0.2	4.4	-7.0
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Net Imports	0.6	0.6	0.7	0.7	0.8	0.8	0.7	1.8	-13.4
Solids	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-3.6	0.5
Crude Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Oil products	0.6	0.6	0.6	0.6	0.7	0.7	0.6	2.4	-14.4
Total Oil	0.6	0.6	0.6	0.6	0.7	0.7	0.6	2.4	-14.4
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Electricity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	1.1	1.2	1.2	1.3	1.3	1.4	1.3	2.4	-8.6
Solids	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-3.6	0.5
Oil	0.5	0.6	0.6	0.6	0.7	0.8	0.7	2.8	-13.7
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Other *(2)*	0.5	0.5	0.6	0.6	0.6	0.6	0.6	2.6	-3.1
Electricity Generation in TWh	3.9	4.1	4.2	4.5	4.5	4.5	4.5	1.8	-0.4
Nuclear	-	-	-	-	-	-		-	-
Hydro	3.7	3.9	4.0	4.2	4.3	4.2	4.2	1.6	0.0
Thermal	0.2	0.2	0.3	0.3	0.3	0.3	0.3	4.7	-5.2
Fuel Inputs for Thermal Power Generation	0.2	0.2	0.2	0.2	0.2	0.3	0.3	5.1	-3.9
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Geothermal	0.2	0.2	0.2	0.2	0.2	0.3	0.2	4.4	-7.0
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Total Final Energy Demand	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.7	-8.2
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.1	-1.5
Oil	0.5	0.5	0.6	0.6	0.6	0.6	0.6	2.0	-11.6
Gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Electricity	0.3	0.3	0.3	0.3	0.4	0.3	0.3	1.9	-2.5
Heat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
CO2 Emissions in Mt of CO2	1.8	1.8	1.9	2.0	2.1	2.1	2.0	2.2	-7.9
Indicators									
Population (Million)	0.24	0.24	0.25	0.25	0.25	0.25	0.26	1.6	4.0
GDP (Index 1985 = 100)	100.0	107.3	116.7	115.7	112.5	113.0	114.7	1.3	1.5
Primary Consumption/GDP (toe/MECU)	286	289	284	290	319	337	304	1.0	-10.0
Primary Consumption/Capita (toe/inhabitant)	4.49	4.85	4.99	5.04	5.39	5.73	5.04	0.7	-12.1
Electricity Generated/Capita (kWh/inhabitant)	16250	17142	16840	17912	18148	18040	17285	0.2	-4.2
CO2 Emissions/Capita (t of CO2/inhabitant)	7.30	7.39	7.49	7.97	8.55	8.59	7.61	0.6	-11.4
Net Imports/Consumption (%)	57.3	54.9	55.4	52.0	55.8	56.4	53.4	-0.5	-5.2

(1) Including bunkers.

(2) Includes nuclear, hydro and other renewable energy sources.

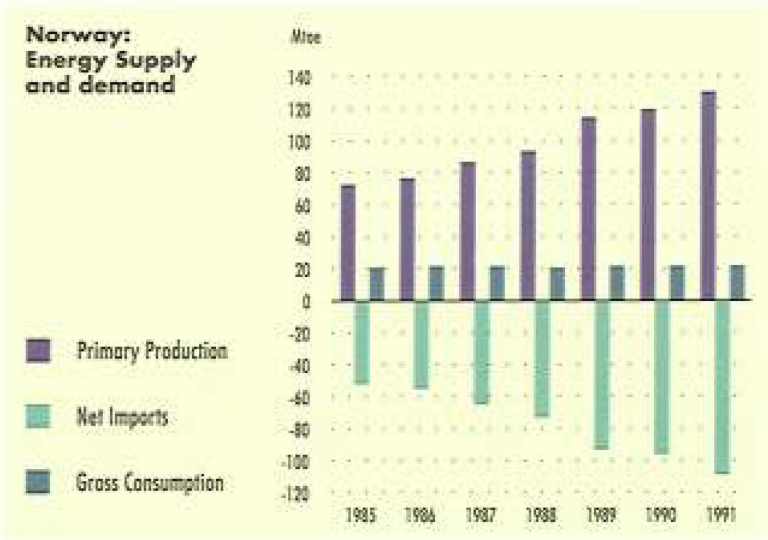
NORWAY

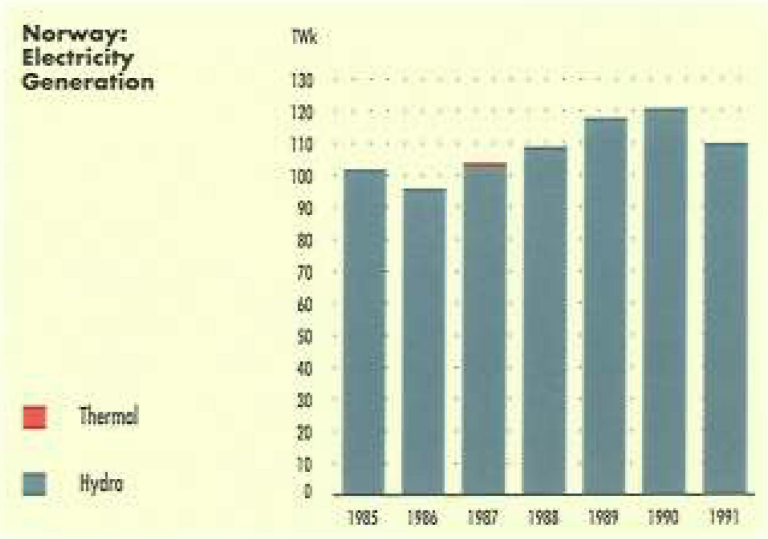
This is the largest energy producer of energy within EFTA countries. The energy system of Norway is characterised by net exports of almost all primary energy sources (except solid fuels). The total net exports, which have been increasing quite rapidly (14.6% per year since 1986), represent fivefold its total energy consumption. Net exports of crude oil, mainly into Europe, accounted for 20% of total European Community net imports of this primary source in 1991. Norway is the second supplier of natural gas to Europe after the former USSR. In 1991, net exports of natural gas from Norway represented 25% of Community net imports. This development is due to a faster growth in domestic production compared to total energy consumption. Domestic energy production of natural gas is practically dedicated to exports.

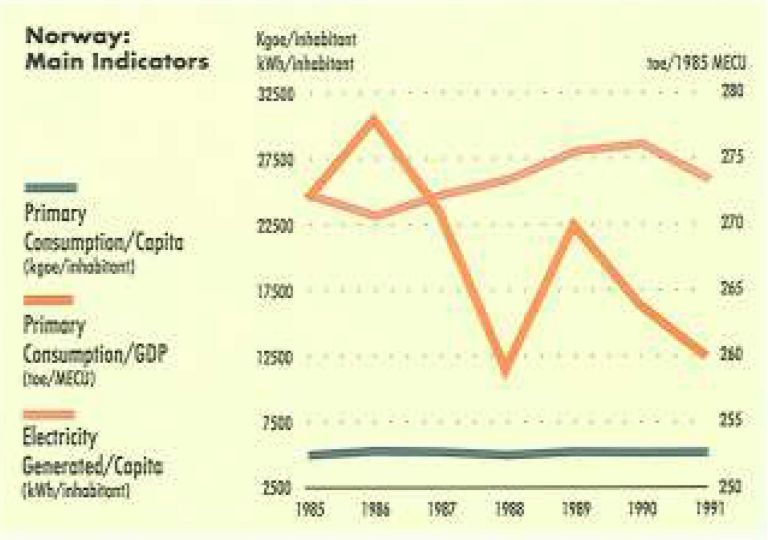
Gross energy consumption has been fairly stable since 1986. Primary consumption is dominated by renewable energy sources which grew 1.8% per year on average since 1986. Solids and oil demand show a decreasing trend since 1986. **Total final energy** demand presents a downward trend and in 1991 dropped by over 1%. Final demand is mainly made up of electricity (49%) and oil (40%). But while electricity consumption shows an upward trend, oil demand is on a declining trend since 1987. Solids, which only account for 4% of total, have been dropping since 1988.

Electricity is practically all produced by hydro power. In the last five years, total generation has grown by about 2.7% per year with an important drop in 1991 reflected in a significant decrease of net electricity exports.

Norway's energy intensity shows a downward trend since 1986 and, contrary to most European economies, it also dropped in 1991 (1.5%). In absolute terms, while energy intensity is slightly below the European Community average, per capita energy consumption is more than 50% above the Community average.







NORWAY: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Primary Production	72.9	77.3	86.7	94.2	115.0	120.2	130.6	11.0	8.6
Solids	0.4	0.3	0.3	0.2	0.2	0.2	0.2	-5.5	10.2
Oil	39.5	43.6	50.9	57.9	76.9	84.3	96.1	17.1	14.0
Natural gas	23.4	24.3	25.6	25.8	26.7	24.3	23.8	-0.4	-2.3
Nuclear	-	-	-	-	-	-		-	-
Hydro	8.8	8.3	8.9	9.4	10.2	10.4	9.5	2.7	-9.0
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.8	0.9	0.9	0.9	1.0	1.0	1.0	2.2	3.8
Net Imports	-52.4	-54.9	-64.6	-73.1	-92.8	-96.3	-108.7	14.6	12.9
Solids	0.9	0.8	0.6	0.7	0.7	0.7	0.5	-7.0	-19.2
Crude Oil	-31.2	-35.2	-40.5	-48.4	-66.0	-68.4	-82.9	18.7	21.1
Oil products	0.2	1.5	-0.6	-0.8	-1.3	-5.0	-4.2	-	-16.7
Total Oil	-31.0	-33.8	-41.0	-49.1	-67.3	-73.4	-87.0	20.9	18.5
Natural gas	-22.2	-22.1	-24.2	-24.1	-24.9	-22.2	-22.0	-0.2	-0.9
Electricity	0.0	0.2	0.0	-0.5	-1.3	-1.4	-0.2	-	-82.5
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	20.7	22.1	22.0	21.0	22.2	22.0	22.1	0.0	0.3
Solids	1.2	1.0	1.0	1.0	1.0	0.9	0.8	-5.6	-10.4
Oil	8.8	9.6	9.7	8.6	9.6	9.0	9.3	-0.6	3.1
Natural gas	1.2	2.1	1.5	1.7	1.8	2.1	1.8	-3.5	-16.6
Other *(2)*	9.6	9.3	9.8	9.8	9.9	10.0	10.2	1.8	2.4
Electricity Generation in TWh	102.7	96.7	103.8	109.3	118.9	121.4	110.5	2.7	-9.0
Nuclear	-	-	-	-	-	-		-	-
Hydro	102.4	96.2	103.3	108.9	118.4	121.0	110.1	2.7	-9.0
Thermal	0.3	0.5	0.5	0.5	0.5	0.5	0.4	-1.7	-8.0
Fuel Inputs for Thermal Power Generation	0.1	0.1	0.2	0.2	0.2	0.1	0.1	-5.4	-26.2
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Oil	0.1	0.1	0.1	0.1	0.1	0.1	0.0	-	-
Gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.0	0.0	0.0	0.1	0.1	0.1	0.1	15.3	71.8
Total Final Energy Demand	17.1	17.2	18.3	17.6	17.2	17.0	16.9	-0.4	-1.1
Solids	1.1	0.9	0.9	1.0	0.8	0.8	0.7	-5.1	-12.6
Oil	7.3	7.6	8.5	7.6	7.3	7.2	6.9	-2.1	-5.0
Gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Electricity	7.9	7.7	8.0	8.1	8.1	8.1	8.3	1.5	3.2
Heat	0.0	0.1	0.1	0.1	0.1	0.1	0.1	11.5	18.6
Biomass	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	0.9
CO2 Emissions in Mt of CO2	30.3	33.1	34.1	32.2	30.9	31.4	30.7	-1.5	-2.0
Indicators									
Population (Million)	4.15	4.17	4.19	4.21	4.23	4.24	4.26	0.4	0.5
GDP (Index 1985 = 100)	100.0	104.2	106.3	106.4	107.7	109.6	111.7	1.4	1.9
Primary Consumption/GDP (toe/MECU)	272	278	271	259	270	264	260	-1.4	-1.5
Primary Consumption/Capita (toe/inhabitant)	4.99	5.30	5.24	5.00	5.24	5.20	5.19	-0.4	-0.1
Electricity Generated/Capita (kWh/inhabitant)	24754	23181	24774	25970	28109	28638	25938	2.3	-9.4
CO2 Emissions/Capita (t of CO2/inhabitant)	7.30	7.95	8.14	7.65	7.30	7.40	7.21	-1.9	-2.5
Net Imports/Consumption (%)	-252.8	-248.4	-294.0	-347.7	-418.1	-437.1	-491.9	14.6	12.5

(1) Including bunkers.

(2) Includes nuclear, hydro and other renewable energy sources.

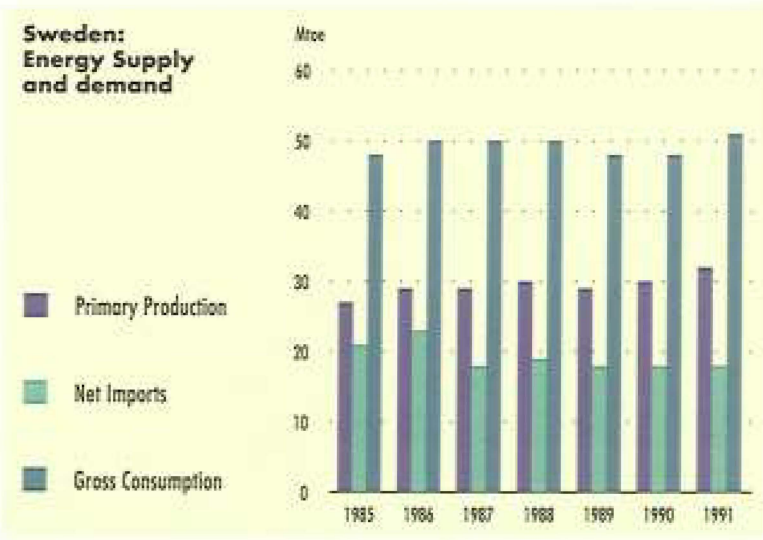
SWEDEN

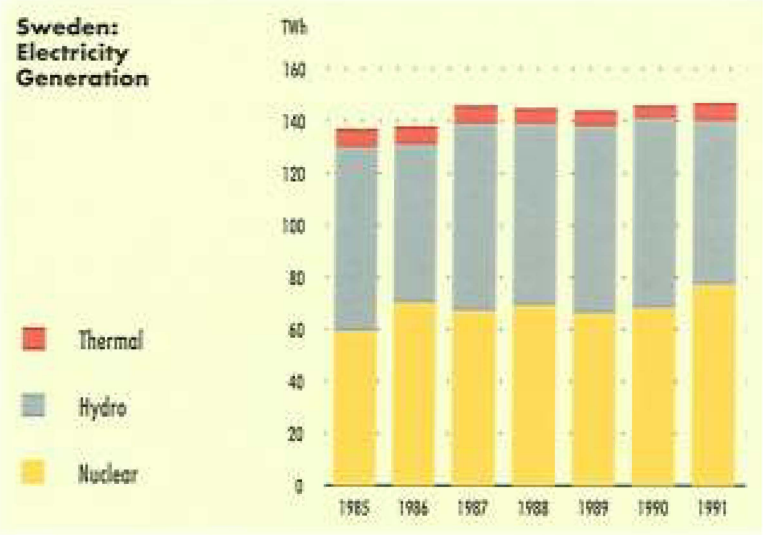
The accession of Sweden to the European Communities is being discussed. In energy supply terms this country presents a decreasing degree of dependency on foreign supplies (43% in 1985 and 36% in 1991). In fact, domestic energy production presents an upward trend higher than that of energy consumption. Production is mainly made up of nuclear energy, biomass and hydro, accounting for 64%, 19% and 17% of total in 1991 respectively. There is also some production of solids but in rather insignificant quantities. Nuclear energy production has increased at 2% per year since 1986 and grew 13.1% in 1991. Crude oil is the main fuel in terms of net imports followed by solids and natural gas. Given that recently natural gas has become available in Sweden, its net imports present a rather high average growth rate since 1986 (+28.2%).

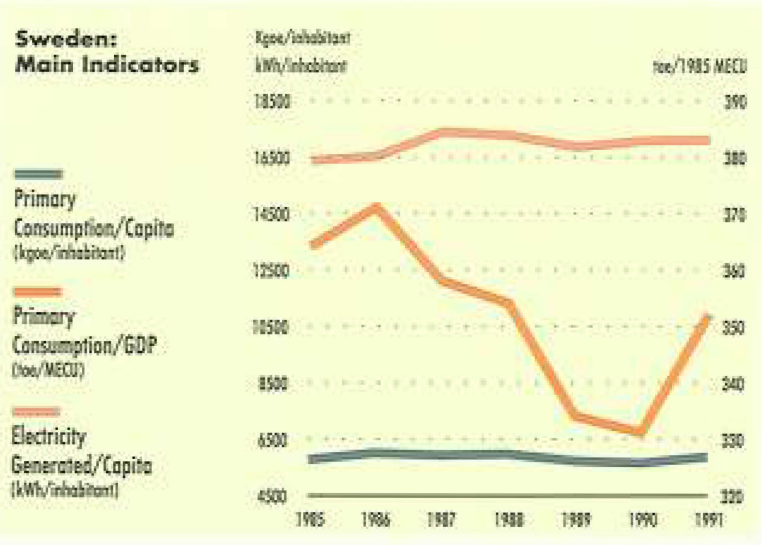
Gross energy consumption has been more or less stable since 1986. In 1991, in spite of a drop in economic activity, energy demand grew 5.0% due to harder climatic conditions compared to 1990. Since 1986, natural gas is the fastest growing primary fuel. Indeed, natural gas is the only fossil fuel that grew until 1990. In 1991, oil demand increased by 3.2% while solids demand continued to drop. Total **final energy demand** has evolved more or less in line with primary needs. Gas is also here the fastest growing fuel, followed by electricity at a much slower rate. Oil consumption has been declining, including in 1991 when its level was only 83% of its value in 1986.

Electricity generation in 1991 was covered by nuclear (52%), hydro (43%) and thermal (5%). Total electricity generation has increased steadily since 1985, but it slowed 1991 resulting in a significant decrease (percentage wise) in net exports. Thermal electricity generation is mainly based on solids and biomass (40% and 30% of fuel inputs in 1991 respectively). There is also some oil used for electricity generation but it has been decreasing since 1985; in 1991, oil inputs were only one third of the level in 1985. Besides nuclear, biomass for power generation has been increasing quite rapidly with 10.9% per year on average in the last five years and 19.2% in 1991.

Sweden's energy intensity, which had been on a decreasing path since 1986, increased 6.4% in 1991. This results from the combination of a much colder winter with depressed economic activity. In absolute terms, energy intensity is some 16% higher than that of the average European Community. In terms of per capita energy consumption, Sweden shows a ratio 65% higher than the Community average.







SWEDEN: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Primary Production	26.7	28.9	29.4	29.7	28.8	29.6	31.6	1.8	6.7
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Nuclear	15.3	18.2	17.6	18.1	17.1	17.8	20.1	2.0	13.1
Hydro	6.1	5.2	6.2	6.0	6.2	6.2	5.4	0.8	-12.8
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	5.3	5.4	5.6	5.6	5.5	5.6	6.0	2.1	7.9
Net Imports	20.6	22.5	18.2	18.8	18.1	18.5	18.4	-4.0	-0.6
Solids	3.2	2.9	2.5	2.5	2.6	2.6	2.2	-5.6	-14.1
Crude Oil	14.4	16.2	15.3	15.0	16.5	17.4	17.1	1.1	-1.5
Oil products	3.0	3.6	0.5	1.2	-1.4	-1.8	-1.5	-	-19.9
Total Oil	17.4	19.8	15.8	16.2	15.1	15.5	15.6	-4.6	0.7
Natural gas	0.1	0.2	0.2	0.3	0.4	0.5	0.6	28.2	19.2
Electricity	-0.1	-0.4	-0.4	-0.2	0.0	-0.2	-0.1	-22.8	-32.3
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	48.0	50.1	49.6	50.3	48.5	48.2	50.6	0.2	5.0
Solids	2.8	2.9	2.8	2.7	2.6	2.6	2.4	-3.3	-8.4
Oil	18.5	18.5	17.6	17.9	16.7	15.6	16.1	-2.8	3.2
Natural gas	0.1	0.2	0.2	0.3	0.4	0.5	0.6	28.2	19.2
Other *(2)*	26.6	28.5	29.0	29.4	28.8	29.4	31.5	2.0	6.8
Electricity Generation in TWh	136.5	138.1	146.0	145.6	142.9	146.0	147.7	1.4	1.1
Nuclear	58.6	70.0	67.4	69.4	65.6	68.2	77.1	2.0	13.1
Hydro	71.0	60.9	71.8	69.9	71.7	72.6	63.3	0.8	-12.8
Thermal	7.0	7.2	6.7	6.3	5.6	5.2	7.3	0.2	38.9
Fuel Inputs for Thermal Power Generation	2.4	2.3	2.2	1.8	1.4	1.5	2.0	-3.0	32.0
Solids	1.0	1.0	1.0	0.9	0.7	0.7	0.8	-5.7	11.0
Oil	1.2	0.9	0.8	0.5	0.3	0.3	0.4	-15.5	28.0
Gas	0.0	0.0	0.0	0.0	0.0	0.0	0.2	-	-
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.3	0.4	0.4	0.4	0.4	0.5	0.6	10.9	19.2
Total Final Energy Demand	33.2	33.9	33.4	32.9	32.1	31.7	32.4	-0.9	2.2
Solids	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4
Oil	15.0	15.6	14.6	14.5	13.9	13.5	13.0	-3.6	-3.6
Gas	0.1	0.2	0.2	0.3	0.3	0.4	0.4	16.3	10.7
Electricity	9.7	9.8	10.3	10.3	10.3	10.4	11.0	2.2	5.9
Heat	2.5	2.4	2.4	2.0	1.7	1.7	1.9	-4.2	16.2
Biomass	4.6	4.5	4.6	4.6	4.5	4.5	4.8	1.0	5.6
CO2 Emissions in Mt of CO2	59.9	61.7	58.2	56.9	54.4	53.3	56.8	-1.6	6.5
Indicators									
Population (Million)	8.35	8.36	8.40	8.44	8.49	8.56	8.64	0.7	0.9
GDP (Index 1985 = 100)	100.0	102.3	105.3	107.7	110.0	110.4	108.9	1.3	-1.4
Primary Consumption/GDP (toe/MECU)	364	371	358	354	334	331	352	-1.0	6.4
Primary Consumption/Capita (toe/inhabitant)	5.75	5.99	5.91	5.96	5.71	5.63	5.85	-0.5	4.0
Electricity Generated/Capita (kWh/inhabitant)	16350	16517	17378	17255	16833	17056	17090	0.7	0.2
CO2 Emissions/Capita (t of CO2/inhabitant)	7.17	7.37	6.93	6.74	6.41	6.23	6.57	-2.3	5.5
Net Imports/Consumption (%)	42.8	45.0	36.6	37.4	37.4	38.3	36.3	-4.2	-5.3

(1) Including bunkers.

(2) Includes nuclear, hydro and other renewable energy sources.

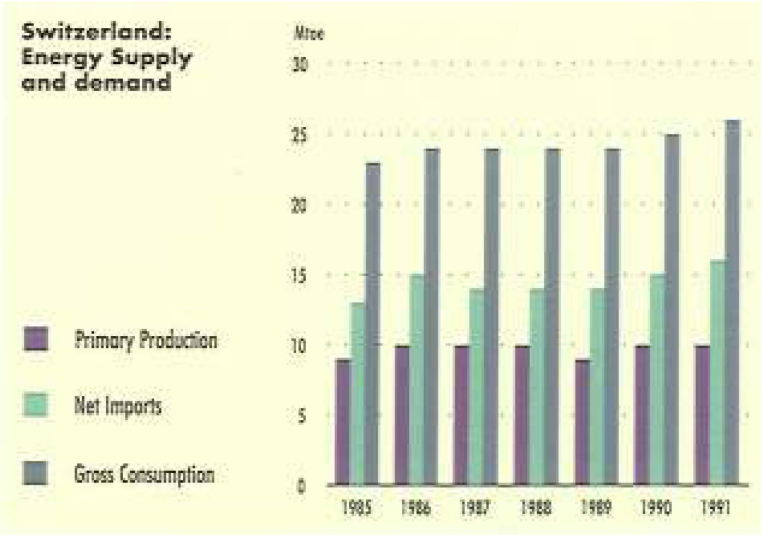
SWITZERLAND

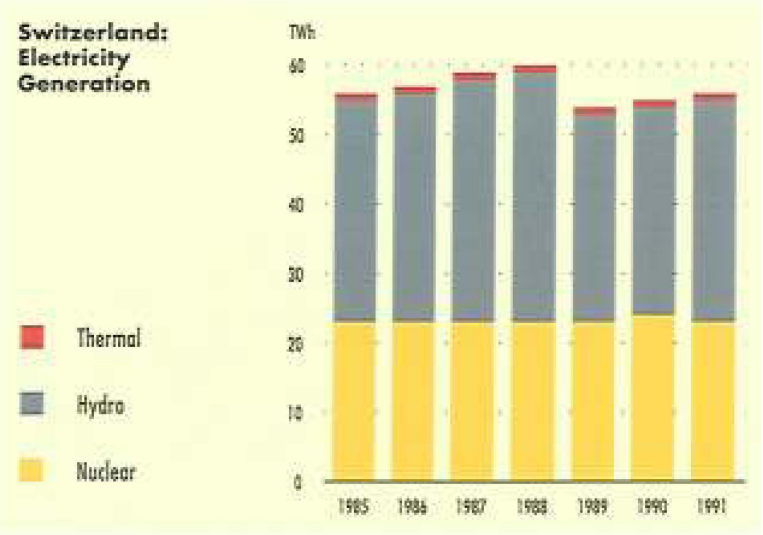
This one of the highest per capita GDP countries in the World and with a very efficient energy economy, measured by the ration of energy consumption over GDP. In energy supply terms, due to limited energy resources, this country presents an increasing degree of dependency on foreign supplies (58% in 1985 and 62% in 1991). In fact, domestic energy production has grown slower than energy consumption. Production is mainly made up of hydro and nuclear energy, accounting for 62% and 29% of total in 1991 respectively. There is also some production of biomass but it only represented 10% of total. Nuclear energy production has been stable since 1985 and lost 3.1% in 1991. Finished oil products are the main fuels in terms of net imports followed by crude oil and natural gas. Since 1986, crude oil imports have decreased in favour of finished products. Natural gas net imports have grown at 5.4% per year average since 1986.

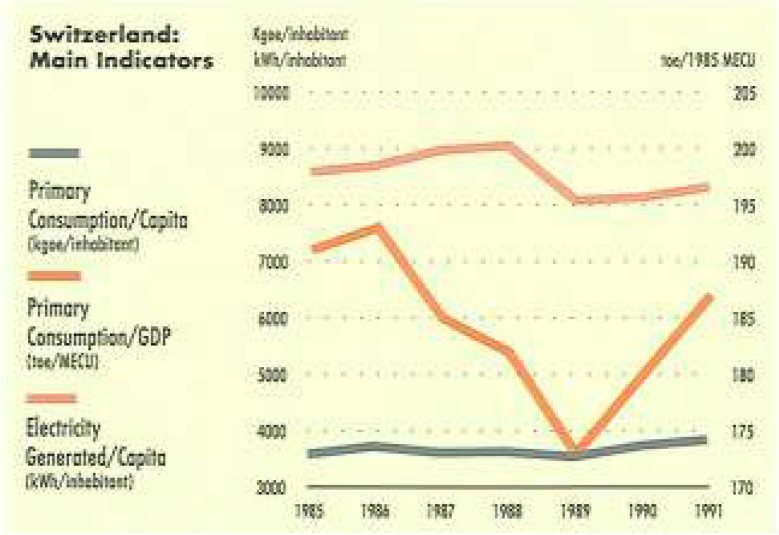
Gross energy consumption has increased gradually since 1986 (1.5% per year). In 1991, in spite of a stagnant economic activity, energy demand grew 4.0% due to harder climatic conditions compared to 1990. Since 1986, natural gas is the fastest growing primary fuel. Indeed, it seems that natural gas has been replacing solid fuels. In 1991, oil demand increased substantially by 8.1% while solids demand continued to drop. Total **final energy demand** has evolved more or less in line with primary needs. Gas is also here the fastest growing fuel, followed by electricity. In 1991 however, oil consumption grew 6.3% compared to 1.3% per year average in the last five years.

Electricity generation in 1991 was mainly covered by hydro (57%) and nuclear (41%); thermal generation represents only a rather small part (2%). Total electricity generation has been more or less stable. In 1991, it increased 3.5% resulting in a significant increase (percentage wise) in net exports. Thermal electricity generation is mainly based on biomass (75%) and to a lot less extent on oil and natural gas. Biomass for power generation has been increasing quite rapidly with 7.1% per year on average in the last five years and 40.2% in 1991.

Switzerland's energy intensity, which had been on a decreasing path since 1986, increased 4.1% in 1991. This results from the combination of a lot colder winter with stagnant economic activity. In absolute terms, energy intensity is some 37% lower than that of the average European Community, while for per capita energy consumption is only 9% higher.







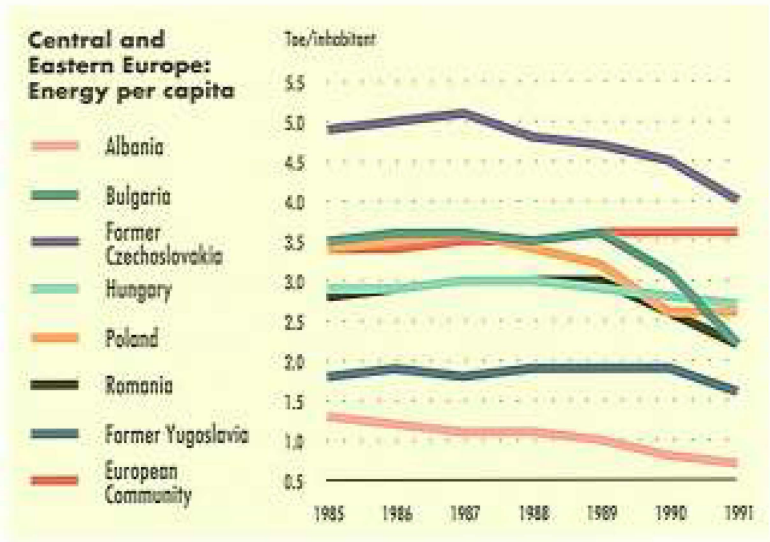
SWITZERLAND: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	91/86	91/90
								Annual % Change	
Primary Production	9.4	9.5	9.8	9.9	9.3	9.6	9.7	0.3	1.5
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-16.3	0.0
Nuclear	5.9	5.9	6.0	5.9	6.0	6.2	6.0	0.3	-3.1
Hydro	2.8	2.8	3.0	3.1	2.6	2.6	2.8	-0.5	7.8
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.8	0.8	0.8	0.8	0.8	0.8	1.0	3.7	15.6
Net Imports	13.5	15.0	13.5	13.8	14.2	15.4	16.2	1.5	5.5
Solids	0.4	0.5	0.4	0.3	0.2	0.3	0.3	-8.8	-11.3
Crude Oil	4.3	4.4	4.3	4.1	3.1	3.2	3.5	-4.7	8.1
Oil products	8.1	9.5	8.1	8.7	9.4	10.2	11.0	3.1	8.2
Total Oil	12.5	13.9	12.4	12.8	12.5	13.4	14.5	0.9	8.2
Natural gas	1.4	1.4	1.5	1.5	1.7	1.8	1.9	5.4	2.5
Electricity	-0.7	-0.7	-0.8	-0.8	-0.2	-0.2	-0.4	-10.1	139.5
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.2	-3.0
Gross Consumption *(1)*	23.2	24.2	23.6	23.9	23.5	25.0	26.0	1.5	4.0
Solids	0.5	0.4	0.4	0.3	0.4	0.4	0.3	-5.8	-9.0
Oil	12.6	13.5	12.7	13.0	12.3	13.5	14.6	1.6	8.1
Natural gas	1.4	1.5	1.6	1.6	1.7	1.8	1.9	5.1	2.5
Other *(2)*	8.6	8.8	9.0	9.0	9.1	9.4	9.3	1.1	-1.2
Electricity Generation in TWh	55.5	56.5	58.8	59.7	53.7	54.6	56.5	0.0	3.5
Nuclear	22.6	22.6	23.0	22.8	22.8	23.6	22.9	0.3	-3.1
Hydro	32.0	32.9	34.7	35.8	29.8	29.8	32.1	-0.5	7.8
Thermal	0.9	1.1	1.1	1.1	1.1	1.2	1.5	6.8	25.7
Fuel Inputs for Thermal Power Generation	0.6	0.7	0.7	0.6	0.6	0.6	0.8	4.2	30.0
Solids	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-6.3	13.5
Oil	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-3.3	14.0
Gas	0.1	0.1	0.1	0.1	0.1	0.1	0.1	3.1	11.1
Geothermal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.3	0.4	0.4	0.4	0.4	0.4	0.6	7.1	40.2
Total Final Energy Demand	18.6	18.7	18.9	19.0	19.3	19.4	20.5	1.8	5.3
Solids	0.5	0.4	0.4	0.3	0.3	0.3	0.3	-6.2	-12.9
Oil	12.7	12.7	12.6	12.7	12.8	12.7	13.5	1.3	6.3
Gas	1.3	1.3	1.4	1.4	1.6	1.7	1.9	7.8	13.1
Electricity	3.6	3.6	3.7	3.8	3.9	4.0	4.1	2.4	2.4
Heat	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.6	-2.3
Biomass	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-0.2	-6.4
CO2 Emissions in Mt of CO2	45.5	45.5	45.5	45.4	46.1	46.2	50.1	1.9	8.6
Indicators									
Population (Million)	6.47	6.50	6.55	6.59	6.65	6.71	6.79	0.9	1.2
GDP (Index 1985 = 100)	100.0	102.9	105.0	108.0	111.8	114.3	114.2	2.1	-0.1
Primary Consumption/GDP (toe/MECU)	191	193	185	182	173	180	187	-0.6	4.1
Primary Consumption/Capita (toe/inhabitant)	3.58	3.72	3.61	3.63	3.54	3.73	3.83	0.6	2.8
Electricity Generated/Capita (kWh/inhabitant)	8584	8699	8976	9056	8083	8137	8320	-0.9	2.2
CO2 Emissions/Capita (t of CO2/inhabitant)	7.03	7.00	6.94	6.90	6.94	6.88	7.38	1.1	7.3
Net Imports/Consumption (%)	58.2	62.2	57.2	57.7	60.6	61.3	62.3	0.0	1.5

(1) Including bunkers.
(2) Includes nuclear, hydro and other renewable energy sources.

CENTRAL AND EASTERN EUROPE

This region comprises a set of heterogeneous countries in both energy and economic terms. These countries are: Albania, Bulgaria, the former Czechoslovakia, Hungary, Poland, Romania and the former Yugoslavia. As a whole, this region produced 74% of its energy needs in 1991 (77% in 1985). The region is a net importer of oil and natural gas, mainly from the former USSR. Poland is a net exporter of coal. Although preference should be given to the use of trends rather than absolute values when looking at energy and macroeconomic data for all countries of this region, we try below to give some indications on the energy supply and demand situation of each country.



The table printer confirm page number 129 shows the comparison of some energy indicators for all countries of Central and Eastern Europe. In terms of gross consumption per capita, there are two groups. One with low levels comprising Albania and the former Yugoslavia and the other five countries with higher levels which are relatively similar. In terms of energy dependency only Albania shows some net energy exports until 1989 and Poland has a very low level of external dependency. The other countries present somewhat higher dependency degrees ranging from 31% in the former Czechoslovakia to 54% in Bulgaria.

Finally, given the economic crisis faced by these countries since the late 1980s, there is a common downward trend in both energy production and demand.

CENTRAL AND EASTERN EUROPE: Total Energy (in Mtoe)

PRODUCTION	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
TOTAL	287.8	291.1	293.5	286.3	270.7	234.8	222.6	-4.0	-5.2
Albania	4.4	4.2	3.9	3.5	3.5	2.3	2.1	-12.4	-7.7
Bulgaria	9.5	9.9	10.2	9.6	10.3	9.5	9.2	0.0	-3.9
Former Czechoslovakia	51.2	52.5	53.9	51.2	49.5	45.4	42.8	-2.4	-5.7
Hungary	17.5	17.1	17.8	17.4	16.8	15.3	15.0	-2.6	-1.8
Poland	124.9	127.0	128.8	125.5	115.5	97.8	95.5	-4.8	-2.3
Romania	54.4	54.1	52.6	53.5	49.9	39.0	34.0	-6.4	-12.9
Former Yugoslavia	25.9	26.4	26.3	25.6	25.2	25.5	24.0	-0.3	-5.8

NET IMPORTS	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
TOTAL	86.9	94.4	99.5	98.5	101.3	98.0	78.8	2.4	-19.6
Albania	-0.6	-0.7	-0.5	-0.1	-0.1	0.2	0.1	-	-49.0
Bulgaria	21.6	22.2	21.6	21.3	21.4	17.0	10.9	-4.7	-36.3
Former Czechoslovakia	24.8	24.3	25.3	23.8	23.8	23.8	19.5	-0.8	-18.1
Hungary	13.9	14.7	13.6	14.0	13.6	14.1	13.3	0.3	-5.4
Poland	0.5	2.9	5.2	3.6	4.9	2.3	4.4	36.8	90.7
Romania	10.9	13.5	17.0	16.2	18.6	22.1	16.3	15.2	-26.2
Former Yugoslavia	15.8	17.5	17.4	19.6	19.1	18.5	14.4	3.2	-22.4

GROSS CONSUMPTION	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
TOTAL	375.5	384.1	392.4	381.5	373.5	333.2	301.4	-2.4	-9.5
Albania	3.8	3.5	3.5	3.4	3.3	2.5	2.2	-8.2	-11.6
Bulgaria	31.0	32.2	31.9	31.2	32.3	27.5	20.0	-2.4	-27.3
Former Czechoslovakia	76.0	77.5	78.8	74.2	72.9	69.9	62.4	-1.6	-10.9
Hungary	31.1	31.3	32.1	31.5	30.4	29.3	28.3	-1.2	-3.3
Poland	127.8	130.1	134.3	127.4	121.2	98.9	99.9	-5.0	1.0
Romania	64.3	66.0	68.8	68.9	69.1	60.9	50.3	-1.1	-17.4
Former Yugoslavia	41.5	43.6	43.2	44.9	44.2	44.2	38.4	1.3	-13.1

CENTRAL AND EASTERN EUROPE: Energy Indicators

ENERGY INTENSITY (toe/MECU of 1985)	1985	1986	1987	1988	1989	1990	1991	90/85 Annual % Change	91/90 Annual % Change
TOTAL	1113	1106	1137	1092	1086	1045	1088	-1.3	4.2
Albania	na	na	na	na	na	na	na	na	na
Bulgaria	750	757	741	723	758	686	646	-1.8	-5.8
Former Czechoslovakia	1370	1366	1377	1268	1233	1218	1258	-2.3	3.3
Hungary	1153	1132	1142	1101	1087	1110	1207	-0.8	8.7
Poland	1374	1354	1423	1319	1281	1147	1251	-3.5	9.1
Romania	1029	1026	1091	1099	1145	1130	1085	1.9	-4.0
Former Yugoslavia	715	725	726	753	749	805	820	2.4	1.9

GROSS CONSUMPTION PER CAPITA (toe/inhabitant)	1985	1986	1987	1988	1989	1990	1991	90/85 Annual % Change	91/90 Annual % Change
TOTAL	3.10	3.16	3.21	3.11	3.03	2.69	2.44	-2.8	-9.4
Albania	1.28	1.16	1.12	1.07	1.04	0.76	0.66	-9.9	-13.8
Bulgaria	3.47	3.59	3.55	3.47	3.59	3.05	2.24	-2.5	-26.5
Former Czechoslovakia	4.90	4.99	5.06	4.75	4.66	4.47	3.98	-1.8	-11.0
Hungary	2.92	2.94	3.02	2.97	2.87	2.78	2.68	-1.0	-3.4
Poland	3.44	3.47	3.57	3.36	3.20	2.59	2.64	-5.5	2.0
Romania	2.83	2.89	3.00	2.99	2.99	2.62	2.16	-1.5	-17.6
Former Yugoslavia	1.79	1.87	1.84	1.91	1.87	1.86	1.60	0.7	-13.5

ENERGY DEPENDENCY (Net Imports/Consumption in %)	1985	1986	1987	1988	1989	1990	1991	90/85 Annual % Change	91/90 Annual % Change
TOTAL	23.1	24.6	25.4	25.8	27.1	29.4	26.2	4.9	-11.1
Albania	-16.0	-19.9	-13.7	-3.4	-3.9	7.2	4.1	-	-42.3
Bulgaria	69.7	68.9	67.8	68.4	66.2	61.9	54.3	-2.3	-12.4
Former Czechoslovakia	32.6	31.4	32.1	32.1	32.7	34.1	31.3	0.8	-8.1
Hungary	44.5	46.9	42.3	44.4	44.7	48.0	47.0	1.5	-2.1
Poland	0.4	2.2	3.9	2.8	4.0	2.3	4.4	44.0	88.8
Romania	16.9	20.4	24.7	23.6	27.0	36.3	32.4	16.4	-10.6
Former Yugoslavia	38.1	40.2	40.2	43.7	43.3	42.0	37.5	1.9	-10.7

CO2 EMISSIONS (Mt of CO2)	1985	1986	1987	1988	1989	1990	1991	90/85 Annual % Change	91/90 Annual % Change
TOTAL	1037	1063	1082	1022	989	876	795	-3.3	-9.2
Albania	9	9	9	9	8	6	5	-8.7	-11.2
Bulgaria	80	81	83	82	80	70	49	-2.4	-30.8
Former Czechoslovakia	238	242	240	202	200	190	170	-4.5	-10.6
Hungary	74	72	72	68	65	63	61	-3.1	-3.4
Poland	353	365	380	358	341	276	281	-4.8	1.7
Romania	171	176	184	185	179	155	130	-1.9	-15.9
Former Yugoslavia	112	119	115	117	117	116	99	0.6	-14.3

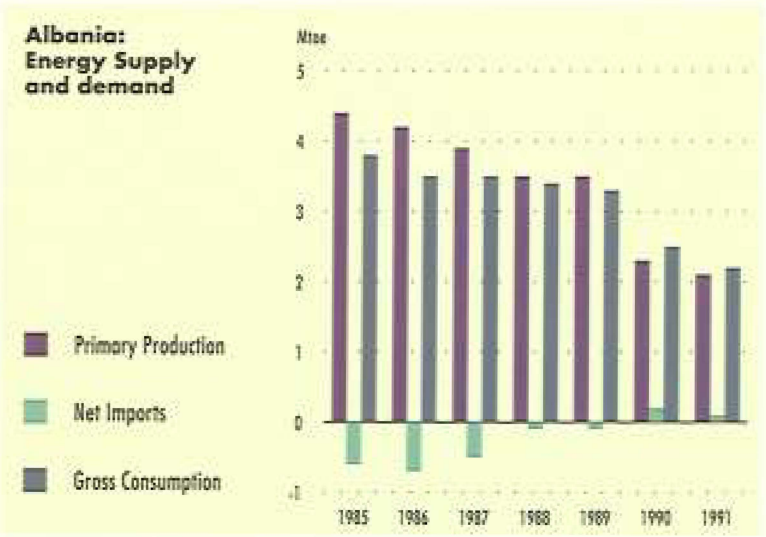
ALBANIA

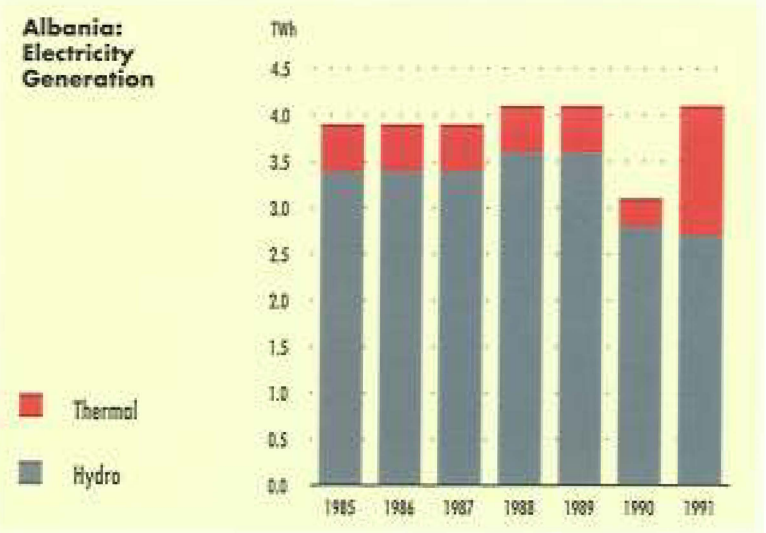
This is the smallest country of this region. Data are often unreliable or non existent. For example there are no data on GDP values or growth rates. In energy supply terms Albania passed from a more than a self-sufficiency situation (net exporter in 1985) to a net importer since 1990. Domestic energy production has been declining since 1985 and is now about half the 1985 level. Oil production dominates the production picture but there is also production of solids and natural gas. Albania has been a net importer of solids and a net exporter of oil, to a lesser extent, electricity.

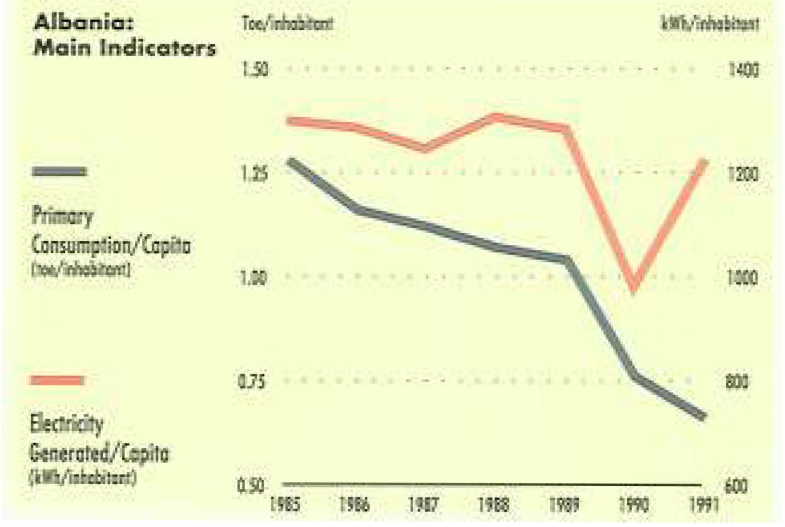
Gross energy consumption has been steadily declining from 1985 to 1989. In 1990 and 1991 it fell sharply by 24% and 12% respectively. The biggest declines have been in oil and solids demand. Similar evolution occurred in final energy demand and across all fuels. In 1990, total final energy consumption was some one third lower than in 1985.

Electricity generation, which is mainly based on hydro power, has been increasing since 1985 except for 1990 when it recorded a sharp drop over 1989. Thermal electricity generation, which accounted for 34% of total electricity output in 1991 (13% in 1985), is mainly based on oil (two thirds) and solid fuels.

Albania presents a very low per capita energy consumption and in a steady decreasing trend since 1985. To a very large extent this reveals the low level of both economic activity and of comfort. Compared to Greece and the former Yugoslavia, this indicator is 70% and 60% lower respectively. The same is true for the electricity generated per capita.







ALBANIA: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
Primary Production	4.4	4.2	3.9	3.5	3.5	2.3	2.1	-12.4	-7.7
Solids	0.8	0.7	0.8	0.8	0.8	0.5	0.4	-8.1	-17.9
Oil	2.7	2.5	2.2	1.7	1.7	1.1	1.0	-17.0	-6.3
Natural gas	0.3	0.3	0.3	0.3	0.3	0.2	0.2	-9.6	-1.2
Nuclear	-	-	-	-	-	-		-	-
Hydro	0.3	0.3	0.3	0.3	0.3	0.2	0.2	-3.2	-6.8
Heat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.4	0.4	0.4	0.4	0.4	0.3	0.3	-5.6	0.0
Net Imports	-0.6	-0.7	-0.5	-0.1	-0.1	0.2	0.1	-	-49.0
Solids	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	-10.5
Crude Oil	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Oil products	-0.7	-0.8	-0.6	-0.2	-0.2	0.0	0.0	-	-
Total Oil	-0.7	-0.8	-0.6	-0.2	-0.2	0.0	0.0	-	-
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Electricity	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	3.8	3.5	3.5	3.4	3.3	2.5	2.2	-8.2	-11.6
Solids	0.9	0.9	0.9	0.9	0.9	0.6	0.5	-6.5	-16.2
Oil	2.0	1.7	1.6	1.5	1.4	1.1	1.0	-11.1	-9.1
Natural gas	0.3	0.3	0.3	0.3	0.3	0.2	0.2	-9.6	-1.2
Other *(2)*	0.6	0.6	0.6	0.6	0.6	0.5	0.5	-2.2	-14.9
Electricity Generation in TWh	3.8	3.9	3.8	4.1	4.1	3.2	4.1	-3.7	28.2
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	3.4	3.4	3.4	3.6	3.6	2.8	2.7	-3.2	-6.8
Thermal	0.5	0.5	0.5	0.5	0.5	0.3	1.4	-7.5	323.3
Fuel Inputs for Thermal Power Generation	0.3	0.3	0.3	0.3	0.3	0.3	na	1.3	-
Solids	0.1	0.1	0.1	0.1	0.1	0.1	na	1.9	-
Oil	0.2	0.2	0.2	0.2	0.2	0.2	na	-0.1	-
Gas	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Heat	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Total Final Energy Demand	3.0	2.9	3.0	3.0	2.9	2.0	na	-7.6	-
Solids	0.8	0.8	0.8	0.8	0.8	0.5	na	-10.5	-
Oil	1.3	1.2	1.2	1.2	1.1	0.8	na	-9.9	-
Gas	0.3	0.3	0.3	0.3	0.3	0.2	na	-10.5	-
Electricity	0.3	0.3	0.2	0.3	0.3	0.1	na	-15.1	-
Heat	0.0	0.0	0.0	0.0	0.0	0.1	na	-	-
Biomass	0.4	0.4	0.4	0.4	0.4	0.3	na	-5.6	-
CO2 Emissions in Mt of CO2	8.9	8.5	8.7	8.7	8.3	5.6	na	-8.7	-
Indicators									
Population (Million)	2.96	3.02	3.08	3.14	3.20	3.25	3.34	1.9	2.6
GDP (Index 1985 = 100)	na	na	na	na	na	na	na	-	-
Primary Consumption/GDP (toe/MECU)	na	na	na	na	na	na	na	-	-
Primary Consumption/Capita (toe/inhabitant)	1.28	1.16	1.12	1.07	1.04	0.76	0.66	-9.9	-13.8
Electricity Generated/Capita (kWh/inhabitant)	1300	1286	1246	1307	1283	980	1225	-5.5	24.9
CO2 Emissions/Capita (t of CO2/inhabitant)	3.00	2.83	2.82	2.78	2.58	1.73	na	-10.4	-
Net Imports/Consumption (%)	-16.0	-19.9	-13.7	-3.4	-3.9	7.2	4.1	-	-42.3

(1) Including bunkers.
(2) Includes nuclear, hydro and other renewable energy sources.

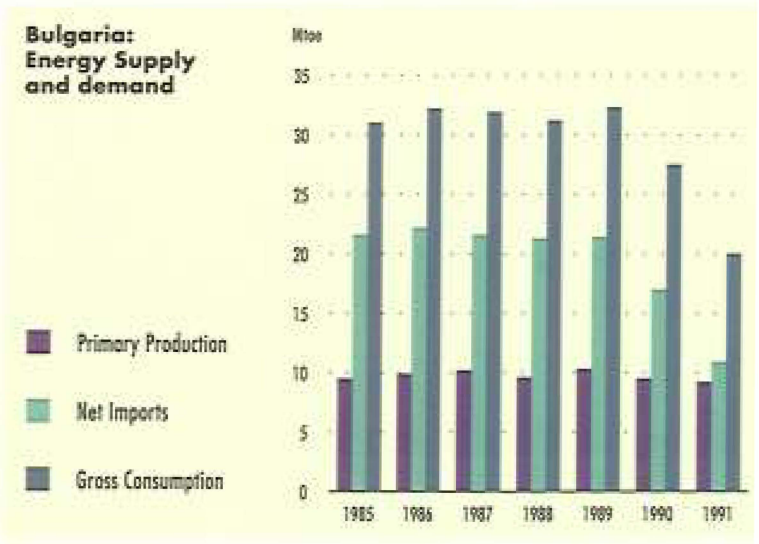
BULGARIA

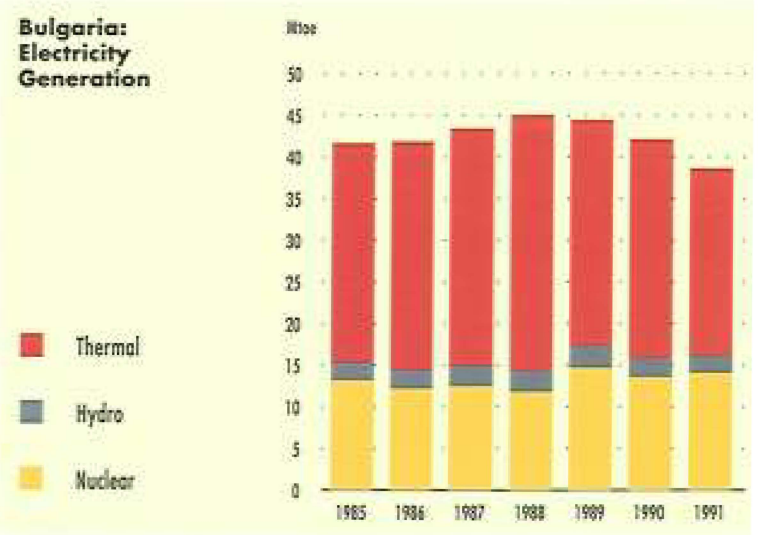
This is the second smallest country of this region in terms of population. In energy supply terms Bulgaria has been decreasing its dependency on foreign supplies. This results mainly from a combination of somewhat increased domestic production and of fairly stable total energy demand until 1989. After 1989, as demand dropped faster than production, net imports fell sharply and thus there was a significant drop in dependency. Solid fuels production dominates the production picture followed closely by nuclear energy. There is also production of oil and hydro power but in rather insignificant quantities.

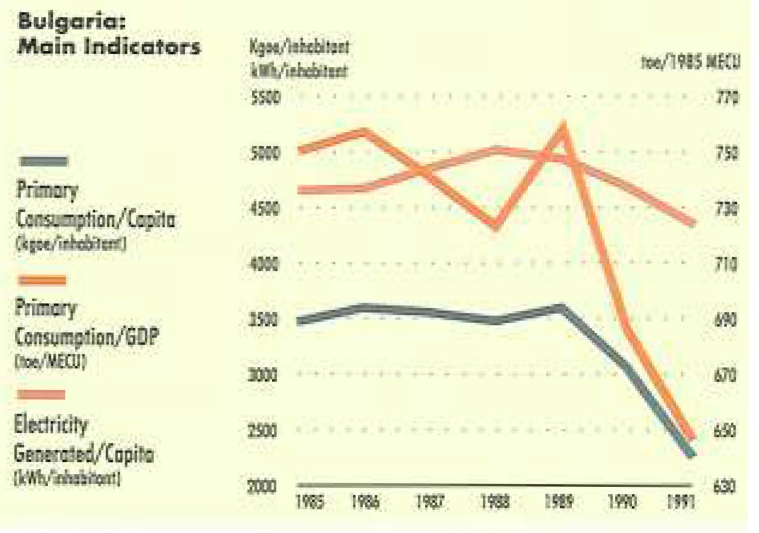
Gross energy consumption was rather stable between 1985 and 1989. In 1990 it fell by 15% and almost collapsed in 1991 with a 27% drop. The biggest declines have been in solids and oil demand. Natural gas consumption grew until 1990 at an average 1.3% per year but with a fall in 1991 of 17%. Total final energy demand however, grew until 1990 by almost half a percent per year. This evolution was not equally spread across all fuels. While solids and gas dropped between 1985 and 1990 by 6% and 9% per year on average, oil and electricity consumption increased on average by 5% and 7% per year respectively.

Electricity generation in 1991 was covered by nuclear energy (36%), thermal (58%) and some hydro power (6%). Total electricity generation increased steadily until 1989 (1.6% per year) it dropped 5% in 1990 and fell even further in 1991 by 8%. Thermal electricity generation is mainly based on solids (two thirds), gas (25%) and oil (8%). Looking at the last five years we see oil being replaced by gas for power generation while the amounts of solid fuels were more or less stable.

Bulgaria's energy intensity has been on a decreasing path since 1985 at an annual average of 1.8% until 1990. In 1991, it dropped further by 5.8%. In absolute terms, energy intensity is more than double that of the European Community average and even slightly higher than the intensity of Luxembourg. In terms of per capita energy consumption, Bulgaria was very close to the Community average in 1989. It is only after 1989 that this indicator drops quite rapidly (-27% in 1991).







BULGARIA: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
Primary Production	9.5	9.9	10.2	9.6	10.3	9.5	9.2	0.0	-3.9
Solids	5.3	6.0	6.3	5.8	5.8	5.4	4.9	0.4	-9.1
Oil	0.2	0.1	0.1	0.1	0.1	0.1	0.1	-21.5	0.0
Natural gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Nuclear	3.4	3.1	3.2	3.0	3.8	3.5	3.7	0.6	3.8
Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.6	-6.8
Heat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.4	0.4	0.4	0.4	0.4	0.4	0.4	-3.0	0.0
Net Imports	21.6	22.2	21.6	21.3	21.4	17.0	10.9	-4.7	-36.3
Solids	5.2	4.4	4.4	3.9	3.7	3.4	2.3	-8.3	-31.7
Crude Oil	12.6	13.5	12.9	13.3	13.8	8.3	3.7	-8.0	-55.6
Oil products	-1.1	-0.9	-1.2	-1.3	-1.5	0.1	0.6	-	343.3
Total Oil	11.5	12.6	11.8	12.0	12.3	8.5	4.3	-6.0	-48.9
Natural gas	4.6	4.8	5.1	5.1	4.9	4.9	4.0	1.3	-17.2
Electricity	0.4	0.3	0.4	0.4	0.4	0.3	0.2	-2.6	-44.6
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	31.0	32.2	31.9	31.2	32.3	27.5	20.0	-2.4	-27.3
Solids	10.5	10.4	10.7	9.7	9.8	8.8	7.2	-3.4	-18.4
Oil	11.6	13.1	11.9	12.5	12.6	9.5	4.4	-3.9	-53.7
Natural gas	4.6	4.6	5.1	5.0	5.1	4.9	4.1	1.0	-16.5
Other *(2)*	4.4	4.1	4.2	4.0	4.8	4.4	4.4	0.0	-0.5
Electricity Generation in TWh	41.6	41.8	43.5	45.0	44.3	42.1	38.7	0.2	-8.3
Nuclear	13.1	12.1	12.4	11.7	14.6	13.5	14.0	0.6	3.8
Hydro	2.2	2.3	2.5	2.6	2.7	2.3	2.1	0.6	-6.8
Thermal	26.3	27.4	28.5	30.7	27.1	26.3	22.5	0.1	-14.6
Fuel Inputs for Thermal Power Generation	9.7	10.5	10.8	8.7	8.3	7.9	na	-4.0	-
Solids	5.3	5.8	6.1	6.2	5.9	5.3	na	0.1	-
Oil	3.4	3.9	3.7	0.9	0.7	0.6	na	-29.1	-
Gas	0.9	0.8	1.1	1.6	1.7	2.0	na	16.2	-
Heat	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Total Final Energy Demand	12.8	12.5	13.5	11.8	10.1	13.0	na	0.4	-
Solids	4.6	4.0	4.3	3.6	3.3	3.4	na	-6.1	-
Oil	6.0	6.0	5.8	9.3	9.2	7.6	na	5.0	-
Gas	3.7	3.8	4.0	3.3	3.4	2.3	na	-9.0	-
Electricity	3.0	3.2	3.2	3.4	3.4	4.3	na	7.3	-
Heat	1.4	1.5	2.0	1.5	4.1	4.3	na	24.5	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
CO2 Emissions in Mt of CO2	79.6	80.8	82.6	82.2	79.7	70.4	na	-2.4	-
Indicators									
Population (Million)	8.96	8.96	8.97	8.98	8.99	9.01	8.91	0.1	-1.1
GDP (Index 1985 = 100)	100.0	102.7	103.9	104.1	102.9	96.9	74.8	-0.6	-22.8
Primary Consumption/GDP (toe/MECU)	750	757	741	723	758	686	646	-1.8	-5.8
Primary Consumption/Capita (toe/inhabitant)	3.47	3.59	3.55	3.47	3.59	3.05	2.24	-2.5	-26.5
Electricity Generated/Capita (kWh/inhabitant)	4647	4667	4847	5014	4931	4677	4338	0.1	-7.2
CO2 Emissions/Capita (t of CO2/inhabitant)	8.88	9.02	9.21	9.16	8.86	7.81	na	-2.5	-
Net Imports/Consumption (%)	69.7	68.9	67.8	68.4	66.2	61.9	54.3	-2.3	-12.4

(1) Including bunkers.
(2) Includes nuclear, hydro and other renewable energy sources.

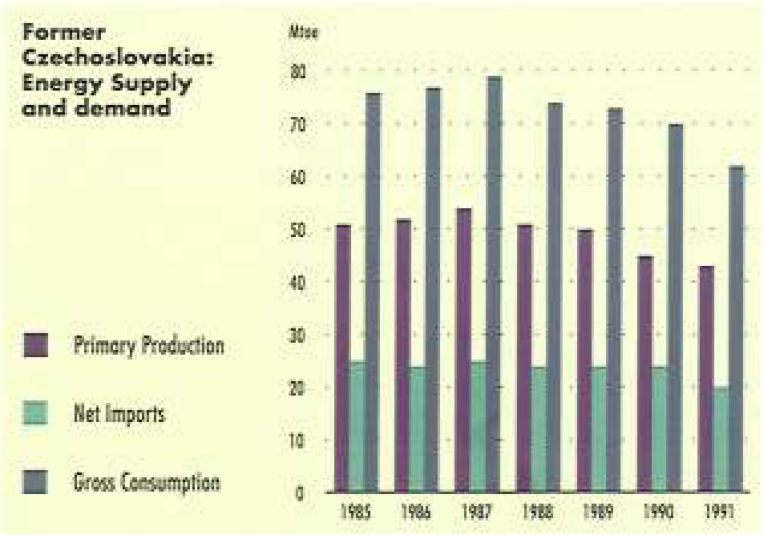
FORMER CZECHOSLOVAKIA

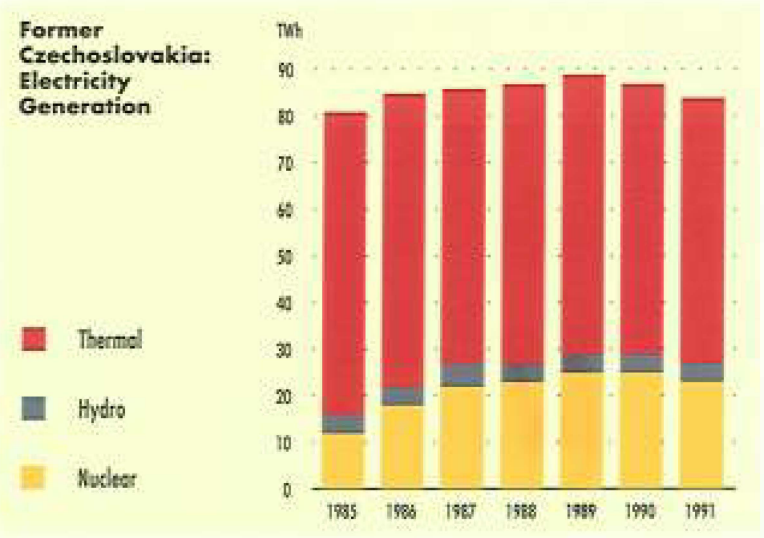
Although as of 1 January 1993 this country has been split into two independent countries, data available refer only to the whole territory. In energy supply terms the former Czechoslovakia showed a fairly stable degree of dependency on foreign supplies since 1985. This results mainly from a declining overall energy demand mainly after 1988. This evolution pattern is the same for domestic production. After 1990, as demand dropped faster than production net imports fell sharply and thus a significant drop in dependency occurred. Solid fuels, although on a declining trend, dominate the production picture followed by nuclear energy. This latest energy source lost 8% production in 1991. There is also production of oil, gas and hydro power but in rather insignificant quantities.

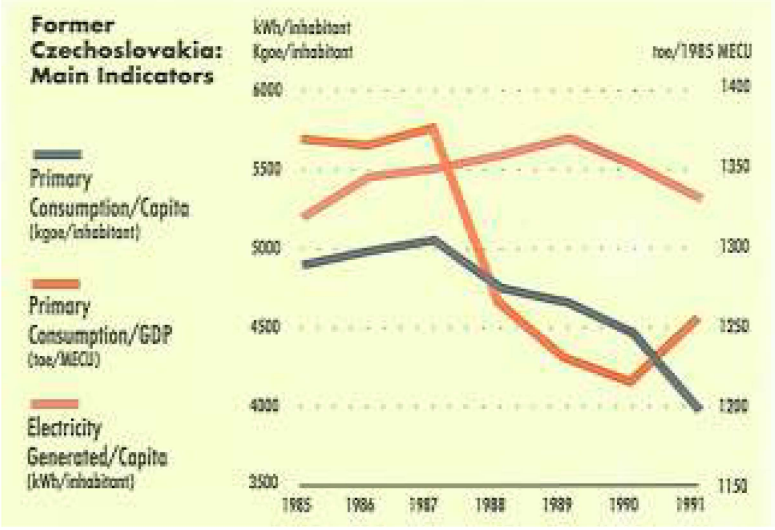
Gross energy consumption, which had grown from 1985 to 1987 at an average 1.8% per year, started to fall in 1988. Since then it has decreased by 6% per year, falling even more rapidly in 1991 by 11% to a level of about 21% lower than the peak in 1988. The biggest declines have been in solids and oil demand. Natural gas consumption grew until 1990 at an average 6% per year to fall in 1991 by 6%. Total final energy demand shows the same evolution as for primary energy. However, this evolution was not equally spread across all fuels. While solids and oil dropped between 1985 and 1990 by 7% and 2% per year on average, gas and electricity consumption increased on average by 11% and 17% per year respectively. Electricity generation in 1991 was covered by nuclear energy (27%), thermal (68%) and some hydro power (5%).

Total **electricity** generation increased steadily until 1989 (2.6% per year) it dropped 2.9% in 1990 and fell even further in 1991 by 3.7%. Thermal electricity generation is almost all based on solids (97% in 1991) and some gas. Looking at the last five years we see that oil, which represented 12% of total thermal inputs in 1985, is being phased out of power generation.

The former Czechoslovakia's energy intensity had been on a decreasing path until 1990. In 1991, however, the intensity increased sharply by 3.3% in part as a result of the economic crisis. In absolute terms, energy intensity is more than fourfold that of the European Community average. In terms of per capita energy consumption, the former Czechoslovakia is slightly higher than the Community average in 1991. However, this indicator shows a decreasing trend with a downward acceleration in 1991 (-11%).







Former CZECHOSLOVAKIA: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
Primary Production	51.2	52.5	53.9	51.2	49.5	45.4	42.8	-2.4	-5.7
Solids	46.8	46.4	46.6	43.5	41.6	37.6	35.7	-4.3	-5.0
Oil	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.5	13.8
Natural gas	0.6	0.6	0.6	0.7	0.6	0.5	0.3	-0.3	-41.2
Nuclear	3.1	4.7	5.8	6.1	6.4	6.4	5.9	15.9	-7.8
Hydro	0.4	0.3	0.4	0.4	0.4	0.3	0.4	-1.7	2.8
Heat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.3	0.3	0.3	0.4	0.3	0.4	0.4	5.3	0.0
Net Imports	24.8	24.3	25.3	23.8	23.8	23.8	19.5	-0.8	-18.1
Solids	0.0	0.1	0.3	0.2	-0.4	0.1	-1.2	24.0	-
Crude Oil	16.8	16.2	16.9	16.3	16.6	13.3	11.0	-4.5	-17.3
Oil products	0.1	-0.6	-0.8	-1.0	-1.5	-0.3	-0.3	-	-1.0
Total Oil	16.9	15.7	16.1	15.3	15.1	13.1	10.8	-5.1	-17.7
Natural gas	7.5	8.4	8.5	8.1	8.9	10.2	9.8	6.4	-4.0
Electricity	0.3	0.1	0.3	0.3	0.2	0.4	0.1	5.0	-69.6
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	76.0	77.5	78.8	74.2	72.9	69.9	62.4	-1.6	-10.9
Solids	46.8	47.2	46.5	42.9	41.2	38.2	34.5	-4.0	-9.6
Oil	17.1	15.8	16.2	15.6	15.2	13.4	10.9	-4.7	-18.7
Natural gas	8.1	9.0	9.2	8.7	9.2	10.8	10.1	6.0	-6.0
Other *(2)*	4.1	5.4	6.8	7.1	7.3	7.6	6.8	13.2	-10.1
Electricity Generation in TWh	80.6	84.8	85.8	87.4	89.2	86.6	83.4	1.4	-3.7
Nuclear	11.8	17.9	22.2	23.3	24.6	24.6	22.7	15.9	-7.8
Hydro	4.3	4.0	4.9	4.4	4.3	4.0	4.1	-1.7	2.8
Thermal	64.5	62.9	58.7	59.7	60.3	58.0	56.6	-2.1	-2.5
Fuel Inputs for Thermal Power Generation	34.6	27.3	24.8	25.2	24.9	23.7	na	-7.3	-
Solids	27.6	20.4	21.0	24.2	23.6	23.0	na	-3.6	-
Oil	4.1	3.9	3.0	0.4	0.4	0.0	na	-1	-
Gas	2.8	3.0	0.8	0.6	0.9	0.7	na	-24.4	-
Heat	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Total Final Energy Demand	46.8	55.7	51.0	48.8	49.0	47.5	na	0.3	-
Solids	15.7	23.8	22.7	13.6	12.7	10.7	na	-7.4	-
Oil	10.6	10.1	10.2	10.0	10.1	9.5	na	-2.2	-
Gas	5.3	6.1	9.2	6.5	7.4	9.0	na	11.1	-
Electricity	5.5	5.7	6.1	6.2	6.3	12.3	na	17.3	-
Heat	9.7	10.0	2.8	12.6	12.4	12.3	na	4.9	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
CO2 Emissions in Mt of CO2	238.4	241.9	239.7	202.5	199.8	189.6	na	-4.5	-
Indicators									
Population (Million)	15.50	15.53	15.57	15.61	15.64	15.66	15.68	0.2	0.1
GDP (Index 1985 = 100)	100.0	102.3	103.2	105.6	106.7	103.6	89.4	0.7	-13.7
Primary Consumption/GDP (toe/MECU)	1370	1366	1377	1268	1233	1218	1258	-2.3	3.3
Primary Consumption/Capita (toe/inhabitant)	4.90	4.99	5.06	4.75	4.66	4.47	3.98	-1.8	-11.0
Electricity Generated/Capita (kWh/inhabitant)	5202	5459	5512	5597	5703	5532	5318	1.2	-3.9
CO2 Emissions/Capita (t of CO2/inhabitant)	15.38	15.57	15.40	12.97	12.77	12.11	na	-4.7	-
Net Imports/Consumption (%)	32.6	31.4	32.1	32.1	32.7	34.1	31.3	0.8	-8.1

(1) Including bunkers.
(2) Includes nuclear, hydro and other renewable energy sources.

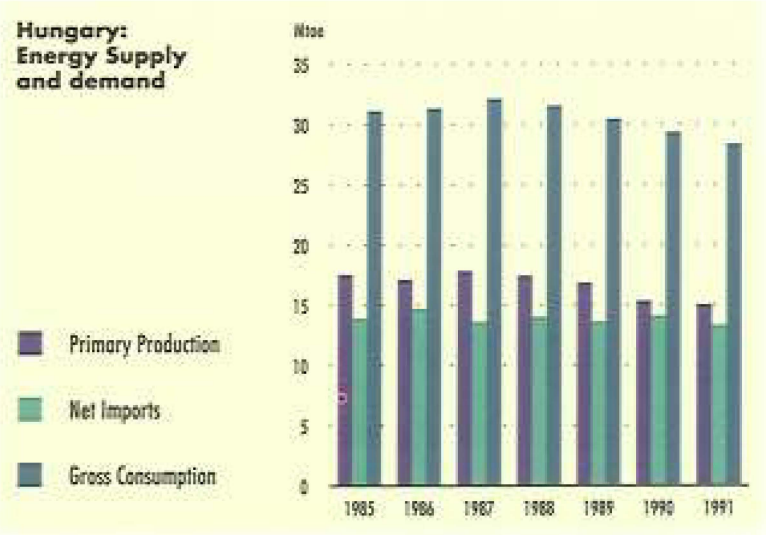
HUNGARY

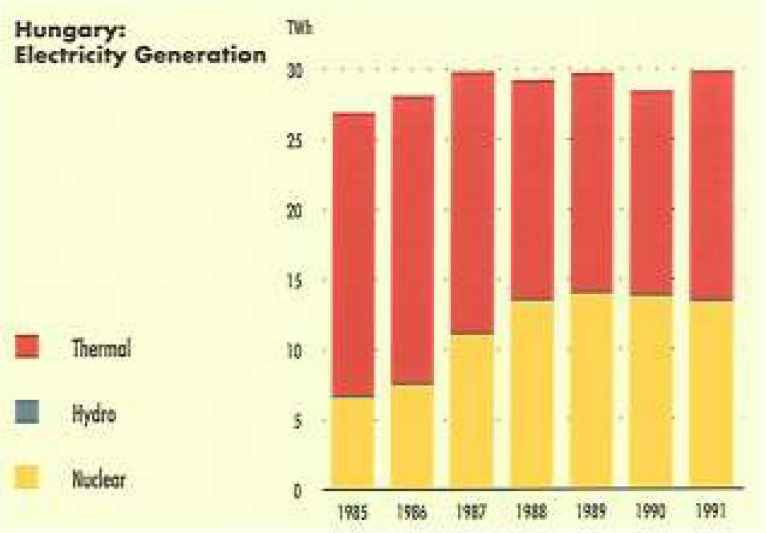
Hungary is one of the most economically developed countries in Central and Eastern Europe. In energy supply terms Hungary showed a somewhat increasing degree of dependency on foreign supplies since 1985 to attain 47% in 1991. This results mainly from a domestic production declining slightly faster than total primary demand. Solid fuels production, although on a declining trend, ranks first followed by natural gas, nuclear energy and oil. Nuclear energy, which had been growing at an annual average of 16% between 1985 and 1990, lost 3% in 1991.

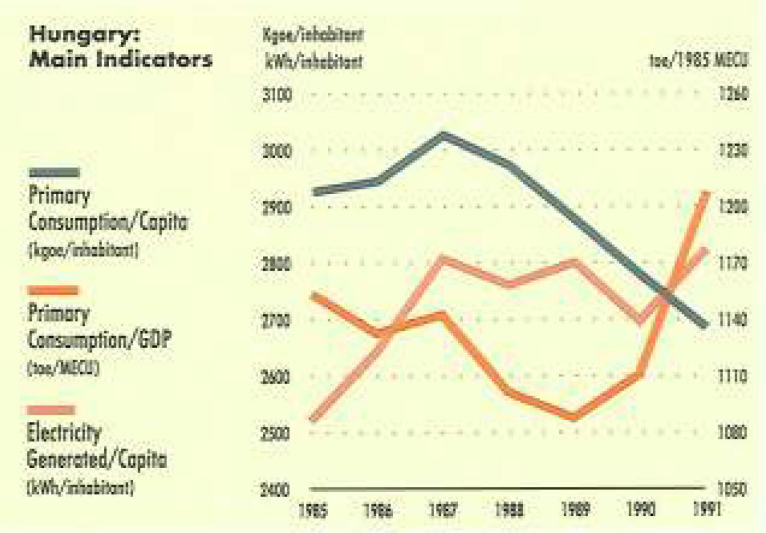
Gross energy consumption, which had grown from 1985 to 1987 at an average 1.6% per year, started to fall in 1988. Since then it has decreased by 3.5% per year until 1991 to a level about 12% lower than the peak in 1987. The biggest declines have been in solids and oil demand. Natural gas consumption grew until 1989 at an average 1.7% per year to fall in 1990 and 1991 by 5% and 2.5% respectively. Total final energy demand shows the same evolution as for primary energy. However, this evolution was not equally spread across all fuels. While solids demand dropped between 1985 and 1990 by 10% per year on average, gas consumption increased on average by 7% per year. Electricity generation in 1991 was covered by nuclear energy (45%) and thermal (55%). Hydro power (0.2 TWh) production is practically insignificant.

Total **electricity** generation increased steadily until 1989 (2.5% per year). It dropped 4% in 1990 and grew again in 1991 by 4.8%. Thermal electricity generation is mainly based on solids (64% in 1991), gas (21%) and some oil. Looking at the last five years we see that oil, which represented 24% of total thermal inputs in 1985, has been phased out of power generation.

Hungary's energy intensity had been on a decreasing path until 1989. In 1990 and 1991, however, the intensity increased sharply by 2.1% and 8.7% respectively partly due to the economic crisis. In absolute terms, energy intensity is more than fourfold that of the European Community average. In terms of per capita energy consumption, Hungary is lower than the Community average in 1991. However, this indicator shows a decreasing trend with a downward acceleration in 1991 (-3.4%).







HUNGARY: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
Primary Production	17.5	17.1	17.8	17.4	16.8	15.3	15.0	-2.6	-1.8
Solids	6.4	6.1	6.0	5.7	5.2	4.7	4.5	-6.0	-3.4
Oil	2.8	2.7	2.7	2.7	2.6	2.5	2.4	-2.0	-4.1
Natural gas	5.8	5.6	5.5	4.9	4.7	3.8	3.9	-8.2	2.2
Nuclear	1.7	1.9	2.9	3.5	3.6	3.6	3.5	16.2	-2.9
Hydro	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Heat	0.1	0.1	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.7	0.7	0.7	0.7	0.7	0.7	0.7	-0.9	0.0
Net Imports	13.9	14.7	13.6	14.0	13.6	14.1	13.3	0.3	-5.4
Solids	2.7	2.8	1.9	2.3	1.9	1.5	1.6	-10.7	9.6
Crude Oil	6.4	6.7	6.4	6.9	6.2	6.3	5.9	-0.3	-6.8
Oil products	0.7	0.4	0.4	-0.5	-0.3	0.1	0.2	-25.9	62.4
Total Oil	7.1	7.1	6.8	6.4	5.9	6.4	6.1	-1.8	-5.2
Natural gas	3.2	3.8	3.9	4.3	4.8	5.2	4.8	9.9	-7.3
Electricity	0.9	0.9	0.9	1.0	1.0	1.0	0.8	0.6	-19.6
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	31.1	31.3	32.1	31.5	30.4	29.3	28.3	-1.2	-3.3
Solids	8.8	8.8	8.6	8.3	7.2	6.8	6.2	-5.2	-8.8
Oil	10.1	9.5	9.7	8.8	8.6	8.4	8.5	-3.6	1.6
Natural gas	8.8	9.4	9.3	9.2	9.4	8.9	8.7	0.2	-2.5
Other *(2)*	3.4	3.6	4.5	5.2	5.3	5.2	4.9	9.0	-5.5
Electricity Generation in TWh	26.8	28.1	29.8	29.2	29.6	28.4	29.8	1.2	4.8
Nuclear	6.5	7.4	11.0	13.4	13.9	13.7	13.3	16.2	-2.9
Hydro	0.2	0.2	0.2	0.2	0.2	0.2	0.2	2.8	0.0
Thermal	20.2	20.5	18.6	15.6	15.6	14.5	16.3	-6.4	12.1
Fuel Inputs for Thermal Power Generation	6.7	6.6	6.3	5.5	4.5	4.7	na	-6.9	-
Solids	3.0	3.2	3.1	3.0	2.7	3.0	na	0.0	-
Oil	1.6	1.1	1.2	0.7	0.7	0.6	na	-16.3	-
Gas	2.1	2.2	1.9	1.8	1.2	1.0	na	-12.9	-
Heat	0.1	0.1	0.0	0.0	0.0	0.0	na	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Total Final Energy Demand	22.6	22.3	22.5	22.0	20.3	19.4	na	-3.0	-
Solids	4.9	4.8	4.5	4.5	3.3	2.9	na	-10.1	-
Oil	6.9	6.6	6.7	6.5	6.4	6.4	na	-1.5	-
Gas	4.1	4.3	4.5	4.4	6.2	5.9	na	7.4	-
Electricity	2.6	2.6	2.7	2.7	2.7	1.5	na	-10.0	-
Heat	4.1	4.0	4.1	3.9	1.7	1.5	na	-17.9	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
CO2 Emissions in Mt of CO2	73.7	72.3	71.6	68.2	64.5	62.9	na	-3.1	-
Indicators									
Population (Million)	10.65	10.63	10.61	10.60	10.58	10.55	10.56	-0.2	0.1
GDP (Index 1985 = 100)	100.0	102.3	104.1	105.9	103.7	97.7	86.9	-0.5	-11.1
Primary Consumption/GDP (toe/MECU)	1153	1132	1142	1101	1087	1110	1207	-0.8	8.7
Primary Consumption/Capita (toe/inhabitant)	2.92	2.94	3.02	2.97	2.87	2.78	2.68	-1.0	-3.4
Electricity Generated/Capita (kWh/inhabitant)	2517	2640	2805	2758	2798	2694	2821	1.4	4.7
CO2 Emissions/Capita (t of CO2/inhabitant)	6.92	6.80	6.75	6.44	6.10	5.97	na	-2.9	-
Net Imports/Consumption (%)	44.5	46.9	42.3	44.4	44.7	48.0	47.0	1.5	-2.1

(1) Including bunkers.

(2) Includes nuclear, hydro and other renewable energy sources.

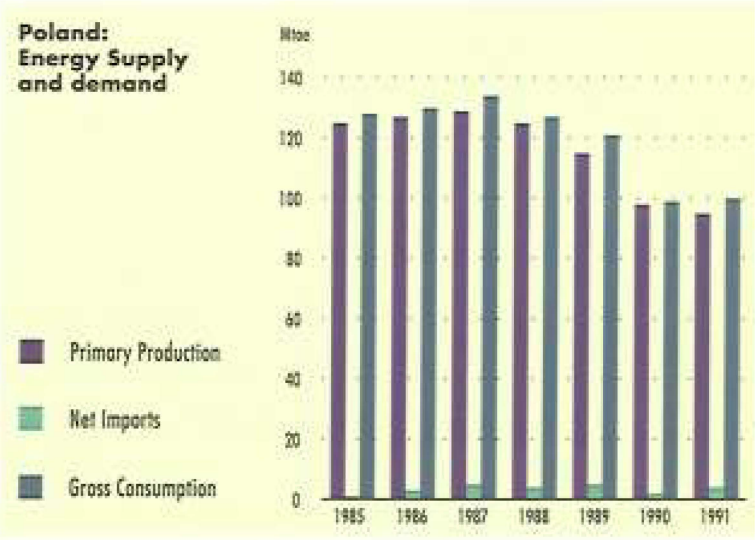
POLAND

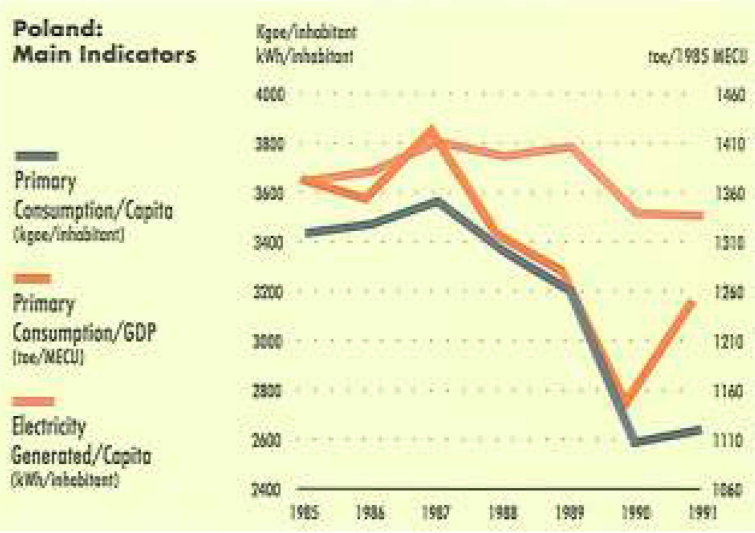
Poland is one of the most industrialised countries in Central and Eastern Europe and the largest in population. In energy supply terms Poland has presented a very low degree of dependency on foreign supplies but on an increasing path from 0.4% in 1985 to 4.4% in 1991. This results from a domestic production declining slightly faster than total primary demand. Solid fuels production, although on a declining trend, dominates domestic production (96% in 1991) followed by natural gas. There is no nuclear energy and hydro power generation is practically insignificant. There is a very small production of oil. Poland has been a net exporter of coal although after 1988 exported volumes have decreased steadily. In 1991, Poland only exported 14.7 Mtoe of solids, or 23% less than in 1990.

Gross energy consumption, which had grown from 1985 to 1987 at an average 2.5% per year, started to fall in 1988. Since then it has decreased by almost 12% per year until 1990. In 1991 it increased 1% to a level 26% lower than the peak in 1987. The biggest declines have been in solids and oil demand. Oil consumption grew until 1988 at an average 1.2% per year to fall in 1989, 1990 and 1991 by 1.1%, 20.5% and 1.6% respectively. Total final energy demand shows the same evolution as for primary energy. However, this evolution was not equally spread across all fuels. While fossil fuels demand dropped 9% per year between 1985 and 1990, electricity consumption increased on average by 16% per year.

Electricity generation in 1991 was virtually entirely thermal. Thermal electricity generation is mainly based on solids (99% in 1991) and some oil.

Poland's energy intensity, which is around four times that of the European Community average, has been oscillating from 1985 to 1989. In 1990, the intensity decreased sharply by 10%, but it increased again in 1991 by 9%. In terms of per capita energy consumption, Poland is lower than the Community average in 1991. However, this indicator shows a decreasing trend until 1990 with a slight increase in 1991 (2%).





POLAND: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
Primary Production	124.9	127.0	128.8	125.5	115.5	97.8	95.5	-4.8	-2.3
Solids	118.7	120.9	122.7	120.7	111.1	94.5	92.0	-4.5	-2.6
Oil	0.2	0.2	0.1	0.2	0.2	0.2	0.2	-2.2	-1.8
Natural gas	5.0	4.7	4.9	3.7	3.5	2.4	2.5	-13.9	6.9
Nuclear	-	-	-	-	-	-		-	-
Hydro	0.2	0.1	0.1	0.2	0.1	0.1	0.1	-6.6	15.0
Heat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	0.8	1.0	0.9	0.7	0.6	0.6	0.6	-4.6	0.0
Net Imports	0.5	2.9	5.2	3.6	4.9	2.3	4.4	36.8	90.7
Solids	-20.6	-19.7	-17.5	-20.4	-18.8	-18.9	-14.7	-1.7	-22.5
Crude Oil	13.8	14.1	14.1	15.1	14.9	13.1	11.7	-0.9	-10.
Oil products	3.1	3.3	3.0	2.5	2.3	1.4	1.8	-14.6	27.1
Total Oil	16.8	17.4	17.1	17.6	17.1	14.5	13.5	-2.9	-6.9
Natural gas	4.4	5.2	5.5	6.0	6.4	6.8	5.9	9.2	-13.0
Electricity	-0.2	0.0	0.1	0.4	0.2	-0.1	-0.4	-13.3	310.2
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption (1)	127.8	130.1	134.3	127.4	121.2	98.9	99.9	-5.0	1.0
Solids	100.6	101.5	105.6	98.8	93.3	75.4	77.3	-5.6	2.6
Oil	17.1	17.6	17.2	17.7	17.5	13.9	13.7	-4.0	-1.6
Natural gas	9.4	9.8	10.3	9.7	9.5	8.9	8.4	-0.9	-5.6
Other *(2)*	0.8	1.2	1.2	1.3	0.9	0.7	0.4	-3.4	-38.6
Electricity Generation in TWh	135.7	138.1	143.4	142.0	143.3	134.3	132.6	-0.2	-1.3
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	1.9	1.6	1.7	1.8	1.6	1.3	1.5	-6.6	15.0
Thermal	133.8	136.5	141.7	140.2	141.7	133.0	131.1	-0.1	-1.4
Fuel Inputs for Thermal Power Generation	42.0	43.0	44.9	39.8	39.7	36.7	na	-2.7	-
Solids	41.3	42.3	44.1	39.5	39.3	36.3	na	-2.6	-
Oil	0.7	0.6	0.7	0.4	0.4	0.4	na	-11.8	-
Gas	0.0	0.0	0.0	0.0	0.0	0.0	na	-1.4	-
Heat	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Total Final Energy Demand	81.1	83.6	87.1	81.2	76.0	61.5	na	-5.4	-
Solids	33.2	34.3	36.1	36.7	32.6	21.0	na	-8.8	-
Oil	10.5	10.9	11.1	10.8	11.0	9.2	na	-2.6	-
Gas	7.6	8.4	8.7	6.5	6.3	6.0	na	-4.6	-
Electricity	8.2	8.5	9.2	8.9	8.9	17.0	na	15.9	-
Heat	21.7	21.5	22.0	18.2	17.2	17.0	na	-4.7	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
CO2 Emissions in Mt of CO2	353.3	364.6	380.4	358.4	341.2	276.4	na	-4.8	-
Indicators									
Population (Million)	37.20	37.46	37.66	37.86	37.85	38.18	37.80	0.5	-1.0
GDP (Index 1985 = 100)	100.0	103.2	101.4	103.8	101.7	92.7	85.8	-1.5	-7.4
Primary Consumption/GDP (toe/MECU)	1374	1354	1423	1319	1281	1147	1251	-3.5	9.1
Primary Consumption/Capita (toe/inhabitant)	3.44	3.47	3.57	3.36	3.20	2.59	2.64	-5.5	2.0
Electricity Generated/Capita (kWh/inhabitant)	3647	3687	3807	3750	3787	3518	3508	-0.7	-0.3
CO2 Emissions/Capita (t of CO2/inhabitant)	9.50	9.73	10.10	9.47	9.01	7.24	na	-5.3	-
Net Imports/Consumption (%)	0.4	2.2	3.9	2.8	4.0	2.3	4.4	44.0	88.8

(1) Including bunkers.

(2) Includes nuclear, hydro and other renewable energy sources.

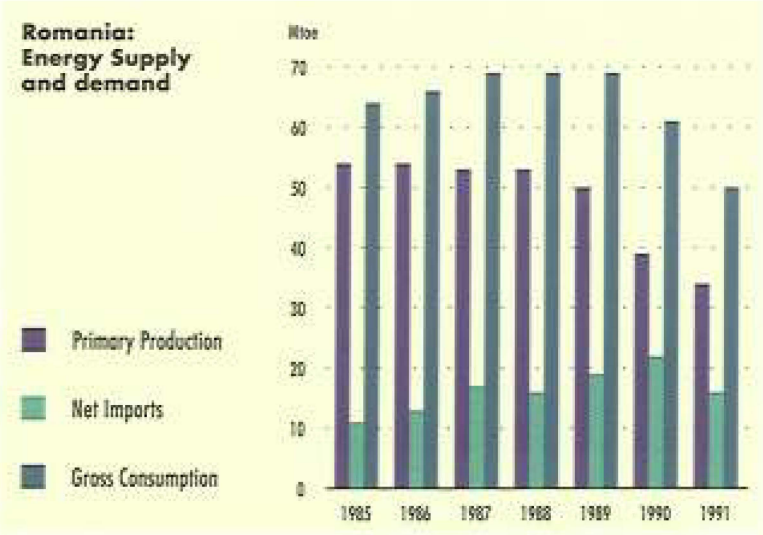
ROMANIA

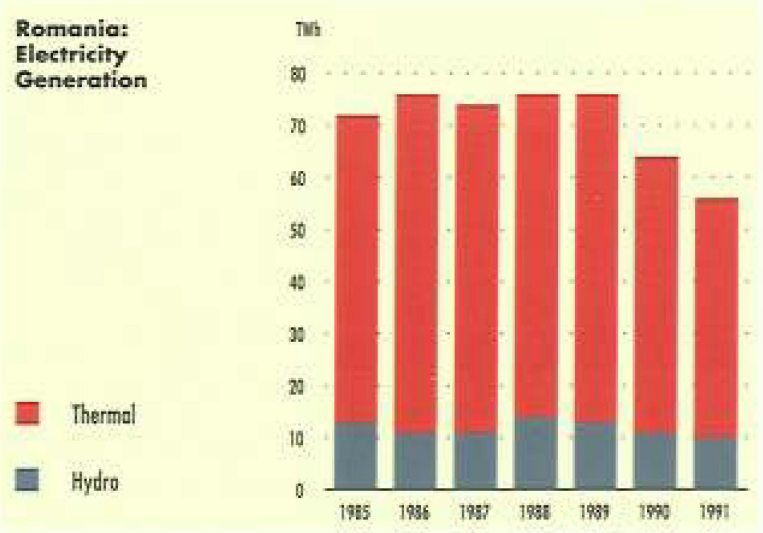
Romania is the second largest country in Central and Eastern Europe in terms of population. In energy supply terms Romania's dependency on foreign supplies has been increasing rapidly until 1990. In 1991, this dependency decreased due to a significant drop in energy demand. This is a direct result of the current economic crisis. Domestic production is dominated by natural gas, followed by oil and solids fuels. However, domestic production for all fuels are in a declining trend since 1985. This trend intensified in 1991 resulting in a total production 38% lower than the 1985 level. There is no nuclear energy and hydro power generation is practically insignificant. Romania, which was a net exporter of oil products, exported in 1991 only 9% of the volumes exported in 1989.

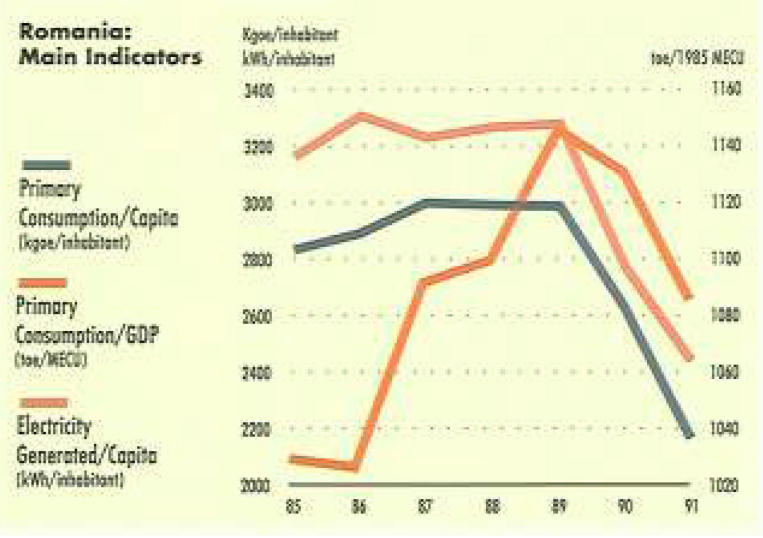
Gross energy consumption, which had grown from 1985 to 1989 at an average 1.8% per year, started to fall in 1990. In 1991 it decreased 17.4% to a level 27% lower than the peak in 1989. The biggest declines in 1991 have been in oil and natural gas demand. Oil consumption grew until 1990 at an average 5.1% per year to fall in 1991 by 28.6%. Total final energy demand shows an evolution similar to primary energy. However, this evolution was not equally spread across all fuels. While solid fuels demand decreased 11.5% per year between 1985 and 1990, electricity consumption increased on average by 3.8% per year.

Electricity generation in 1991 was mainly covered by thermal power (82%) and hydro (18%). Thermal electricity generation in 1990 was based on gas (39%), oil (28%) and solids (33%).

Romania's energy intensity, which is around four times that of the European Community average, had been increasing from 1985 to 1989. In 1990 and 1991, the intensity decreased by 1.3% and 4.0% respectively. In terms of per capita energy consumption, Romania is quite lower than the Community average in 1991. However, this indicator shows a decreasing trend until 1990 with a downward acceleration in 1991 (-17.6%).







ROMANIA: Summary Energy Balance

Mtoe	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
Primary Production	54.4	54.1	52.6	53.5	49.9	39.0	34.0	-6.4	-12.9
Solids	10.3	10.5	11.3	12.6	12.4	7.6	6.4	-6.0	-15.1
Oil	10.4	9.8	9.2	9.1	8.9	7.7	6.6	-5.8	-14.3
Natural gas	31.3	31.7	30.1	29.6	26.5	21.9	19.2	-6.9	-12.5
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	1.1	0.9	1.0	1.2	1.1	0.9	0.9	-2.9	-6.8
Heat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	1.3	1.1	1.0	0.9	0.9	0.9	0.9	-5.6	0.0
Net Imports	10.9	13.5	17.0	16.2	18.6	22.1	16.3	15.2	-26.2
Solids	4.8	5.0	5.3	5.7	4.6	4.3	5.2	-2.3	20.7
Crude Oil	14.2	16.5	20.7	20.3	21.2	15.6	8.2	1.9	-47.7
Oil products	-9.9	-10.8	-12.1	-13.6	-13.7	-4.4	-1.3	-14.9	-70.4
Total Oil	4.3	5.8	8.6	6.7	7.5	11.2	6.8	21.2	-38.7
Natural gas	1.5	2.4	2.6	3.1	5.8	5.8	3.7	30.6	-36.9
Electricity	0.3	0.4	0.4	0.6	0.7	0.8	0.6	23.8	-25.6
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	64.3	66.0	68.8	68.9	69.1	60.9	50.3	-1.1	-17.4
Solids	15.1	15.4	16.6	18.3	17.2	11.7	11.6	-5.0	-0.6
Oil	14.7	15.6	17.9	15.9	17.4	18.8	13.4	5.1	-28.6
Natural gas	31.9	32.5	31.9	32.0	31.9	27.7	22.8	-2.8	-17.6
Other *(2)*	2.6	2.4	2.4	2.7	2.7	2.7	2.4	0.6	-10.1
Electricity Generation in TWh	71.8	75.5	74.1	75.3	75.9	64.3	56.7	-2.2	-11.9
Nuclear	-	-	-	-	-	-		-	-
Hydro	12.7	10.8	11.2	13.6	12.6	11.0	10.2	-2.9	-6.8
Thermal	59.1	64.7	62.9	61.7	63.2	53.3	46.5	-2.0	-12.9
Fuel Inputs for Thermal Power Generation	19.7	21.4	21.0	21.9	23.1	21.8	na	2.1	-
Solids	6.8	7.3	7.4	9.1	9.9	7.0	na	0.5	-
Oil	2.8	3.9	3.8	3.2	3.7	6.2	na	17.6	-
Gas	10.1	10.2	9.8	9.5	9.5	8.6	na	-3.1	-
Heat	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Total Final Energy Demand	48.0	48.7	51.5	51.2	48.0	41.1	na	-3.1	-
Solids	7.0	6.9	7.9	7.6	5.8	3.8	na	-11.5	-
Oil	8.9	8.6	10.4	9.3	7.8	7.4	na	-3.7	-
Gas	21.8	22.3	22.1	22.5	22.4	19.0	na	-2.7	-
Electricity	5.1	5.4	5.4	5.5	5.6	6.2	na	3.8	-
Heat	5.1	5.4	5.7	6.3	6.4	6.2	na	3.8	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
CO2 Emissions in Mt of CO2	170.6	175.8	184.2	184.7	179.2	155.0	na	-1.9	-
Indicators									
Population (Million)	22.72	22.83	22.94	23.05	23.15	23.20	23.25	0.4	0.2
GDP (Index 1985 = 100)	100.0	102.8	100.8	100.4	96.6	86.2	74.2	-2.9	-14.0
Primary Consumption/GDP (toe/MECU)	1029	1026	1091	1099	1145	1130	1085	1.9	-4.0
Primary Consumption/Capita (toe/inhabitant)	2.83	2.89	3.00	2.99	2.99	2.62	2.16	-1.5	-17.6
Electricity Generated/Capita (kWh/inhabitant)	3161	3306	3229	3267	3277	2772	2438	-2.6	-12.0
CO2 Emissions/Capita (t of CO2/inhabitant)	7.51	7.70	8.03	8.01	7.74	6.68	na	-2.3	-
Net Imports/Consumption (%)	16.9	20.4	24.7	23.6	27.0	36.3	32.4	16.4	-10.6

(1) Including bunkers.

(2) Includes nuclear, hydro and other renewable energy sources.

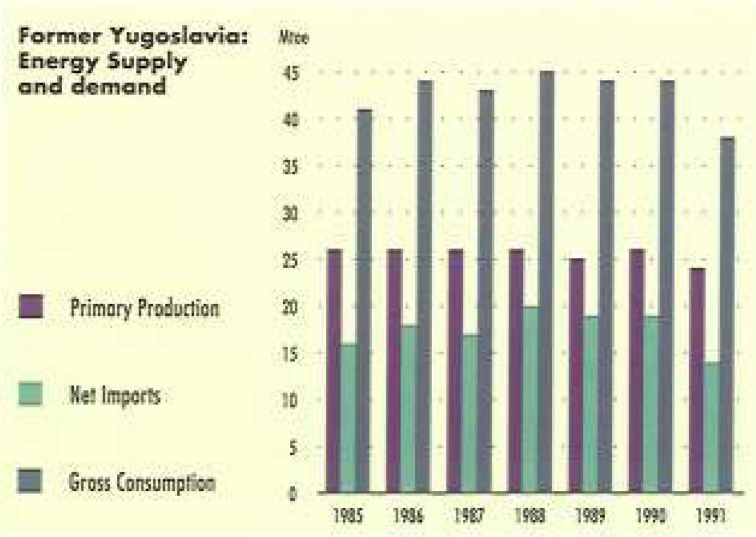
FORMER YUGOSLAVIA

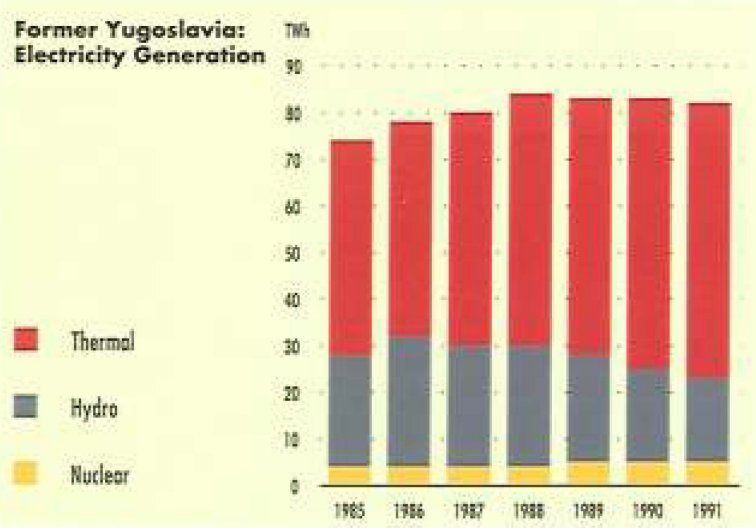
The former Yugoslavia corresponds now to a set of countries in turmoil. Thus, to a very large extent the analysis of this region is no longer meaningful. In energy supply terms the former Yugoslavia's dependency on foreign supplies increased rapidly until 1988. In 1989 and 1990, it decreased due to a significant drop in energy demand and a fairly stable domestic production. In 1991 due to a big drop in demand, dependency fell again to a level similar to that of 1985. Domestic production is dominated by solid fuels, followed to a less extent by oil, natural gas, hydro power and nuclear energy. The former Yugoslavia, is a net importer of all energy sources.

Gross energy consumption, which grew from 1985 to 1988 at an average 2.7% per year, stabilised in 1989 and 1990. In 1991 it decreased 13.1% to a level 14% lower than the peak in 1988. The biggest declines in 1991 have been in oil and solid fuels. Total final energy demand has steadily declined since 1986. While solid fuels demand decreased 5.2% per year between 1985 and 1990, oil and electricity consumption increased on average by 1% per year.

Electricity generation in 1991 was mainly covered by thermal power (72%), hydro (22%) and nuclear (6%). Thermal electricity generation in 1991 was based on solids (75%), oil (20%) and gas (5%).

The former Yugoslavia's energy intensity, which is about threefold that of the European Community average, has been increasing since 1985, except in 1989, at an annual average of 2.4%. In 1991, the intensity increased by 1.9%. In terms of per capita energy consumption, the former Yugoslavia is quite lower than the Community average in 1991. However, this indicator showed an increasing trend until 1990 (0.7% per year) with a drop of 13.5% in 1991.





Former YUGOSLAVIA: Summary Energy Balance

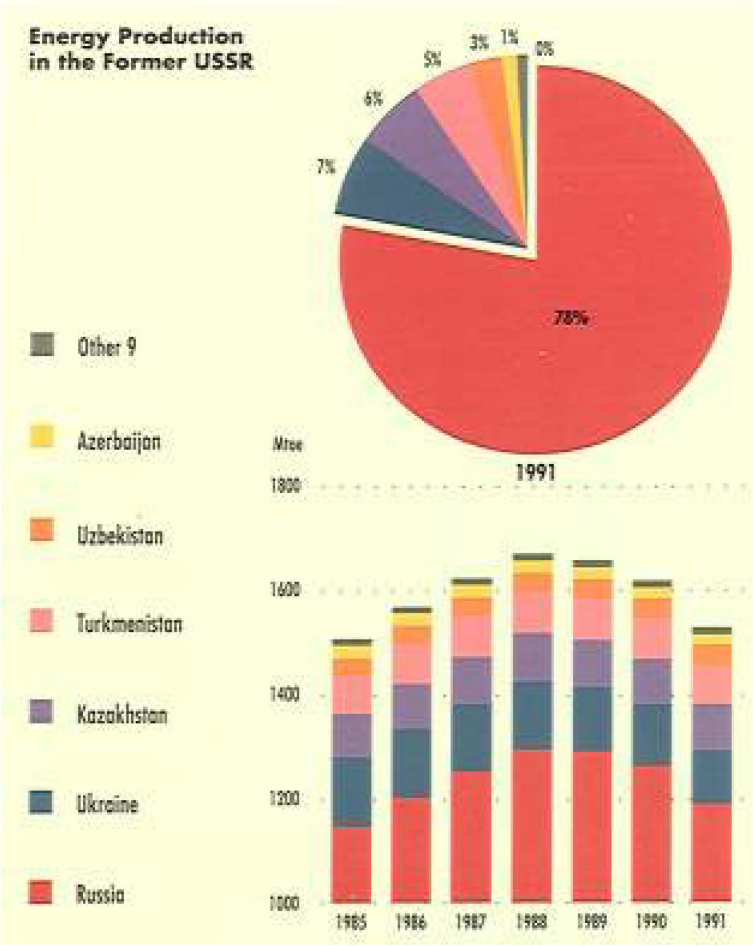
Mtoe	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
Primary Production	25.9	26.4	26.3	25.6	25.2	25.5	24.0	-0.3	-5.8
Solids	15.6	15.7	15.9	15.2	15.2	16.3	15.3	0.9	-6.0
Oil	4.2	4.2	3.9	3.8	3.5	3.2	2.8	-5.4	-13.8
Natural gas	2.0	2.0	2.1	2.5	2.4	2.2	2.2	1.6	-0.4
Nuclear	1.1	1.0	1.2	1.1	1.2	1.2	1.3	2.7	3.8
Hydro	2.1	2.4	2.3	2.2	2.0	1.7	1.6	-4.0	-6.8
Heat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Biomass	1.0	1.0	0.9	0.9	0.9	0.9	0.9	-0.6	0.0
Net Imports	15.8	17.5	17.4	19.6	19.1	18.5	14.4	3.2	-22.4
Solids	3.2	3.4	2.7	2.9	2.6	2.4	1.0	-5.8	-58.7
Crude Oil	8.8	10.7	11.1	13.5	13.4	12.2	9.0	6.7	-26.9
Oil products	0.8	0.3	0.0	0.1	-0.1	0.8	1.4	1.7	61.2
Total Oil	9.6	11.0	11.1	13.6	13.2	13.1	10.3	6.4	-21.2
Natural gas	2.9	3.1	3.5	3.3	3.4	3.1	3.1	1.2	0.0
Electricity	0.1	0.0	0.0	-0.1	0.0	0.0	0.0	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Gross Consumption *(1)*	41.5	43.6	43.2	44.9	44.2	44.2	38.4	1.3	-13.1
Solids	18.9	19.1	18.6	18.1	17.8	18.6	16.3	-0.2	-12.7
Oil	13.5	14.9	14.6	17.0	16.5	16.4	13.1	4.1	-20.4
Natural gas	5.0	5.1	5.7	5.8	5.8	5.3	5.3	1.3	-0.2
Other *(2)*	4.2	4.5	4.3	4.1	4.2	3.8	3.8	-1.7	-1.7
Electricity Generation in TWh	74.8	77.9	80.8	83.7	83.5	82.9	82.5	2.1	-0.4
Nuclear	4.1	4.0	4.5	4.1	4.7	4.6	4.8	2.7	3.8
Hydro	24.3	27.5	26.3	25.9	23.5	19.8	18.4	-4.0	-6.8
Thermal	46.5	46.4	50.0	53.6	55.3	58.5	59.3	4.7	1.4
Fuel Inputs for Thermal Power Generation	15.4	15.9	15.4	17.1	17.3	18.1	na	3.3	-
Solids	12.5	12.9	12.3	12.6	12.6	13.6	na	1.7	-
Oil	2.2	2.3	2.6	3.6	3.6	3.7	na	10.9	-
Gas	0.7	0.7	0.4	0.9	1.1	0.9	na	4.4	-
Heat	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
Total Final Energy Demand	22.3	24.0	23.9	22.8	22.3	21.5	na	-0.7	-
Solids	3.8	3.8	3.0	2.5	3.5	2.9	na	-5.2	-
Oil	8.7	10.1	9.6	10.3	9.2	9.1	na	1.0	-
Gas	3.0	3.1	4.1	3.2	2.9	2.5	na	-3.1	-
Electricity	5.2	5.5	5.6	5.4	5.4	5.6	na	1.1	-
Heat	1.5	1.6	1.5	1.4	1.3	1.4	na	-2.5	-
Biomass	0.0	0.0	0.0	0.0	0.0	0.0	na	-	-
CO2 Emissions in Mt of CO2	112.4	118.8	115.1	117.0	116.8	115.7	na	0.6	-
Indicators									
Population (Million)	23.12	23.27	23.42	23.57	23.69	23.81	23.93	0.6	0.5
GDP (Index 1985 = 100)	100.0	103.6	102.5	102.8	101.7	94.6	80.7	-1.1	-14.7
Primary Consumption/GDP (toe/MECU)	715	725	726	753	749	805	820	2.4	1.9
Primary Consumption/Capita (toe/inhabitant)	1.79	1.87	1.84	1.91	1.87	1.86	1.60	0.7	-13.5
Electricity Generated/Capita (kWh/inhabitant)	3235	3348	3450	3549	3523	3482	3449	1.5	-0.9
CO2 Emissions/Capita (t of CO2/inhabitant)	4.86	5.10	4.92	4.96	4.93	4.86	na	0.0	-
Net Imports/Consumption (%)	38.1	40.2	40.2	43.7	43.3	42.0	37.5	1.9	-10.7

(1) Including bunkers.
(2) Includes nuclear, hydro and other renewable energy sources.

FORMER USSR

The former USSR includes the following Republics: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. Russia alone is the second biggest energy producer in the world after the United States. Ukraine, Kazakhstan, Turkemistan and Azerbaijan follow in total energy production but, together, they account only for about one third of total Russian production. For natural gas, however, Russia is the largest producer and exporter in the world.

In terms of **energy self-sufficiency**, only Azerbaijan, Kazakhstan, Russia, Turkmenistan and Uzbekistan are or have been net energy exporters. The energy supply situation varies very widely among the Republics. While Estonia and Moldova



FORMER USSR: Total Energy (in Mtoe)

	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
PRODUCTION								Annual % Change	
TOTAL	1508.4	1570.3	1625.0	1671.9	1659.6	1620.3	1529.9	1.4	-5.6
Armenia	1.2	1.2	1.4	1.3	0.4	0.8	1.4	-8.4	77.2
Azerbaijan	24.6	24.4	24.1	23.4	22.3	19.9	18.7	-4.2	-6.0
Belarus	2.2	2.2	2.2	2.3	2.3	2.2	2.2	-0.4	0.0
Estonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Georgia	1.9	1.5	1.7	1.7	1.5	1.6	1.6	-3.8	2.7
Kazakhstan	83.2	87.3	90.4	92.6	90.1	87.1	88.7	0.9	1.9
Kyrgyzstan	2.5	2.6	2.4	2.8	2.9	2.7	2.5	1.8	-8.2
Latvia	0.3	0.3	0.3	0.3	0.3	0.4	0.4	8.6	-2.2
Lithuania	2.1	2.1	2.4	3.1	4.0	4.5	4.5	15.8	0.0
Moldova	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Russia	1148.8	1203.7	1253.9	1296.3	1293.0	1265.1	1192.3	1.9	-5.8
Tajikistan	2.3	2.5	2.1	2.3	2.0	2.1	1.7	-2.1	-16.9
Turkmenistan	73.4	74.6	77.3	77.4	78.5	76.9	73.7	0.9	-4.2
Ukraine	133.1	131.7	129.6	130.7	123.0	117.7	101.9	-2.4	-13.4
Uzbekistan	32.6	36.4	37.2	37.7	39.2	39.4	40.2	3.9	2.2

fully depend on imports, Turkmenistan exports more than 80% of its production. In terms of the whole former USSR, net exports of solids and oil increased steadily between 1985 and 1988 but then started to decline as the political and economic situation deteriorated. Net exports of natural gas, however, grew continuously until 1990 and only dropped in 1991 by 4.5%. The energy and macroeconomic data for all these Republics are sometimes of doubtful quality, and again we have to recommend reference to trends rather than the absolute values for analysis purposes wherever possible. Moreover, with all the rapid changes in political, social and economic structures, data for 1991 are only estimates as statistics are at the moment not yet available.

Total **energy consumption** in the former USSR as a whole grew steadily at 2.8% per year from 1985 to 1988. In 1989 due to the serious economic and political crisis total energy demand started to fall.. Among the big consuming Republics only Ukraine showed a constant energy demand growth of around 0.5% per year from 1985 to 1991. In 1990 most of the Republics recorded the biggest fall in energy demand. This fall continued in 1991 although to a slightly extent. However, the Republics had different behaviours. While Estonia had a 9% drop in demand in 1991 (-30% in 1990), Georgia had a fall of 30% (+16% in 1990). Russia, the largest consumer within all the Republics (almost two thirds of total former USSR consumption) showed a

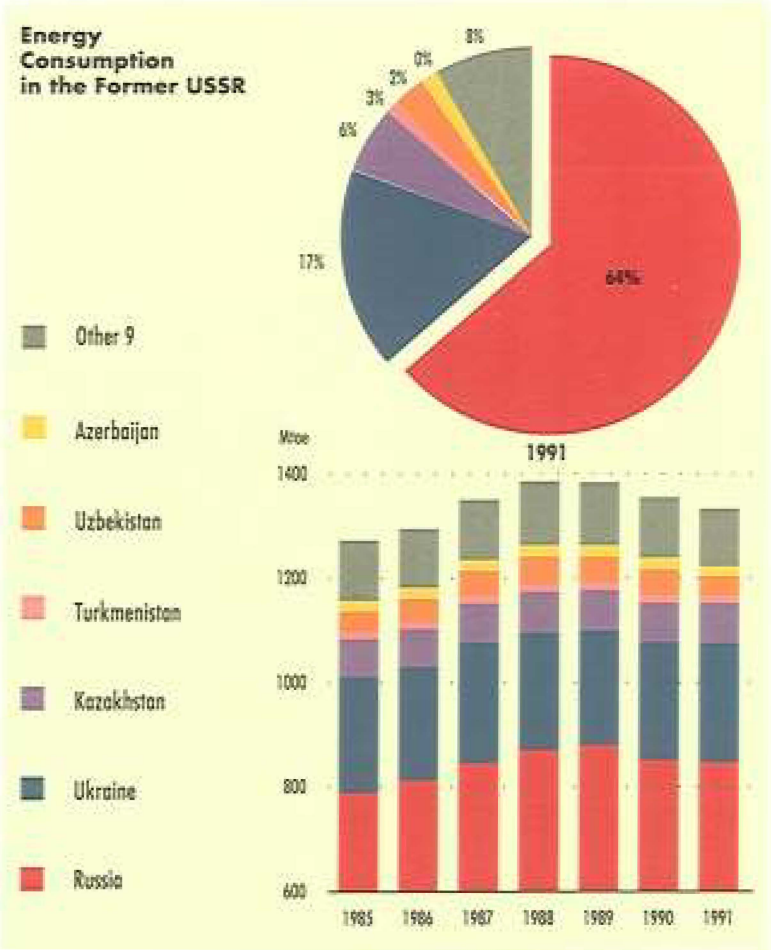
FORMER USSR: Total Energy (in Mtoe)

	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
NET IMPORTS								Annual % Change	
TOTAL	-219.6	-250.4	-264.0	-274.3	-262.0	-251.1	-196.8	2.7	-21.6
Armenia	6.6	6.0	6.3	9.3	9.7	7.0	7.0	1.3	-0.5
Azerbaijan	-3.3	-2.7	-2.6	-1.4	-0.4	3.6	1.6	-	-55.0
Belarus	37.0	38.2	39.6	40.0	39.4	39.9	40.2	1.5	0.7
Estonia	8.5	8.2	8.5	8.6	8.7	6.0	5.5	-6.7	-8.8
Georgia	10.7	11.3	11.6	11.8	11.7	13.8	9.1	5.2	-33.9
Kazakhstan	-11.3	-14.7	-15.3	-14.0	-12.4	-12.1	-13.0	1.3	7.1
Kyrgyzstan	4.7	5.1	3.9	6.9	7.5	6.2	6.3	5.8	2.2
Latvia	11.3	8.9	8.2	8.2	7.9	7.6	7.2	-7.6	-4.8
Lithuania	11.9	9.6	10.6	10.2	9.0	7.4	6.5	-9.1	-12.6
Moldova	8.0	8.6	9.0	8.5	8.6	8.8	8.1	1.8	-8.0
Russia	-359.9	-390.2	-407.9	-425.2	-413.0	-413.9	-345.8	2.8	-16.5
Tajikistan	5.1	4.5	5.3	5.9	5.4	5.4	6.2	0.9	14.6
Turkmenistan	-60.6	-61.5	-63.8	-63.2	-63.7	-62.8	-60.4	0.7	-3.7
Ukraine	90.3	86.3	101.1	94.9	97.1	109.8	126.7	4.0	15.5
Uzbekistan	6.6	6.2	11.1	13.5	9.1	9.5	-2.0	7.6	-121.2

steadily increase in energy demand from 1985 to 1989 and then started to decline with -3% in 1990 and -0.5% in 1991. In terms of the former USSR as a whole, natural gas is the only fuel with a steady increase in demand from 1985 to 1990 (4.4% per year) and estimates for 1991 indicate an increase of 1.8%. Solids and oil demand follow the pattern of total energy demand.

Production of **solid fuels** in the former USSR as a whole increased from 1985 to 1988 at an annual average of 2.0%. Since 1988 production has fallen quite rapidly attaining in 1991 a level 19% below the 1988 peak. Solid fuels production is limited mainly to Russia, Ukraine and Kazakhstan accounting together, in 1991, for 98% of total production.

The former USSR is the world's largest **oil** producer. Total production increased to 1988 but then declined rapidly reaching only 517 Mtoe in 1991, or 18% less than the 1988 peak. Russia is by far the main producer (90% of total production in 1991).



FORMER USSR: Total Energy (in Mtoe)

GROSS CONSUMPTION	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
TOTAL	1274.0	1294.2	1350.6	1385.8	1384.2	1356.5	1333.1	1.3	-1.7
Armenia	7.8	7.2	7.7	10.5	10.1	7.8	8.4	0.0	7.4
Azerbaijan	21.3	21.8	21.5	22.0	21.9	23.5	20.3	2.0	-13.5
Belarus	39.2	40.4	41.8	42.3	41.8	42.1	42.4	1.4	0.7
Estonia	8.5	8.2	8.5	8.6	8.7	6.0	5.5	-6.7	-8.8
Georgia	12.6	12.8	13.3	13.5	13.3	15.4	10.7	4.0	-30.1
Kazakhstan	71.9	72.6	75.1	78.7	77.7	75.0	75.7	0.8	1.0
Kyrgyzstan	7.2	7.7	6.3	9.7	10.4	8.9	8.8	4.5	-1.0
Latvia	11.5	9.1	8.5	8.4	8.2	8.0	7.6	-7.1	-4.7
Lithuania	14.1	11.7	13.0	13.3	13.0	11.9	10.9	-3.3	-7.9
Moldova	8.1	8.6	9.0	8.6	8.6	8.8	8.1	1.8	-8.0
Russia	788.9	813.5	846.0	871.1	880.0	851.2	846.5	1.5	-0.5
Tajikistan	7.4	7.0	7.5	8.1	7.3	7.5	7.9	0.0	5.9
Turkmenistan	12.8	13.0	13.5	14.2	14.8	14.2	13.3	2.0	-6.4
Ukraine	223.5	218.0	230.7	225.6	220.1	227.4	228.7	0.4	0.5
Uzbekistan	39.2	42.6	48.2	51.1	48.3	48.9	38.2	4.5	-21.9

FORMER USSR: Solids (in Mtoe)

	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
PRODUCTION								Annual % Change	
TOTAL	307.9	318.4	321.7	326.8	313.5	297.0	266.1	-0.7	-10.4
Armenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Azerbaijan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Belarus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Estonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Georgia	0.7	0.7	0.7	0.6	0.5	0.4	0.4	-10.1	0.0
Kazakhstan	55.4	58.3	60.1	60.6	58.5	55.5	54.9	0.0	-1.0
Kyrgyzstan	1.7	1.7	1.7	1.7	1.7	1.7	1.5	-0.1	-12.5
Latvia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Lithuania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Moldova	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Russia	167.5	172.6	175.5	180.2	173.6	166.9	149.1	-0.1	-10.6
Tajikistan	0.4	0.8	0.3	0.3	0.3	0.3	0.1	-6.9	-57.1
Turkmenistan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Ukraine	80.1	81.7	81.3	81.2	76.2	69.7	57.5	-2.7	-17.6
Uzbekistan	2.1	2.5	2.1	2.3	2.6	2.5	2.5	3.7	-1.7
NET IMPORTS	-8.8	-10.2	-11.9	-14.6	-12.3	-11.9	-11.4	6.2	-3.9
GROSS CONSUMPTION	296.6	304.0	310.7	312.3	301.2	285.1	254.6	-0.8	-10.7

FORMER USSR: Oil (in Mtoe)

	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
PRODUCTION								Annual % Change	
TOTAL	598.2	617.7	627.3	627.4	610.3	572.5	516.8	-0.9	-9.7
Armenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Azerbaijan	13.2	13.4	13.9	13.8	13.3	12.6	11.8	-0.9	-6.4
Belarus	2.0	2.0	2.0	2.1	2.1	2.0	2.0	-0.1	0.0
Estonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Georgia	0.6	0.2	0.2	0.2	0.2	0.2	0.2	-19.7	0.0
Kazakhstan	22.9	23.8	24.6	25.7	25.6	25.3	26.8	1.9	6.0
Kyrgyzstan	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	-50.0
Latvia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Lithuania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Moldova	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Russia	544.5	563.4	571.8	571.1	554.4	518.3	462.9	-1.0	-10.7
Tajikistan	0.4	0.4	0.4	0.3	0.3	0.2	0.1	-12.9	-50.0
Turkmenistan	6.0	6.0	5.9	5.8	5.7	5.8	5.4	-0.7	-6.9
Ukraine	5.8	5.7	5.6	5.4	5.4	5.3	4.9	-1.8	-7.5
Uzbekistan	2.0	2.2	2.3	2.4	2.7	2.8	2.8	7.0	0.0
NET IMPORTS	-153.5	-174.0	-180.7	-184.4	-170.7	-158.4	-109.5	0.6	-30.9
GROSS CONSUMPTION	436.8	431.2	442.4	441.7	439.5	411.4	407.3	-1.2	-1.0

The former USSR is also the largest producer and net exporter of **natural gas** in the world. Total production increased 4.8% per year until 1990. In 1991 there was a slight decrease. Russia is the main producer (79% of total in 1991), followed by Turkmenistan, Uzbekistan and Ukraine with 10%, 5% and 3% of total respectively. However, natural gas production in Ukraine has been decreasing since 1985 at some 7.5% per year and, in 1991, it dropped 13.2%, reaching a level 41% lower than in 1985.

Electricity generation grew steadily from 1985 to 1990 at some 2.3% per year. In 1991 it fell 2.4%. Electricity consumption in 1991 dropped 1.5%. As a result of a greater fall in generation compared to demand, net exports to neighbouring Eastern European Countries fell by almost 50% in 1991.

FORMER USSR: Gas (in Mtoe)

	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
PRODUCTION								Annual % Change	
TOTAL	520.1	555.0	588.4	623.0	644.0	659.1	656.1	4.8	-0.5
Armenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Azerbaijan	11.4	11.0	10.1	9.6	9.0	7.3	6.9	-8.5	-5.4
Belarus	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-3.8	0.0
Estonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Georgia	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Kazakhstan	4.4	4.7	5.1	5.8	5.4	5.7	6.4	5.4	11.3
Kyrgyzstan	0.1	0.1	0.1	0.1	0.1	0.1	0.1	-2.7	0.0
Latvia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Lithuania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Moldova	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-
Russia	373.8	406.9	440.4	477.1	498.2	518.1	519.9	6.7	0.4
Tajikistan	0.2	0.2	0.2	0.2	0.2	0.2	0.1	-7.9	-50.0
Turkmenistan	67.3	68.5	71.3	71.4	72.7	71.0	68.2	1.1	-4.0
Ukraine	34.7	32.1	28.8	26.2	24.9	23.5	20.4	-7.5	-13.2
Uzbekistan	28.0	31.2	32.2	32.3	33.2	33.0	33.9	3.4	2.7
NET IMPORTS	-54.8	-63.7	-68.4	-72.0	-75.7	-77.8	-74.3	7.3	-4.5
GROSS CONSUMPTION	460.9	482.1	512.3	540.2	554.8	572.1	582.2	4.4	1.8

FORMER USSR: Electricity (in TWh)

	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
PRODUCTION	1544.0	1599.0	1664.9	1705.0	1722.0	1727.0	1685.8	2.3	-2.4
NET IMPORTS	-28.9	-29.0	-34.6	-38.9	-39.3	-35.0	-18.7	3.9	-46.5
APPARENT CONSUMPTION	1515.1	1570.0	1630.3	1666.1	1682.7	1692.0	1667.1	2.2	-1.5

FORMER USSR: Electricity (in TWh)

PRODUCTION	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
								Annual % Change	
TOTAL	**1544.0**	**1599.0**	**1664.9**	**1705.0**	**1722.0**	**1727.0**	**1685.8**	**2.3**	**-2.4**
Nuclear	*167.0*	*161.0*	*189.0*	*215.7*	*212.6*	*211.5*	*212.0*	*4.8*	*0.2*
Hydro	*214.4*	*216.0*	*218.0*	*230.8*	*223.9*	*233.0*	*235.3*	*1.7*	*1.0*
Thermal	*1162.6*	*1222.0*	*1257.9*	*1258.5*	*1285.5*	*1282.5*	*1238.4*	*2.0*	*-3.4*
Armenia	**14.9**	**14.5**	**15.2**	**15.3**	**12.1**	**10.4**	**8.6**	**-7.0**	**-17.3**
Nuclear	*4.2*	*4.0*	*4.7*	*4.4*	*1.2*	*2.5*	*4.9*	*-9.4*	*92.2*
Hydro	*1.6*	*1.3*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*-1.3*	*0.0*
Thermal	*9.1*	*9.2*	*9.0*	*9.4*	*9.5*	*6.4*	*2.2*	*-7.0*	*-65.4*
Azerbaijan	**20.7**	**21.5**	**22.9**	**23.6**	**23.3**	**23.5**	**23.6**	**2.6**	**0.4**
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	*0.8*	*0.8*	*0.8*	*0.7*	*0.7*	*0.7*	*0.7*	*-2.6*	*0.0*
Thermal	*19.9*	*20.7*	*22.1*	*22.9*	*22.6*	*22.8*	*22.9*	*2.8*	*0.4*
Belarus	**33.2**	**36.3**	**37.8**	**38.2**	**38.5**	**39.0**	**38.0**	**3.3**	**-2.5**
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Thermal	*33.2*	*36.3*	*37.7*	*38.1*	*38.5*	*39.0*	*38.0*	*3.3*	*-2.5*
Estonia	**17.8**	**18.0**	**17.9**	**17.6**	**17.6**	**17.6**	**16.6**	**-0.3**	**-5.8**
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Thermal	*17.8*	*18.0*	*17.9*	*17.6*	*17.6*	*17.6*	*16.6*	*-0.3*	*-5.8*
Georgia	**14.4**	**14.6**	**14.6**	**14.6**	**15.8**	**14.2**	**11.0**	**-0.3**	**-22.5**
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	*6.2*	*5.8*	*8.9*	*9.7*	*8.9*	*10.5*	*11.0*	*11.0*	*4.8*
Thermal	*8.2*	*8.8*	*5.7*	*4.9*	*6.9*	*3.7*	*0.0*	*-14.7*	*-100.0*
Kazakhstan	**81.3**	**85.1**	**88.5**	**88.4**	**89.7**	**87.5**	**85.9**	**1.5**	**-1.8**
Nuclear	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	-	*0.0*
Hydro	*5.2*	*4.8*	*5.7*	*7.0*	*7.1*	*6.9*	*7.0*	*5.8*	*1.4*
Thermal	*76.1*	*80.3*	*82.8*	*81.4*	*82.5*	*80.5*	*78.8*	*1.1*	*-2.1*
Kyrgyzstan	**10.5**	**11.4**	**9.3**	**14.2**	**15.1**	**13.3**	**13.0**	**4.9**	**-2.3**
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	*6.1*	*6.9*	*4.8*	*9.9*	*10.6*	*9.0*	*10.0*	*8.2*	*11.1*
Thermal	*4.4*	*4.5*	*4.5*	*4.3*	*4.5*	*4.3*	*3.0*	*-0.5*	*-30.2*
Latvia	**5.0**	**5.2**	**5.9**	**5.1**	**5.8**	**6.6**	**5.6**	**6.0**	**-15.2**
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	*3.0*	*3.0*	*3.7*	*3.0*	*3.6*	*4.5*	*4.4*	*8.6*	*-2.2*
Thermal	*2.0*	*2.2*	*2.2*	*2.1*	*2.2*	*2.1*	*1.2*	*1.6*	*-42.3*
Lithuania	**21.0**	**22.4**	**22.8**	**26.0**	**29.2**	**25.0**	**25.9**	**3.6**	**3.5**
Nuclear	*8.1*	*7.8*	*9.2*	*11.7*	*15.4*	*17.0*	*17.0*	*16.0*	*0.0*
Hydro	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.0*
Thermal	*12.5*	*14.2*	*13.2*	*13.9*	*13.4*	*7.6*	*8.5*	*-9.4*	*11.6*
Moldova	**16.8**	**17.7**	**17.4**	**17.0**	**17.0**	**15.6**	**14.4**	**-1.4**	**-7.7**
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	*0.3*	*0.3*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*-8.6*	*0.0*
Thermal	*16.4*	*17.4*	*17.2*	*16.8*	*16.8*	*15.4*	*14.2*	*-1.3*	*-7.8*
Russia	**962.0**	**1001.5**	**1047.3**	**1065.5**	**1076.6**	**1082.0**	**1071.5**	**2.4**	**-1.0**
Nuclear	*110.2*	*106.2*	*124.7*	*134.8*	*136.3*	*121.9*	*120.0*	*2.0*	*-1.5*
Hydro	*159.7*	*164.6*	*160.7*	*160.9*	*160.2*	*159.4*	*160.0*	*0.0*	*0.4*
Thermal	*692.2*	*730.7*	*761.9*	*769.8*	*780.1*	*800.8*	*791.5*	*3.0*	*-1.2*
Tajikistan	**15.7**	**13.6**	**15.9**	**18.8**	**15.3**	**18.0**	**17.5**	**2.8**	**-2.6**
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	*14.4*	*12.1*	*14.6*	*17.3*	*13.8*	*16.5*	*16.5*	*2.8*	*0.0*
Thermal	*1.3*	*1.5*	*1.3*	*1.5*	*1.5*	*1.5*	*1.0*	*2.7*	*-31.6*
Turkmenistan	**11.0**	**12.4**	**13.3**	**12.9**	**14.5**	**14.6**	**15.0**	**5.9**	**2.7**
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	*0.6*	*0.1*	*0.8*	*1.0*	*0.1*	*0.7*	*0.7*	*3.1*	*0.0*
Thermal	*10.4*	*12.3*	*12.5*	*11.9*	*14.4*	*13.9*	*14.3*	*6.0*	*2.9*
Ukraine	**272.0**	**272.7**	**281.5**	**297.2**	**295.3**	**305.0**	**284.8**	**2.3**	**-6.6**
Nuclear	*44.5*	*42.9*	*50.4*	*64.8*	*59.7*	*70.0*	*70.0*	*9.5*	*0.0*
Hydro	*10.7*	*10.7*	*9.6*	*12.1*	*10.1*	*10.7*	*10.9*	*0.0*	*1.9*
Thermal	*216.8*	*219.0*	*221.5*	*220.3*	*225.5*	*224.3*	*203.9*	*0.7*	*-9.1*
Uzbekistan	**47.9**	**52.2**	**54.8**	**50.6**	**55.9**	**56.4**	**54.2**	**3.3**	**-3.9**
Nuclear	-	-	-	-	-	-	-	-	-
Hydro	*5.4*	*5.2*	*6.3*	*7.1*	*6.7*	*12.0*	*12.0*	*17.2*	*0.0*
Thermal	*42.5*	*47.0*	*48.5*	*43.5*	*49.2*	*44.4*	*42.2*	*0.9*	*-5.0*

Looking at Republic level, Russia, Ukraine, Kazakhstan and Uzbekistan account together for almost 90% of total electricity generation in the former USSR. Nuclear generation exists only in Armenia, Kazakhstan, Lithuania, Russia and Ukraine where, in 1991, it represented 57%, 0.1%, 66%, 11% and 25% of total electricity generation respectively. Russia and Ukraine together represented in 1991 90% of total nuclear generation in the former USSR. Only in Armenia did nuclear generation increase in 1991. Hydro power is mainly produced in Russia (two thirds of total hydro generation) followed by a group of five Republics (Georgia, Kyrgyzstan, Tajikistan, Ukraine and Uzbekistan) accounting together for 26% of total. The other nine Republics account only for 6% of total. In Belarus and Estonia hydro power is practically non existent.

The **energy intensity** of the former USSR shows steady gains from 1985 to 1989. In 1990 there was a generalised increase in intensity across the Republics but it is in 1991 that almost all Republics show a drop in energy efficiency. Russia increased its intensity by 9%, Ukraine by 12% and Armenia by 21%. Only Azerbaijan, Georgia and Uzbekistan saw their energy intensities decrease by 13%, 9% and 21% respectively.

FORMER USSR: Energy Indicators

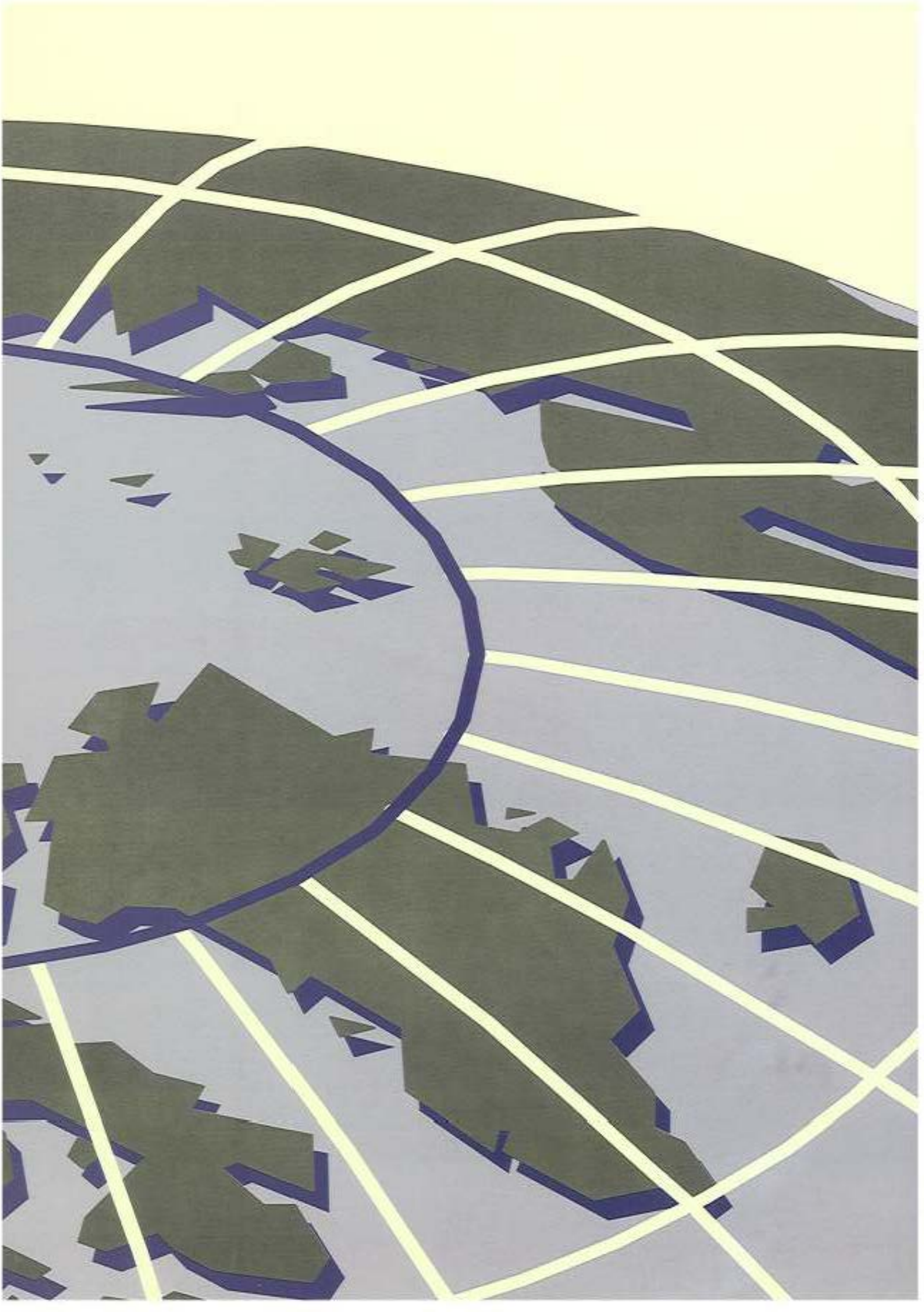
ENERGY INTENSITY	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
(toe/MECU of 1985)								Annual % Change	
TOTAL	1459	1434	1459	1422	1383	1386	1490	-1.0	7.5
Armenia	872	792	839	1193	1014	831	1005	-0.9	20.9
Azerbaijan	1361	1421	1318	1306	1362	1654	1441	4.0	-12.9
Belarus	1172	1142	1129	1108	1002	1086	1124	-1.5	3.5
Estonia	1131	1069	1073	1062	1031	784	803	-7.1	2.4
Georgia	841	822	815	780	805	1066	974	4.9	-8.6
Kazakhstan	2049	1946	1998	1938	1875	1713	1857	-3.5	8.4
Kyrgyzstan	1122	1160	952	1295	1331	1110	1140	-0.2	2.7
Latvia	1125	851	772	729	675	677	702	-9.6	3.6
Lithuania	1256	939	1040	973	945	925	953	-5.9	3.0
Moldova	852	849	868	793	729	714	720	-3.5	0.8
Russia	1470	1466	1493	1456	1434	1416	1547	-0.7	9.3
Tajikistan	1142	1076	1124	1106	1055	1084	1193	-1.0	10.0
Turkmenistan	2172	2060	1993	1974	2100	1995	2011	-1.7	0.8
Ukraine	1580	1507	1534	1446	1361	1428	1595	-2.0	11.7
Uzbekistan	1325	1446	1599	1584	1500	1563	1228	3.4	-21.4

FORMER USSR: Energy Indicators (continued)

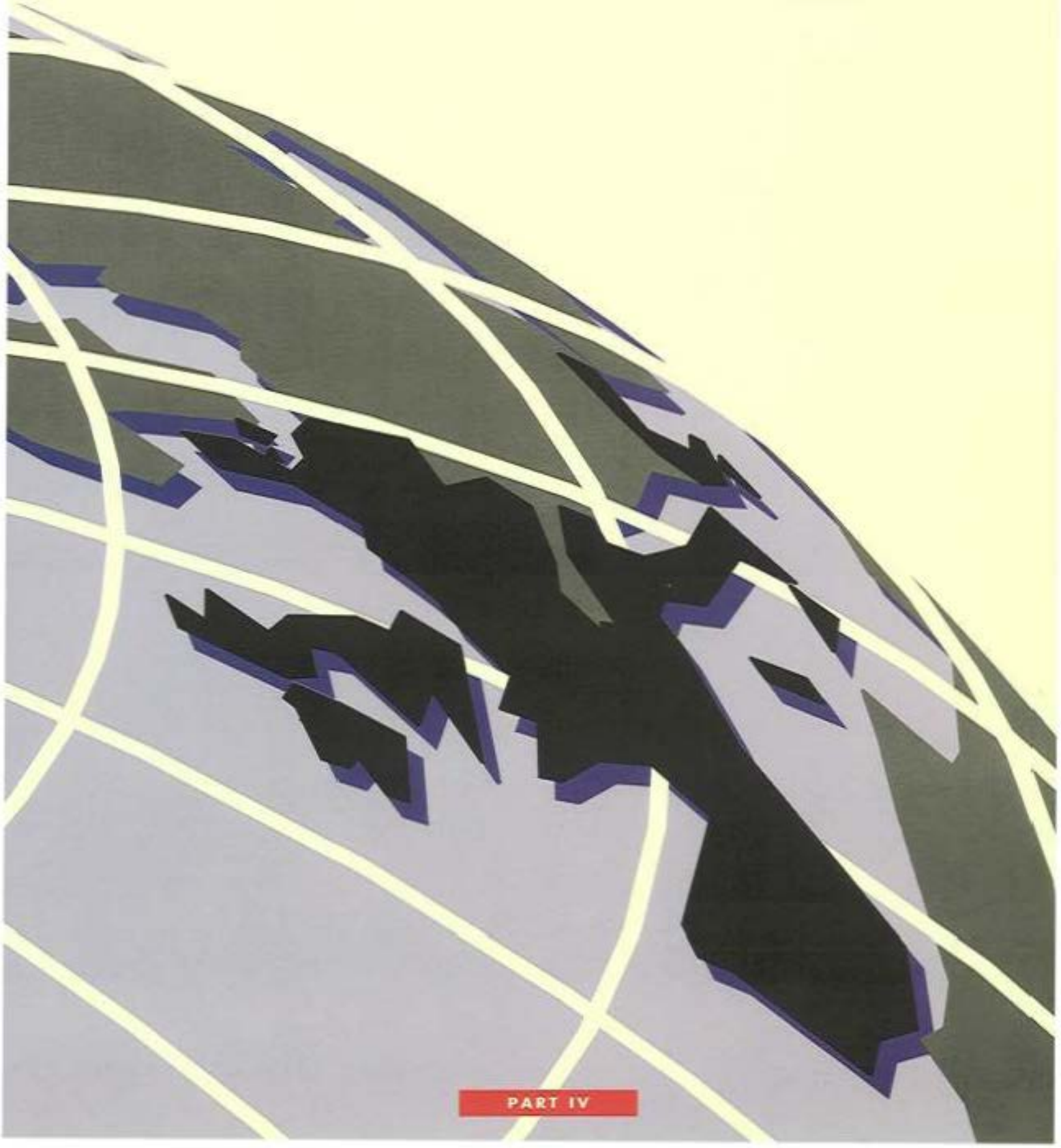
GROSS CONSUMPTION	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
PER CAPITA (toe/inhabitant)								Annual % Change	
TOTAL	4.59	4.62	4.78	4.86	4.81	4.69	4.59	0.4	-2.2
Armenia	2.32	2.12	2.23	3.10	3.06	2.32	2.42	0.0	4.3
Azerbaijan	3.20	3.23	3.13	3.16	3.11	3.31	2.84	0.7	-14.1
Belarus	3.94	4.02	4.14	4.17	4.07	4.09	4.11	0.7	0.7
Estonia	5.56	5.29	5.44	5.51	5.49	3.82	3.49	-7.2	-8.8
Georgia	2.42	2.43	2.52	2.51	2.43	2.82	1.97	3.1	-30.1
Kazakhstan	4.51	4.50	4.59	4.76	4.68	4.48	4.49	-0.1	0.2
Kyrgyzstan	1.79	1.87	1.51	2.28	2.39	2.03	1.99	2.6	-2.2
Latvia	4.42	3.47	3.20	3.15	3.07	2.98	2.84	-7.6	-4.5
Lithuania	3.92	3.23	3.55	3.61	3.52	3.19	2.94	-4.1	-8.0
Moldova	1.95	2.06	2.15	2.00	1.97	2.01	1.86	0.6	-7.9
Russia	5.49	5.62	5.81	5.94	5.97	5.74	5.69	0.9	-0.8
Tajikistan	1.63	1.48	1.53	1.62	1.42	1.40	1.45	-2.9	3.3
Turkmenistan	3.97	3.93	3.96	4.05	4.15	3.86	3.53	-0.6	-8.7
Ukraine	4.39	4.27	4.49	4.37	4.25	4.39	4.41	0.0	0.5
Uzbekistan	2.15	2.27	2.51	2.60	2.40	2.39	1.83	2.1	-23.4

ENERGY DEPENDENCY	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
(Net Imports/Consumption in %)								Annual % Change	
TOTAL	-17.2	-19.3	-19.5	-19.8	-18.9	-18.5	-14.8	1.4	-20.2
Armenia	84.2	83.8	82.3	87.9	95.7	89.8	83.2	1.3	-7.4
Azerbaijan	-15.6	-12.2	-12.2	-6.5	-1.9	15.2	7.9	-	-48.0
Belarus	94.4	94.5	94.7	94.5	94.4	94.9	94.9	0.1	0.0
Estonia	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	-
Georgia	84.9	88.6	87.4	87.6	88.5	89.8	84.9	1.1	-5.4
Kazakhstan	-15.8	-20.2	-20.3	-17.7	-15.9	-16.1	-17.1	0.5	6.0
Kyrgyzstan	65.0	66.4	62.1	70.9	72.1	69.3	71.5	1.3	3.2
Latvia	97.8	97.2	96.3	96.9	96.2	95.2	95.0	-0.5	-0.1
Lithuania	84.7	82.3	81.3	76.8	69.0	62.4	59.2	-5.9	-5.1
Moldova	99.7	99.7	99.8	99.8	99.8	99.8	99.8	0.0	0.0
Russia	-45.6	-48.0	-48.2	-48.8	-46.9	-48.6	-40.9	1.3	-16.0
Tajikistan	69.0	63.9	71.4	72.1	73.0	72.1	78.1	0.9	8.3
Turkmenistan	-471.8	-471.9	-471.8	-445.9	-429.2	-443.1	-455.8	-1.2	2.9
Ukraine	40.4	39.6	43.8	42.1	44.1	48.3	55.4	3.6	14.8
Uzbekistan	16.9	14.5	23.0	26.3	18.9	19.5	-5.3	3.0	-127.1

	1985	1986	1987	1988	1989	1990	1991	90/85	91/90
(Mt of CO2)								Annual % Change	
CO2 EMISSIONS	3387	3465	3584	3632	3653	3554	3451	1.0	-2.9



SHORT-TERM ENERGY OUTLOOK



PART IV

SHORT TERM ENERGY OUTLOOK FOR THE EUROPEAN COMMUNITY [1]

According to provisional data and estimates, total primary energy demand in the Community during 1992 (including the new German lander) appears to have remained flat. Demand for oil increased by more than 2% but demand for natural gas, influenced by weather conditions, was at its 1991 level while demand for solid fuels decreased by about 6%.

Slow economic growth is the main factor explaining this demand behaviour, but also contributing were significantly warmer weather than in 1991 and the continuing restructuring of the east German energy sector.

On the basis of our assumptions for continuing slow economic growth in both 1993 and 1994, total primary consumption could grow by less than 1% in both years.

Oil prices which were around 18.5 dollars per barrel in 1992 will probably remain at similar levels, leading to a small increase in oil deliveries of about 0.5% in 1993 and 0.9% in 1994. Demand for natural gas, pushed by the power sector, could grow by more than 3% in both years.

Electricity demand will probably be close to the low GDP growth. Given a possible improvement of hydro-electric production and a small increase in nuclear in 1993, total demand for solid fuels could decline in 1993 and stabilise in 1994.

Given the uncertainties linked to the general economic situation, an alternative scenario, assuming lower economic growth is also presented in the main text.

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

(1) Manuscript completed on 5 March 1993

Table 1: European Community - Summary of Main Assumptions and Results *(Last revision: 26 February 1993)*

	excluding the former GDR								Annual Percentage Change excluding the former GDR							
	1988	1989	1990	1991	1991	1992	1993	1994	1987	1988	1989	1990	1991	1992	1993	1994
I. Main Assumptions																
GDP (1985=100)	**109.9**	**113.4**	**116.5**		**117.9**	*119.1*	*120.0*	*122.2*	**2.6**	**4.0**	**3.1**	**2.8**	**1.2**	*1.0*	*0.8*	*1.8*
Private Consumption (1985=100)	**112.5**	**116.0**	**119.6**		**121.6**	*123.1*	*124.1*	*125.7*	**3.7**	**4.0**	**3.1**	**3.1**	**1.7**	*1.2*	*0.8*	*1.3*
Industrial Production (1985=100)	**108.6**	**112.6**	**114.6**		**114.6**	*114.4*	*114.6*	*116.7*	**1.9**	**4.2**	**3.7**	**1.8**	**0.0**	*-0.2*	*0.2*	*1.8*
Consumer Prices (1985=100)	**110.7**	**116.3**	**122.9**		**129.0**	**134.6**	*140.0*	*144.9*	**3.2**	**3.6**	**5.1**	**5.6**	**5.0**	**4.3**	*4.0*	*3.5*
Exchange rate (ECU/US$)	**1.184**	**1.102**	**1.273**		**1.242**	**1.294**	*1.193*	*1.190*	**17.4**	**2.5**	**-6.9**	**15.6**	**-2.4**	**4.2**	*-7.8*	*-0.2*
Imported Crude Oil Price																
(US$/bbl)	**14.78**	**17.61**	**22.68**		**19.41**	**18.44**	*18.00*	*19.00*	**23.2**	**-17.3**	**19.2**	**28.8**	**-14.4**	**-5.0**	*-2.4*	*5.6*
(ECU/bbl)	**12.48**	**16.00**	**17.63**		**15.62**	**14.27**	*15.10*	*15.97*	**3.9**	**-19.5**	**28.2**	**10.2**	**-11.4**	**-8.7**	*5.8*	*5.8*
Degree Days	**2409**	**2347**	**2274**		**2726**	**2487**	*2646*	*2666*	**137**	**-227**	**-289**	**-362**	**60**	**-179**	*-20*	*0*
II. Main Results																
Oil																
Total Inland Deliveries (Mt)	**451.9**	**454.0**	**459.4**	**469.9**	**486.8**	*498.3*	*500.6*	*505.3*	**0.3**	**2.2**	**0.5**	**1.2**	**2.3**	*2.4*	*0.5*	*0.9*
Hard coal																
Total Inland Deliveries (Mt)	**310.4**	**312.7**	**318.6**	**326.8**	**329.8**	*311.5*	*311.3*	*313.6*	**-2.5**	**-2.7**	**0.7**	**1.9**	**2.6**	*-5.6*	*0.0*	*0.7*
Total Solids																
Gross Inl. Consumption (Mtoe)	**226.7**	**231.1**	**233.8**	**237.0**	**275.4**	*258.6*	*249.8*	*250.2*	**-0.1**	**-2.0**	**1.9**	**1.2**	**1.4**	*-6.1*	*-3.4*	*0.1*
Natural gas																
App. Gross Consumption (Mtoe)	**191.1**	**199.8**	**207.9**	**225.4**	**231.1**	*232.0*	*241.0*	*248.5*	**6.5**	**-3.9**	**4.5**	**4.1**	**8.4**	*0.4*	*3.8*	*3.1*
Electricity																
Consumpt. Intern. Market (TWh)	**1504.1**	**1545.3**	**1581.1**	**1638.0**	**1705.5**	*1726.3*	*1745.7*	*1781.2*	**3.5**	**2.7**	**2.7**	**2.3**	**3.6**	*1.2*	*1.1*	*2.0*
Nuclear heat																
Production (TWh)	**1694.9**	**1829.0**	**1819.7**	**1860.6**	**1860.6**	*1912.8*	*1958.8*	*1939.3*	**2.8**	**7.2**	**7.9**	**-0.5**	**2.3**	*2.8*	*2.4*	*-1.0*
Total Energy																
Gross Inl. Consumption (Mtoe)	**1077.3**	**1098.6**	**1115.1**	**1153.7**	**1212.6**	*1212.3*	*1221.1*	*1233.7*	**1.8**	**1.4**	**2.0**	**1.5**	**3.5**	*0.0*	*0.7*	*1.0*
Energy Ratio																
Gross Inl. Consumption/GDP																
(1984=100)	**96.5**	**95.4**	**94.2**	**96.3**					**-0.8**	**-2.6**	**-1.1**	**-1.2**	**2.2**			
(1991=100)					**100.0**	*99.0*	*98.9*	*98.2*						*-1.0*	*-0.1*	*-0.8*

According to the SOEC monthly data, energy consumption during the first nine months of 1992 declined by 0.3%. Adding our estimates for the last quarter, total energy demand in 1992 seems to have remained flat. Given that on average the weather was warmer than in 1991, the estimated weather corrected growth is about 1.2%.

It should be noted, however, that starting from January 1991 all European energy data include the new German lander. Some statistical uncertainties concerning German data and the ongoing restructuring of the East German energy sector have an important influence on the overall Community data. (See Box A).

The slow down in economic growth is the main factor explaining the stagnation of total energy demand in the European Community. Provisional data show a GDP growth of around 1% against our previous forecast of 2.2% (STEO, December 1991). The warmer weather conditions prevailing in 1992 lowered the real level of energy demand.

By using our "ERASME" model we have estimated the weather impact on energy demand in recent years (see Box B). After pushing energy demand by about 2.6% in 1991 the weather had in 1992, according to the model, decreased demand by around 14 Mtoe or 1.2%.

It is therefore confirmed, now that 1991 data are fully available, that weather corrected energy intensity gains in the Community are continuing to slow down. Oil deliveries in 1992 may have increased by more than 11 million tonnes (2.4%) primarily as a result of continuing strong demand for transportation fuels (estimated at about 3%). Due mainly to weather conditions, demand for natural gas remained flat around its high 1991 level of about 232 Mtoe.

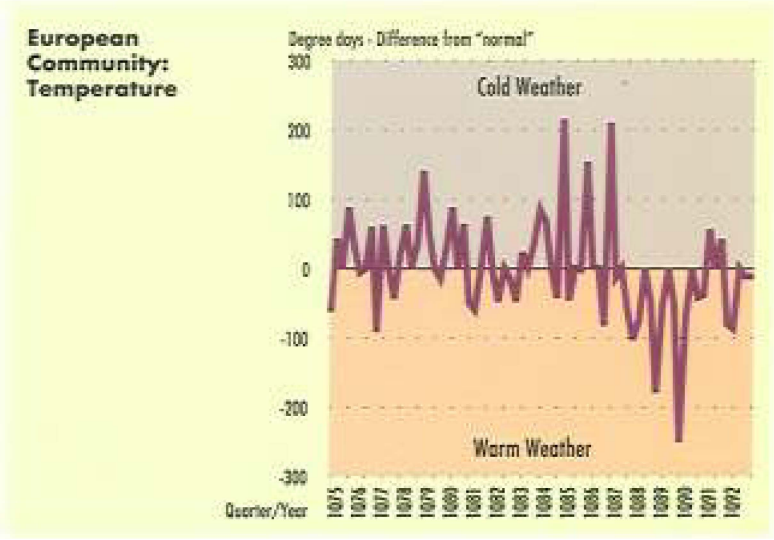
Electricity demand increased by about 1.5%. At the same time, production of nuclear heat increased by 1.8%. Hydro-electric production, which was very low in 1989 and started recovering in 1990 and 1991, declined slightly in 1992. Conventional thermal generation declined by about 0.5%. This latter point, together with a restructuring in East Germany away from lignite, resulted in a considerable decrease of total solid fuels consumption (-6%).

BOX A: NEW DATA INCLUDING THE FORMER GDR

Starting from January 1991, monthly and annual energy data published by the SOEC, cover the "new" Germany including the five new Länder of the former GDR. For this reason, starting from this edition of the STEO, all data refer to the European Community including the former GDR. This fact creates a break in the energy time series starting from the first quarter of 1991. In addition, average European data, weighted either by energy consumption (for example average energy prices) or by population (degree-days) present also a break in the first quarter of 1991.

However, for comparison reasons and for estimating 1991 growth rates, we have estimated 1991 quarterly data excluding the former GDR. Tables 1, 4, 5, 6 and 7 have two columns with 1991 data: one excluding the former GDR and one including it. Growth rates for 1991 presented in Table 1 are based on data excluding the former GDR while growth rates for 1992 and subsequent years in Tables 1, 8 and 9 are based on new data including the former GDR.

We recall that, according to unpublished estimates of the SOEC and DGXVII, total energy demand in the former GDR in 1991 was around 59 Mtoe. Lignite with around 36 Mtoe covered about 61% of total energy demand. More details are presented in the German section of Part II of this publication.



BOX B: THE IMPACT OF WEATHER CONDITIONS

The following table presents the impact of weather conditions on European energy demand. The methodology applied was presented in our previous "Annual Energy Review". The estimates are made by using the "ERASME" model and are purely indicative.

The Impact of Weather Conditions

	excl. former GDR					
	1990	1991	1991	1992 (1)	1993 (1)	1994 (1)
Observed Figures - in Mtoe (RC)						
TOTAL Gross Inland Consumption	1115.1	1153.8	1212.6	1212.3	1221.1	1233.7
1.Solids	233.8	237.0	275.4	258.6	249.8	250.2
2.Oil	497.6	510.4	525.1	537.0	540.6	545.6
3.Natural gas	207.6	225.8	231.5	232.0	241.0	248.5
4.Other	176.1	180.5	180.6	184.6	189.8	189.4
Electricity Final Demand	131.2	135.6	141.3	143.4	145.0	147.9
Observed Growth Rates - in %						
TOTAL Gross Inland Consumption		3.5%		0.0%	0.7%	1.0%
1.Solids		1.4%		-6.1%	-3.4%	0.1%
2.Oil		2.6%		2.3%	0.7%	0.9%
3.Natural gas		8.8%		0.2%	3.8%	3.1%
4.Other		2.5%		2.3%	2.8%	-0.2%
Electricity Final Demand		3.3%		1.5%	1.1%	2.0%
Degree-Days. Difference from normal	-362	60	60	-179	-20	0
Weather Corrected Figures - in Mtoe (WCC)						
TOTAL Gross Inland Consumption	1140.9	1150.9	1209.7	1223.7	1222.7	1233.7
1.Solids	240.4	236.1	274.5	261.7	250.2	250.2
2.Oil 501.8	509.9	524.6	538.8	540.8	545.6	
3.Natural gas	222.5	224.3	230.0	238.5	242.0	248.5
4.Other	176.2	180.5	180.6	184.6	189.8	189.4
Electricity Final Demand	134.0	135.2	140.9	144.7	145.1	147.9
Weather Factor - in Mtoe (WF=RC-WCC)						
TOTAL Gross Inland Consumption	-25.8	2.9	2.9	-11.4	-1.6	0.0
1.Solids	-6.6	0.9	0.9	-3.1	-0.4	0.0
2.Oil	-4.2	0.5	0.5	-1.8	-0.2	0.0
3.Natural gas	-14.9	1.5	1.5	-6.5	-1.0	0.0
4.Other	-0.1	0.0	0.0	0.0	0.0	0.0
Electricity Final Demand	-2.8	0.4	0.4	-1.3	-0.1	0.0
Weather Impact - in Mtoe ($WI=WF-WF_{t-1}$)						
TOTAL Gross Inland Consumption		28.7		-14.3	9.8	1.6
1.Solids		7.5		-4.0	2.7	0.4
2.Oil		4.7		-2.3	1.6	0.2
3.Natural gas		16.4		-8.0	5.5	1.0
4.Other		0.1		0.0	0.0	0.0
Electricity Final Demand		3.2		-1.7	1.2	0.1
Weather Impact - in % of previous year (WI/RC_{t-1})						
TOTAL Gross Inland Consumption		2.6%		-1.2%	0.8%	0.1%
1.Solids		3.2%		-1.5%	1.0%	0.1%
2.Oil		0.9%		-0.4%	0.3%	0.0%
3.Natural gas		7.9%		-3.5%	2.4%	0.4%
4.Other		0.1%		0.0%	0.0%	0.0%
Electricity Final Demand		2.4%		-1.2%	0.8%	0.1%
Weather Corrected Growth Rates - in % of previous year ($(WCC_t-WCC_{t-1})/RC_{t-1}$)						
TOTAL Gross Inland Consumption		0.9%		1.2%	-0.1%	0.9%
1.Solids		-1.8%		-4.6%	-4.4%	0.0%
2.Oil		1.6%		2.7%	0.4%	0.9%
3.Natural gas		0.9%		3.7%	1.5%	2.7%
4.Other		2.5%		2.3%	2.8%	-0.2%
Electricity Final Demand		0.9%		2.7%	0.3%	1.9%
GDP (1985=100)	116.5	117.9	117.9	119.1	120.0	122.2
GDP growth rates		1.2%		1.0%	0.8%	1.8%
Iintensity (observed. 1991=100)	97.8	100.0	100.0	99.0	98.9	98.2
Intensity gains in %		2.2%		-1.0%	-0.1%	-0.8%
Intensity (weather corrected)	100.3	100.0	100.0	100.2	99.3	98.4
Intensity gains in %		-0.3%		0.2%	-0.9%	-0.9%

(1) Forecast

WORKING ASSUMPTIONS FOR 1993 AND 1994

Macroeconomic assumptions are based on the latest forecasts by the Commission's Directorate-General for Economic Affairs (DG II, January 1993). A GDP growth of 0.8% in 1993 and 1.8% in 1994 is assumed. The average crude oil price is assumed to be 18 USD/bbl in 1993 and 19 USD/bbl in 1994. "Normal" weather conditions are assumed after the first quarter of 1993.

On the basis of the Commission's latest economic forecasts (published in January 1993), an average GDP growth for EUR-12 (including East Germany) of 0.8% in 1993 is now assumed. Therefore, this could be the third consecutive year of slow economic growth. The rate of growth in private consumption is expected to be also around 0.8% (See graph).

A slight recovery is assumed for 1994 with GDP growing by 1.8% and private consumption by 1.3%.

However, given the uncertainties in the economic situation an alternative scenario is shown in Box C (page 161) that assumes an economic growth of 1% lower than the base forecast in both 1993 and 1994

Inflation in 1993 could be around 4% declining to about 3.5% in 1994. As usual, the assumption is made that the USD/ECU nominal exchange rate will remain constant throughout the forecasting period (at 1.19 USD/ECU). An average oil price of 18 USD/bbl is assumed for 1993, increasing to 19 USD/bbl in 1994 (see next section and graph bottom right).

Finally, it is assumed that "normal" weather conditions will prevail after February 1993.
The forecasts are as usual based on the results of the "ERASME" model but they also incorporate, as far as possible, other information from different sources (DG XVII, Member States, energy experts, etc.).

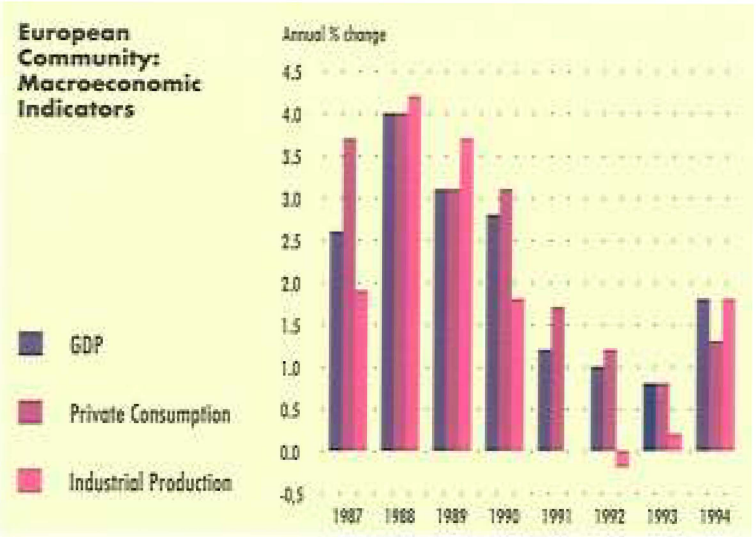
ENERGY PRICES

THE OIL PRICE

Crude oil prices which declined steadily between October 1991 and March 1992, started to rise reaching almost 20 USD/bbl by June 1992 and remained at this level for some months. However by the end of 1992 they again began to decline slowly. In 1993 they could remain at a level of around 18 USD/bbl.

The average 1992 import price for the European Community is probably around 18.4 USD/bbl, a 5% decrease over 1991. In ECU terms the average import price was 8.7% lower than in 1991.

Given the current supply situation there is probably only a small risk of any serious price increase in 1993. One uncertainty comes from the former USSR. However, it seems that as happened in 1992 a decline in production could be followed by a decline in consumption, while exports will continue, if perhaps at a lower level. With an anticipated slow increase of world demand, and increasing Kuwaiti production, the trend could



be towards somewhat lower prices, depending on OPEC internal discipline, even if Iraq continues to remain absent from the world market.

The table below shows the recent situation of the world oil market and present IEA forecasts for 1993 (End-January Oil Market Report).

Given this situation, the working assumptions are made that average import prices will remain at 17.5 USD/bbl during the first quarter of 1993, that they will be at 18 USD/bbl in the second and third quarters and 18.5 USD/bbl in the last quarter, leading to an average annual import price of 18 USD/bbl, or 2.44% less than in 1992. However, the dollar is assumed to be, on average stronger in 1993 than in 1992, leading to an average increase of import prices in ECU of about 5.8%.

For 1994 we assume a slightly higher price of 19 USD/bbl.

FINAL ENERGY PRICES

Final prices of oil products, with the exception of gasoline, declined in 1992 in nominal terms. According to the profile assumed for the imported crude price and the dollar exchange rate, they could increase during 1993 and 1994.

According to provisional data, gasoline prices increased in 1992 by 1.9%, while diesel prices decreased by 2%, heating oil prices by 8.8% and residual fuel oil prices by 4%.

In other words, there has been no substantial increase in the tax burden and prices followed the decline of crude oil prices in ECU terms.

On the basis of our assumptions, and in particular the assumption on the dollar exchange rate, prices of oil products in 1993 and 1994 could increase by about 4%.

Considering the usual lags in the transmission of the impact of oil prices on other fuels, annual average natural gas prices could rise by 4% to 5% in 1993 and then slow down. Coal prices will probably remain close to their present levels, while electricity prices could increase by 2% to 4% in both 1993 and 1994.

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

World Oil Supply and Demand

	1990	1991	1992	*1993*	1992/91	*1993/92*
DEMAND						
OECD	37.9	38.0	38.5	*39.0*	1.4%	*1.2%*
Non OECD	28.3	28.6	28.4	*28.5*	-0.7%	*0.4%*
of which:						
Former USSR	8.4	8.3	7.0	*6.2*	-15.7%	*-11.4%*
Other ex-CPE incl China	3.9	3.7	3.7	*3.8*	0.0%	*2.7%*
Other LDCs	16.0	16.6	17.7	*18.5*	6.6%	*4.5%*
Total	**66.2**	**66.6**	**66.9**	***67.5***	**0.5%**	***0.8%***
SUPPLY						
OECD	15.9	16.3	16.5	*16.5*	1.2%	*0.0%*
Former USSR	11.5	10.4	9.0	*8.0*	-13.5%	*-11.1%*
Other ex-CPE incl China	3.1	3.1	3.1	*3.1*	0.0%	*0.0%*
Other Non-OPEC	10.0	10.2	10.5	*10.8*	2.9%	*2.9%*
Total Non-OPEC	40.5	40.0	39.1	*38.4*	-2.3%	*-1.8%*
OPEC. incl Ecuador	25.1	25.4	26.5	*27.6*	4.3%	*4.2%*
Processing Gains	1.4	1.4	1.4	*1.5*	0.0%	*7.1%*
Total	**67.0**	**66.8**	**67.0**	***67.5***	**0.3%**	***0.7%***
Stock Change	0.8	0.2	0.1	*0.0*		
memo item:						
Former-CPE net exports	2.3	1.5	1.4	*1.1*		

Source: IEA

OVERALL ENERGY IN 1993 AND 1994

Taking account of the economic slow-down and assuming "normal" weather conditions, a growth in total energy demand of about 0.7% is expected for 1993 and 1% for 1994.

Our present forecast for 1993 gives an overall growth in energy demand of 0.7%. In practice, all of it can be attributed to climatic factors (assumption of "normal" weather conditions after February 1992). Our forecast for 1994 gives an annual growth in total energy demand of 1%.

Under our GDP and climate assumptions, these forecasts correspond for both years to a weather-corrected intensity gain of 0.9% (see Box B). This is much higher than the observed figures for 1991 and our provisional estimate for 1992.

In other words it is possible that under our assumptions on economic activity, prices and weather conditions, energy demand might outperform our forecast.

Box C on the next page shows an alternative scenario assuming lower economic growth. According to our "ERASME" model a 1% less GDP growth could lead to 1.3% less energy demand. In fact, according to "ERASME" the short-term income elasticities of final demand are, in general, higher than 1 (Electricity: 1.24, Natural gas: 1.07, etc.). Some notable exceptions are motor gasoline and industrial demand. In addition, given that hydro-electricity and nuclear production in the short term (with given production capacities) are independent of the level of economic activity, a decline in electricity demand has a bigger impact on the demand of fossil fuels for power generation.
According to the model, energy demand in such case could be by 1.3% lower in 1993 and by 2.6% lower in 1994. This result reflects the fact that the short-term income elasticities of the "ERASME" model are, in general, higher than 1.

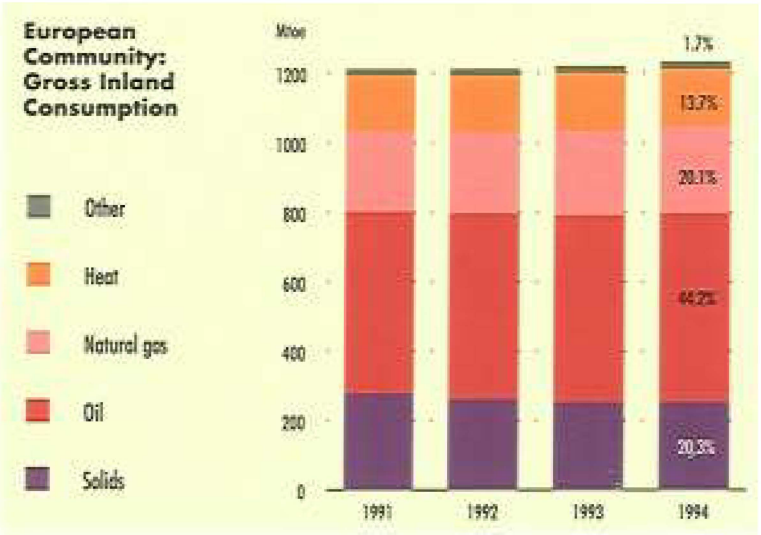
OIL

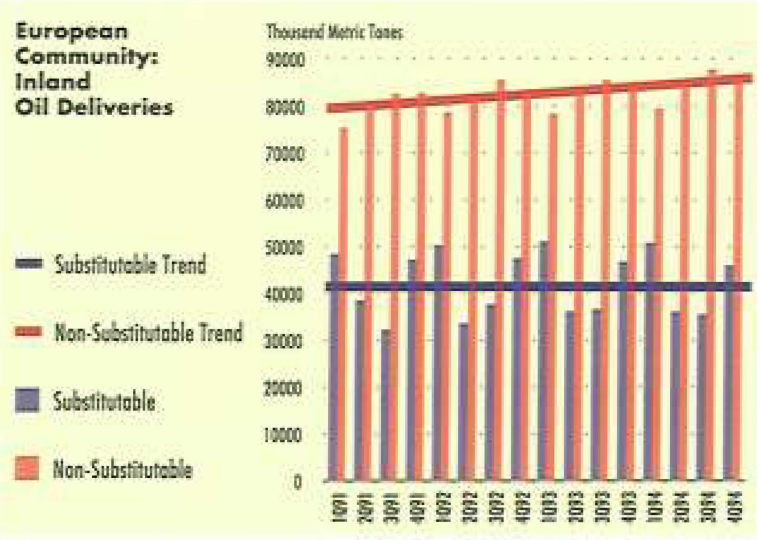
Demand for oil, in terms of total inland deliveries, has probably increased by more than 2% during 1992. Total deliveries are now expected to grow by 0.5% in 1993 and 0.9% in 1994.

Production of crude oil in 1993 is expected to remain at the same level as in 1992 and increase by 4 million tonnes in 1994.

Deliveries of transportation fuels (motor gasoline, automotive diesel oil and aviation fuels - kerosenes) increased by about 3% (1.6%, 3.8% and 6.9% respectively) despite the economic slow-down. Deliveries of heating oil increased by 1.4% and deliveries of heavy fuel oil by 1.9% (Tables 4, 8 and 9 and graph below).

In 1993 demand for transportation fuels could be weak due to the economic situation. Demand for motor gasoline could even decline slightly. It is more difficult to forecast deliveries of other oil products. The weather changes and the tax increases, mainly in Germany, have modified





BOX C: ALTERNATIVE SCENARIO

The following table presents an alternative scenario assuming a lower economic growth in 1993 and 1994. The table shows the results of a simulation of the "ERASME" model where GDP and other important economic variables grow by 1% less than in the base case. After two years the level of GDP is by 2% lower than in the reference case.

	Units	BASE FORECAST		LOW GROWTH		Difference in %	
		1993	1994	1993	1994	1993	1994
GDP	1985 = 100	120.0	122.2	118.8	119.8	-1.0%	-2.0%
Oil Deliveries, Total	Mt	500.6	505.3	492.7	489.5	-1.6%	-3.1%
of which:							
Motor Gasoline	Mt	111.6	113.4	110.6	111.5	-0.9%	-1.7%
Gas/Diesel Oil	Mt	193.8	197.4	189.4	188.8	-2.3%	-4.4%
Heavy Fuel Oil	Mt	71.9	69.5	70.5	66.8	-1.9%	-3.9%
Natural Gas, Final Consumption	Mtoe	199.6	203.6	197.5	199.3	-1.1%	-2.1%
Natural Gas, Power Plants	Mtoe	31.7	34.9	31.1	33.5	-1.9%	-4.0%
Hard Coal Deliveries, Total	Mt	311.3	313.6	305.9	302.4	-1.7%	-3.6%
of which:							
Power Plants	Mt	207.0	213.1	202.6	204.1	-2.1%	-4.2%
Coking Plants	Mt	58.0	54.4	57.7	53.5	-0.5%	-1.7%
All Industries	Mt	32.0	32.9	31.5	32.0	-1.6%	-2.7%
Lignite, Power Plants	Mt	244.4	236.1	239.1	226.2	-2.2%	-4.2%
Electricity, Total Generation	TWh	1997.2	2036.0	1973.0	1987.1	-1.2%	-2.4%
Electricity, Final Consumption	TWh	1685.8	1720.1	1664.3	1676.7	-1.3%	-2.5%
Nuclear Heat, Production	TWh	1958.8	1939.3	1958.8	1939.3	0.0%	0.0%
Gross Inland Consumption	MToe	1221.1	1233.7	1205.0	1201.1	-1.3%	-2.6%
of which:							
Solids	MToe	249.8	250.2	245.1	240.6	-1.9%	-3.8%
Oil	MToe	540.6	545.6	532.3	528.9	-1.5%	-3.1%
Natural gas	MToe	241.0	248.5	238.0	242.5	-1.2%	-2.4%
Other	MToe	189.7	189.4	189.6	189.1	-0.1%	-0.2%
Primary Production	MToe	616.7	614.1	614.1	609.0	-0.4%	-0.8%
Net Imports	MToe	637.7	649.2	625.3	623.4	-1.9%	-4.0%

GROWTH RATES						Difference	
GDP	%	0.8	1.8	-0.2	0.8	-1.0	-1.0
Oil Deliveries. Total	%	0.5	0.9	-1.1	-0.6	-1.6	-1.5
Natural Gas. Final Consumption	%	3.1	2.0	2.0	0.9	-1.1	-1.1
Hard Coal Deliveries, Total	%	0.0	0.7	-1.8	-1.2	-1.8	-1.9
Electricity, Total Generation	%	1.4	1.9	0.1	0.7	-1.3	-1.2
Gross Inland Consumption	%	0.7	1.0	-0.6	-0.3	-1.3	-1.3
of which:							
Solids	%	-3.4	0.1	-5.2	-1.8	-1.8	-1.9
Oil	%	0.7	0.9	-0.9	-0.6	-1.6	-1.5
Natural gas	%	3.8	3.1	2.6	1.9	-1.2	-1.2
Primary Production	%	-0.6	-0.4	-1.0	-0.8	-0.4	-0.4
Net Imports	%	1.5	1.8	-0.4	-0.3	-1.9	-2.1

the seasonality of heating oil deliveries. In 1993, on the basis of our climatic assumptions, heating oil deliveries could increase by about 3%.

The longer trend in the decline of heavy fuel oil deliveries seems slowing. Industrial demand continues to decline but demand from the power sector remains strong. Assuming continuing recovery of hydro-electric production, total deliveries of fuel oil could decline in 1993 by less than 2%.

In total, oil deliveries might increase in 1993 by little more than 2 million tonnes (0.5%). In 1994, assuming a stronger economic growth, deliveries may increase by another 5 million tonnes (0.9%).

Oil production in 1992 was about 4 million tonnes higher than in 1991. Production in 1993 is expected to remain at the same levels and increase by about 4 million tonnes in 1994.

Given the patterns of production and demand, net oil imports increased slightly in 1992. In 1993 and 1994 they could continue to increase slowly.

NATURAL GAS

Demand for natural gas in 1992 increased by less than 0.5%. Under our economic and weather assumptions, demand in 1992 could grow by more than 3% in both 1993 and 1994.

According to provisional estimates, total consumption in 1992 increased by 0.4%. "Weather-corrected" consumption growth for 1992 is estimated at about 3.7%, (see Box B).

Consumption of natural gas in 1992 was undoubtedly influenced by the prevailing weather conditions. In addition, there has been no significant increase of gas use in the power sector.

Consumption of natural gas is more weather dependent than any other fuel. With "normal" weather conditions during the forecast period, a total demand increase of 3.8% in 1993 and 3.1% in 1994 implies a "weather-corrected" growth of 1.5% and 2.7% respectively. This forecast is based on the assumption of a slow penetration of natural gas in the power sector (see later).
Indigenous production of natural gas during 1992 remained at the same level as in 1991. Net imports increased by 4 Mtoe or 4.7%. Both production and net imports will probably expand in 1993 and 1994.

SOLIDS

Total demand for solids decreased in 1992 by about 6%. Demand, which is more and more linked to the power sector, could decrease again in 1993 and remain stable in 1994.

Total inland deliveries of hard coal which increased between 1988 and 1991 by almost 17 million tonnes, decreased by 18 million tonnes in 1992 (Tables 6, 8 and 9). More than half of this decline is due to the power sector. In addition, industrial demand of hard coal and coke dropped sharply.

The future of coal demand depends more and more on the power sector. However, the share of hard coal in total inputs of conventional thermal power stations decreased from 48.3% in 1991 to less than 47% in 1992. It is extremely difficult under present circumstances, especially in the UK, to anticipate future demand for solid fuels from the power sector. Under our forecast for 1993-1994 natural gas will not radically increase its penetration in the power sector, allowing for a small increase of hard coal deliveries. However, a big uncertainty surrounds these forecasts.

In 1993, given a slower growth of power sector demand and continuing decreasing demand from coking plants, total deliveries could remain at the same level as in 1992. In 1994 however, if demand from the power sector is stronger, they could increase slightly.

Production of hard coal in 1992 was 9.6 million tonnes less than in 1991. Net imports increased by 2 million tonnes. Recent forecasts for Member States' production show an additional decrease of another 10 million tonnes by the end of 1993. However the situation in the UK remains unclear. Net imports will continue to rise in 1993 and much more in 1994.

After German unification, lignite became an important element of the Community balance sheet. Demand for lignite in 1992 declined by about 10% due mainly to the restructuring of the East German energy sector. This negative trend will certainly continue for some years. However, it is very difficult to predict the exact levels of lignite consumption and production during the next few years. According to our forecast, total Community production could decline by some 9% in 1993 and 5.5% in 1994.

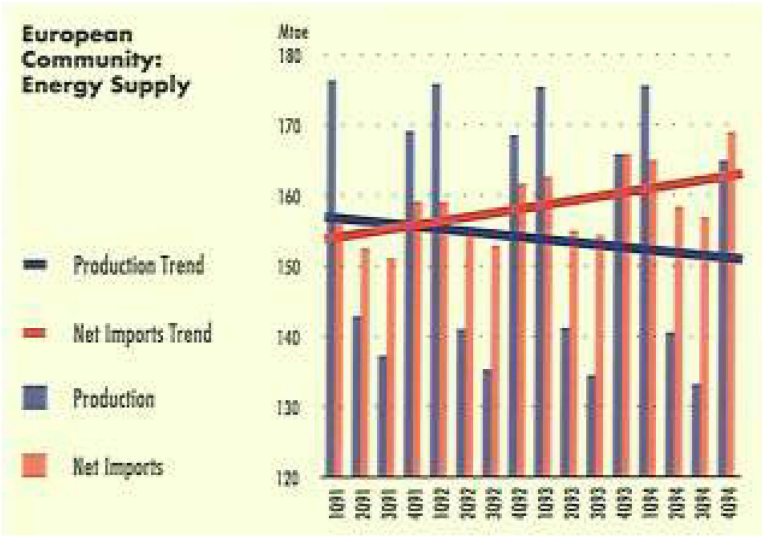
ELECTRICITY

On the basis of current available figures, final electricity demand increased by 1.5% in 1992. Demand could increase by 1.1% in 1993 and 2% in 1994.

Our current estimate for final demand growth in 1992 is of 1.5%. (Tables 7, 8 and 9). This means that electricity intensity has increased even before correction for climate. However, on the basis of our actual information it is impossible to distinguish the sectoral profile of demand growth.

Our forecast for 1993 is for an increase of demand of only 1.1% and it is mainly explained by slow economic growth. However, under "normal" weather conditions demand could grow a little faster. Our forecast of 2% for 1994 is, even more, linked to our assumption on economic activity.

Production of nuclear heat increased in 1992 by about 2.8% as total generating capacity has itself slightly increased. According to our assumptions on nuclear capacity, which are based on information available at January 1993, nuclear capacity could increase again in 1993 but decline slightly in 1994. Production of nuclear electricity could increase by 1% in 1993 and decline by 1% in 1994.



Hydro-electric production was lower in 1992 as compared with 1991. From 1993 onwards we assume an increase in production. However, even assuming that this trend persists in 1994, it is probable that it will remain considerably below 1988 levels.

Conventional thermal power generation decreased slightly during 1992, resulting in a substantial decrease in consumption of hard coal and lignite and an increase in consumption of oil and natural gas.

On the basis of our assumptions for the production of hydro and nuclear electricity, production of electricity by conventional thermal power stations could increase by only 0.6% and in 1993 and by 3% in 1994.

It is probable, as discussed previously, that demand for hard coal and natural gas will increase, demand for oil will remain at the same levels and demand for lignite will decrease.

TOTAL SUPPLY

Total primary production of energy decreased by 0.8% during 1992. This negative trend could persist in 1993 and 1994. Net imports could rise in both years, increasing dependency on imports.

Due mainly to the decrease in the production of solid fuels, total inland primary production decreased in 1992 by 5 Mtoe, or by 0.8%. Net imports increased by more than 8 Mtoe, or 1.4% (Tables 4, 8 and 9, and graph left).
Total production could decrease by another 4 Mtoe in 1993 and 3 Mtoe in 1994. Net imports could increase by almost 10 Mtoe in 1993 and another 11 Mtoe in 1994.
If this is so, then total net imports could represent (on the basis of monthly data) about 51.2% of total primary energy consumption (including bunkers) in 1994, compared to 49.8% in 1991 and 50.4% in 1992. In 1994 net oil imports could probably represent about the same part of total energy consumption as in 1991 and 1992 (about 35.7%, as compared to 35.5% in 1991 and 35.8% in 1992, Table 4).

NOTE: This Part IV is based on statistical data available as of 22 February 1993 and covering, with some minor exceptions, the third quarter of 1992. In all tables observed data are presented in boldface characters and forecasts in italics.

DATA AND DEFINITIONS

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

Table 1

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

Table 2

Macroeconomic, oil price and weather assumptions.

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

Table 3

Energy prices

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

Tables 4 to 7

Present energy data. The contents are discussed in Annex I.

Table 4

Primary energy balance sheet.

Table 5

Oil and natural gas.

Table 6

Solid fuels.

Table 7

Electricity and heat.

Tables 8 and 9

Present 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.

In all tables data up to 1990 cover the Community excluding the former GDR. Data starting from 1991 include the former GDR. Tables 1, 4, 5, 6 and 7 present also an estimate for 1991 that excludes the former GDR.

Table 2: European Community
Macroeconomic. Oil Price and Weather Assumptions

(Last revision: 26 February 1993)

	Quarter												Year (excluding the former GDR)						Year			
	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
A. Macroeconomic Variables																						
1. Gross Domestic Product (GDP)																						
(1985=100)	**119.1**	**118.9**	**119.0**	*119.3*	*119.7*	*119.9*	*120.2*	*120.4*	*121.6*	*122.0*	*122.4*	*122.8*	**100.0**	**102.9**	**105.6**	**109.9**	**113.4**	**116.5**	**117.9**	*119.1*	*120.0*	*122.2*
Percentage change																						
from prior year	**1.8**	**0.9**	**0.6**	*0.7*	*0.5*	*0.8*	*1.0*	*0.9*	*1.6*	*1.8*	*1.8*	*2.0*	**2.6**	**2.9**	**2.6**	**4.0**	**3.1**	**2.8**	**1.2**	*1.0*	*0.8*	*1.8*
from prior quarter(x4)	**2.0**	**-0.7**	**0.3**	*1.1*	*1.2*	*0.5*	*1.1*	*0.7*	*4.0*	*1.3*	*1.1*	*1.5*	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*
2. Private Consumption																						
(1985=100)	**122.4**	**122.4**	**123.2**	*124.4*	*123.1*	*123.4*	*124.3*	*125.5*	*124.6*	*125.0*	*125.9*	*127.3*	**100.0**	**104.3**	**108.2**	**112.5**	**116.0**	**119.6**	**121.6**	*123.1*	*124.1*	*125.7*
Percentage change																						
from prior year	**1.1**	**0.7**	**1.4**	*1.7*	*0.6*	*0.8*	*0.9*	*0.9*	*1.2*	*1.3*	*1.3*	*1.4*	**2.6**	**4.3**	**3.7**	**4.0**	**3.1**	**3.1**	**1.7**	*1.2*	*0.8*	*1.3*
from prior quarter(x4)	**0.3**	**0.0**	**2.6**	*3.8*	*-4.0*	*0.8*	*3.0*	*3.8*	*-2.8*	*1.2*	*3.0*	*4.2*	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*
3. Industrial Production																						
(1985=100)	**119.2**	**115.8**	**103.1**	*119.3*	*119.4*	*116.0*	*103.3*	*119.6*	*121.6*	*118.1*	*105.2*	*121.7*	**99.8**	**102.2**	**104.1**	**108.6**	**112.6**	**114.6**	**114.6**	*114.4*	*114.6*	*116.7*
Percentage change																						
from prior year	**0.6**	**-0.3**	**-1.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*1.8*	*1.8*	*1.8*	*1.8*	**3.5**	**2.4**	**1.9**	**4.2**	**3.7**	**1.8**	**0.0**	*-0.2*	*0.2*	*1.8*
from prior quarter(x4)	**0.3**	**-11.4**	**-43.9**	*63.0*	*0.3*	*-11.4*	*-43.9*	*63.0*	*6.7*	*-11.4*	*-43.9*	*63.0*	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*
4. Steel Production	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*
(1985=100)	**101.9**	**101.9**	**90.0**	*93.1*	*96.8*	*96.8*	*85.5*	*88.4*	*92.0*	*92.0*	*81.2*	*84.0*	**99.9**	**92.7**	**93.0**	**101.4**	**103.0**	**101.0**	**99.1**	*96.7*	*91.9*	*87.3*
from prior year	**0.7**	**-1.6**	**-1.6**	*-7.0*	*-5.0*	*-5.0*	*-5.0*	*-5.0*	*-5.0*	*-5.0*	*-5.0*	*-5.0*	**0.8**	**-7.2**	**0.3**	**9.0**	**1.6**	**-1.9**	**-1.8**	*-2.4*	*-5.0*	*-5.0*
from prior quarter(x4)	**7.2**	**0.0**	**-46.7**	*13.7*	*15.9*	*0.0*	*-46.7*	*13.7*	*15.9*	*0.0*	*-46.7*	*13.7*	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*
5. Chemical Indus., NACE 25																						
(1985=100. SA)	**119.9**	**120.6**	**119.7**	*117.6*	*118.7*	*120.0*	*120.6*	*120.2*	*121.1*	*121.2*	*122.4*	*123.8*	**99.8**	**100.4**	**104.3**	**110.8**	**114.7**	**116.0**	**116.9**	*119.5*	*119.9*	*122.1*
Percentage change																						
from prior year	**3.1**	**3.3**	**2.3**	*0.0*	*-1.0*	*-0.5*	*0.8*	*2.2*	*2.0*	*1.0*	*1.5*	*3.0*	**2.6**	**0.6**	**3.8**	**6.2**	**3.5**	**1.1**	**0.8**	*2.2*	*0.4*	*1.9*
from prior quarter(x4)	**7.7**	**2.4**	**-3.1**	*-6.9*	*3.6*	*4.5*	*1.9*	*-1.3*	*2.9*	*0.5*	*3.9*	*4.6*	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*
6. Consumer Price Index																						
(1985=100)	**132.7**	**134.4**	**135.1**	**136.3**	*137.9*	*139.5*	*140.8*	*142.0*	*143.0*	*144.1*	*145.6*	*147.1*	**100.0**	**103.6**	**106.9**	**110.7**	**116.3**	**122.9**	**129.0**	**134.6**	*140.0*	*144.9*
Percentage change																						
from prior year	**4.7**	**4.8**	**4.1**	**3.8**	*3.9*	*3.8*	*4.2*	*4.2*	*3.7*	*3.3*	*3.4*	*3.6*	**6.1**	**3.5**	**3.2**	**3.6**	**5.1**	**5.6**	**5.0**	**4.3**	*4.0*	*3.5*
from prior quarter(x4)	**4.3**	**5.1**	**2.1**	**3.6**	*4.6*	*4.7*	*3.6*	*3.6*	*2.7*	*3.2*	*4.0*	*4.3*	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*
7. Exchange Rate																						
(1 ECU = xx US $)	**1.263**	**1.271**	**1.386**	**1.255**	*1.200*	*1.190*	*1.190*	*1.190*	*1.190*	*1.190*	*1.190*	*1.190*	**0.762**	**0.983**	**1.154**	**1.184**	**1.102**	**1.273**	**1.242**	**1.294**	*1.193*	*1.190*
from prior quarter	**0.5**	**0.7**	**9.1**	**-9.5**	*-4.4*	*-0.8*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**-3.5**	**29.0**	**17.4**	**2.5**	**-6.9**	**15.6**	**-2.4**	**4.2**	*-7.8*	*-0.2*
B. Oil Prices																						
Imported Crude Oil																						
(cif. US$/barrel)	**17.05**	**18.84**	**19.24**	**18.64**	*17.50*	*18.00*	*18.00*	*18.50*	*18.50*	*19.00*	*19.00*	*19.50*	**27.54**	**14.51**	**17.87**	**14.78**	**17.61**	**22.68**	**19.41**	**18.44**	*18.00*	*19.00*
Percentage change																						
from prior quarter	**-14.5**	**10.5**	**2.1**	**-3.1**	*-6.1*	*2.9*	*0.0*	*2.8*	*0.0*	*2.7*	*0.0*	*2.6*	**-5.0**	**-47.3**	**23.2**	**-17.3**	**19.2**	**28.8**	**-14.4**	**-5.0**	*-2.4*	*5.6*
C. Weather																						
Degree Days	**1171**	**333**	**0**	**983**	*1231*	*420*	*0*	*995*	*1251*	*420*	*0*	*995*	**2803**	**2710**	**2773**	**2409**	**2347**	**2274**	**2726**	**2487**	*2646*	*2666*
Difference from average	**-80**	**-87**	**0**	**-12**	*-20*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	**167**	**74**	**137**	**-227**	**-289**	**-362**	**60**	**-179**	*-20*	*0*

Sources: EUROSTAT, DG XVII

Table 3: European Community Energy Prices

(Last revision: 26 February 1993)

	Quarter												Year (excluding the former GDR)						Year			
	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
A. IMPORT PRICES																						
A1. Crude Oil (cif)																						
US$/barrel	**17.05**	**18.84**	**19.24**	**18.64**	*17.50*	*18.00*	*18.00*	*18.50*	*18.50*	*19.00*	*19.00*	*19.50*	**27.54**	**14.51**	**17.87**	**14.78**	**17.61**	**22.68**	**19.41**	**18.44**	*18.00*	*19.00*
ECU/barrel	**13.51**	**14.82**	**13.88**	**14.86**	*14.58*	*15.13*	*15.13*	*15.55*	*15.55*	*15.97*	*15.97*	*16.39*	**36.40**	**14.91**	**15.50**	**12.48**	**16.00**	**17.63**	**15.62**	**14.27**	*15.10*	*15.97*
Growth rate from previous quarter, in %																						
US$/barrel	**-14.5**	**10.5**	**2.1**	**-3.1**	*-6.1*	*2.9*	*0.0*	*2.8*	*0.0*	*2.7*	*0.0*	*2.6*	**-5.0**	**-47.3**	**23.2**	**-17.3**	**19.2**	**28.8**	**-14.4**	**-5.0**	*-2.4*	*5.6*
ECU/barrel	**-14.9**	**9.7**	**-6.4**	**7.1**	*-1.9*	*3.7*	*0.0*	*2.8*	*0.0*	*2.7*	*0.0*	*2.6*	**-1.0**	**-59.0**	**3.9**	**-19.5**	**28.2**	**10.2**	**-11.4**	**-8.7**	*5.8*	*5.8*
Real prices in ECU																						
(in 1985 prices)	**10.18**	**11.03**	**10.27**	**10.90**	*10.58*	*10.84*	*10.74*	*10.95*	*10.87*	*11.08*	*10.97*	*11.14*	**36.44**	**14.42**	**14.50**	**11.28**	**13.75**	**14.31**	**12.11**	**10.59**	*10.78*	*11.01*
(in 1992 prices)	**13.70**	**14.85**	**13.83**	**14.68**	*14.24*	*14.60*	*14.47*	*14.74*	*14.64*	*14.92*	*14.77*	*14.99*	**49.06**	**19.42**	**19.52**	**15.19**	**18.51**	**19.27**	**16.30**	**14.26**	*14.51*	*14.83*
Growth rate from previous quarter, in %																						
(in real ECU)	**-15.8**	**8.4**	**-6.9**	**6.1**	*-3.0*	*2.5*	*-0.9*	*1.9*	*-0.7*	*1.9*	*-1.0*	*1.5*	**-6.5**	**-60.4**	**0.5**	**-22.2**	**21.9**	**4.1**	**-15.4**	**-12.5**	*1.7*	*2.2*
A2. Steam Coal																						
US$/tce	**53.1**	**51.6**	**52.4**	*52.0*	*50.4*	*50.1*	*49.7*	*50.3*	*49.7*	*49.4*	*48.1*	*48.0*	**51.6**	**48.3**	**43.1**	**46.4**	**50.2**	**54.3**	**52.0**	*52.3*	*50.1*	*48.8*
ECU/tce	**42.1**	**40.6**	**37.8**	*41.5*	*42.0*	*42.1*	*41.8*	*42.2*	*41.8*	*41.5*	*40.4*	*40.3*	**68.2**	**49.3**	**37.4**	**39.3**	**45.6**	**42.7**	**42.0**	*40.5*	*42.0*	*41.0*
Growth rate from previous quarter, in %																						
US$/tce	**-1.2**	**-2.8**	**1.4**	*-0.6*	*-3.0*	*-0.7*	*-0.7*	*1.0*	*-1.1*	*-0.8*	*-2.6*	*-0.3*	**1.2**	**-6.4**	**-10.8**	**7.6**	**8.2**	**8.1**	**-4.2**	*0.5*	*-4.1*	*-2.7*
ECU/tce	**-1.7**	**-3.5**	**-7.0**	*9.8*	*1.4*	*0.1*	*-0.7*	*1.0*	*-1.1*	*-0.8*	*-2.6*	*-0.3*	**5.3**	**-27.7**	**-24.2**	**5.1**	**16.1**	**-6.3**	**-1.7**	*-3.5*	*3.9*	*-2.5*
Real prices in ECU																						
(in 1985 prices)	**31.7**	**30.2**	**27.9**	*30.4*	*30.5*	*30.2*	*29.7*	*29.7*	*29.2*	*28.8*	*27.8*	*27.4*	**68.2**	**47.6**	**35.0**	**35.5**	**39.2**	**34.8**	**32.5**	*30.1*	*30.0*	*28.3*
(in 1990 prices)	**42.7**	**40.7**	**37.6**	*41.0*	*41.0*	*40.6*	*40.0*	*40.0*	*39.4*	*38.7*	*37.4*	*36.9*	**91.9**	**64.1**	**47.1**	**47.7**	**52.7**	**46.8**	**43.8**	*40.5*	*40.4*	*38.1*
Growth rate from previous quarter, in %																						
(in real ECU)	**-2.7**	**-4.7**	**-7.5**	*8.8*	*0.2*	*-1.1*	*-1.6*	*0.2*	*-1.7*	*-1.6*	*-3.5*	*-1.3*	**-0.6**	**-30.2**	**-26.6**	**1.4**	**10.5**	**-11.2**	**-6.5**	*-7.5*	*-0.2*	*-5.8*

Sources: IEA, DG XVII estimates

Table 3 (Continued): European Community Energy Prices

(Last revision: 26 February 1993)

	Quarter												Year (excluding the former GDR)						Year			
	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
B. FINAL CONSUMER PRICES																						
B1. Oil Products																						
Gasoline (ECU/1000 lt)	**763**	**786**	**766**	**757**	*774*	*801*	*815*	*818*	*825*	*829*	*838*	*851*	**752.6**	**624.6**	**615.2**	**613.0**	**669.3**	**708.2**	**753.8**	**768.0**	*802.2*	*835.9*
Diesel (ECU/1000 lt)	**485**	**494**	**481**	**479**	*489*	*503*	*510*	*516*	*519*	*525*	*530*	*537*	**506.1**	**396.7**	**386.2**	**381.1**	**411.0**	**453.8**	**494.8**	**484.8**	*504.4*	*527.8*
Heating Oil (ECU/1000lt)	**313**	**313**	**301**	**316**	*319*	*309*	*325*	*336*	*334*	*330*	*349*	*357*	**395.4**	**257.9**	**248.4**	**232.6**	**273.5**	**314.2**	**340.6**	**310.8**	*322.1*	*342.4*
Residual Fuel Oil (ECU/t)	**102**	**108**	**108**	**116**	*115*	*113*	*109*	*115*	*116*	*118*	*119*	*121*	**243.8**	**122.1**	**117.2**	**93.8**	**111.3**	**119.8**	**112.8**	**108.2**	*113.1*	*118.6*
Growth rate from previous quarter, in %																						
Gasoline	**-2.1**	**3.1**	**-2.6**	**-1.2**	*2.3*	*3.5*	*1.7*	*0.4*	*0.8*	*0.6*	*1.1*	*1.5*	**4.1**	**-17.0**	**-1.5**	**-0.4**	**9.2**	**5.8**	**6.4**	**1.9**	*4.5*	*4.2*
Diesel	**-4.6**	**1.8**	**-2.7**	**-0.5**	*2.1*	*2.9*	*1.3*	*1.3*	*0.5*	*1.3*	*0.9*	*1.3*	**5.2**	**-21.6**	**-2.7**	**-1.3**	**7.8**	**10.4**	**9.0**	**-2.0**	*4.0*	*4.6*
Heating Oil	**-8.5**	**0.0**	**-4.0**	**5.0**	*0.9*	*-3.2*	*5.3*	*3.3*	*-0.6*	*-0.9*	*5.6*	*2.2*	**6.6**	**-34.8**	**-3.7**	**-6.3**	**17.6**	**14.9**	**8.4**	**-8.8**	*3.6*	*6.3*
Residual Fuel Oil	**-11.3**	**5.9**	**0.2**	**7.4**	*-1.0*	*-1.1*	*-3.7*	*5.3*	*1.2*	*1.6*	*0.6*	*1.5*	**0.4**	**-49.9**	**-4.0**	**-20.0**	**18.6**	**7.6**	**-5.9**	**-4.0**	*4.4*	*4.9*
B2. Natural Gas																						
Households (1984 =100)	**103.8**	**105.0**	**106.8**	*103.4*	*107.6*	*110.1*	*113.9*	*108.6*	*110.3*	*112.4*	*115.6*	*111.7*	**105.4**	**97.2**	**81.6**	**83.7**	**87.7**	**95.1**	**105.7**	*104.8*	*110.1*	*112.5*
Industry (1984 =100)	**66.7**	**62.8**	**63.0**	*64.2*	*66.1*	*66.9*	*67.4*	*67.9*	*69.2*	*69.5*	*69.8*	*70.5*	**104.6**	**74.8**	**57.6**	**52.4**	**56.4**	**62.5**	**66.6**	*64.2*	*67.1*	*69.8*
Growth rate from previous quarter, in %																						
Households	**-1.5**	**1.2**	**1.7**	*-3.2*	*4.0*	*2.3*	*3.4*	*-4.6*	*1.5*	*1.9*	*2.9*	*-3.3*	**5.4**	**-7.8**	**-16.0**	**2.5**	**4.7**	**8.5**	**11.2**	*-0.9*	*5.0*	*2.2*
Industry	**-0.8**	**-5.9**	**0.3**	*2.0*	*3.0*	*1.3*	*0.7*	*0.8*	*1.9*	*0.4*	*0.5*	*0.9*	**4.6**	**-28.5**	**-22.9**	**-9.2**	**7.7**	**10.8**	**6.7**	*-3.7*	*4.5*	*4.0*
B3. Coal																						
Households (ECU/t)	**224.9**	**223.6**	**220.4**	*223.6*	*226.9*	*223.3*	*223.4*	*227.2*	*229.4*	*225.5*	*225.4*	*228.8*	**207.3**	**203.6**	**199.6**	**201.8**	**205.2**	**198.9**	**218.0**	*223.1*	*225.2*	*227.3*
Industry (ECU/t)	**98.5**	**98.2**	**98.7**	*99.2*	*100.1*	*100.5*	*100.8*	*101.2*	*101.9*	*102.1*	*102.2*	*102.2*	**104.3**	**98.6**	**96.2**	**94.5**	**94.6**	**93.1**	**94.7**	*98.6*	*100.6*	*102.1*
Growth rate from previous quarter, in %																						
Households	**1.7**	**-0.6**	**-1.4**	*1.4*	*1.5*	*-1.6*	*0.1*	*1.7*	*1.0*	*-1.7*	*0.0*	*1.5*	**4.1**	**-1.8**	**-1.9**	**1.1**	**1.7**	**-3.1**	**9.6**	*2.4*	*0.9*	*0.9*
Industry	**2.2**	**-0.2**	**0.5**	*0.5*	*0.9*	*0.4*	*0.3*	*0.3*	*0.7*	*0.2*	*0.1*	*0.1*	**2.3**	**-5.5**	**-2.4**	**-1.8**	**0.1**	**-1.5**	**1.7**	*4.1*	*2.0*	*1.4*
B4. Electricity																						
Households (ECU/100 Kwh)	**12.37**	**12.44**	**12.53**	*12.68*	*12.76*	*12.91*	*13.16*	*13.23*	*13.30*	*13.46*	*13.72*	*13.79*	**10.75**	**10.53**	**10.47**	**10.76**	**11.16**	**11.48**	**12.11**	*12.50*	*13.01*	*13.57*
Industry (ECU/100 Kwh)	**6.63**	**6.57**	**6.53**	*6.67*	*6.85*	*6.70*	*6.67*	*6.94*	*7.00*	*6.84*	*6.87*	*7.12*	**6.11**	**5.92**	**5.87**	**5.94**	**6.22**	**6.30**	**6.48**	*6.60*	*6.79*	*6.96*
Growth rate from previous quarter, in %																						
Households	**0.8**	**0.6**	**0.7**	*1.2*	*0.6*	*1.2*	*2.0*	*0.5*	*0.5*	*1.2*	*1.9*	*0.5*	**3.5**	**-2.1**	**-0.5**	**2.7**	**3.7**	**2.8**	**5.6**	*3.2*	*4.1*	*4.2*
Industry	**0.5**	**-0.9**	**-0.7**	*2.2*	*2.6*	*-2.1*	*-0.5*	*4.1*	*0.9*	*-2.3*	*0.4*	*3.7*	**3.4**	**-3.0**	**-0.9**	**1.1**	**4.7**	**1.3**	**3.0**	*1.8*	*2.8*	*2.5*

Sources: IEA. DG XVII estimates

Table 4: European Community
Primary Energy Balance and Final Consumption (Mtoe)

(Last revision: 26 February 1993)

	Quarter												Year (excluding the former GDR)						Year				
	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94	1985	1986	1987	1988	1989	1990	1991	1991	1992	1993	1994
Primary Production																							
Solid Fuels:	**47.2**	**42.2**	**41.1**	*42.5*	*42.9*	*38.6*	*38.1*	*39.9*	*40.6*	*36.6*	*36.0*	*37.5*	**168.4**	**172.7**	**166.6**	**161.8**	**160.2**	**152.8**	**149.9**	**185.9**	*173.0*	*159.5*	*150.7*
Hard Coal	**29.8**	**27.4**	**26.2**	*26.6*	*27.7*	*25.5*	*24.3*	*24.9*	*26.2*	*24.1*	*23.0*	*23.5*	**132.5**	**138.6**	**134.1**	**129.7**	**125.9**	**118.9**	**115.8**	**115.8**	*110.0*	*102.5*	*96.8*
Lignite	**17.3**	**14.8**	**14.9**	*15.9*	*15.2*	*13.0*	*13.8*	*15.0*	*14.5*	*12.4*	*12.9*	*14.0*	**35.9**	**34.0**	**32.5**	**32.2**	**34.4**	**33.9**	**34.1**	**70.1**	*63.0*	*57.0*	*53.9*
Oil	**30.7**	**27.8**	**29.9**	32.2	30.1	28.4	30.2	31.6	31.7	29.6	30.6	32.2	**149.8**	**150.8**	**148.6**	**140.7**	**117.3**	**117.0**	**116.4**	**116.5**	*120.5*	*120.3*	*124.2*
Natural Gas	**47.9**	**28.1**	**22.6**	*44.9*	*50.4*	*29.0*	*23.1*	*45.8*	*51.2*	*29.3*	*23.7*	*46.7*	**126.7**	**123.6**	**128.5**	**118.4**	**123.9**	**129.6**	**142.2**	**143.7**	*143.5*	*148.3*	*150.9*
Heat:	**46.4**	**38.3**	**37.6**	*44.3*	*47.2*	*40.1*	*38.9*	*44.4*	*47.3*	*39.8*	*38.3*	*43.6*	**125.6**	**134.0**	**137.8**	**147.6**	**159.2**	**158.5**	**162.0**	**162.0**	*166.6*	*170.6*	*169.0*
Nuclear	**45.9**	**37.8**	**37.0**	*43.8*	*46.7*	*39.5*	*38.3*	*43.9*	*46.7*	*39.2*	*37.7*	*43.1*	**123.9**	**132.2**	**135.9**	**145.8**	**157.3**	**156.5**	**160.0**	**160.0**	*164.5*	*168.5*	*166.8*
Geothermy	**0.5**	**0.5**	**0.5**	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.6*	*0.6*	*0.5*	**1.7**	**1.7**	**1.8**	**1.8**	**1.9**	**2.0**	**2.0**	**2.0**	*2.1*	*2.1*	*2.2*
Primary Electricity	**2.8**	**3.8**	**3.2**	*3.6*	*3.8*	*4.2*	*3.2*	*3.3*	*3.7*	*4.3*	*3.6*	*3.9*	**14.6**	**14.2**	**15.0**	**16.5**	**11.3**	**12.5**	**13.9**	**13.9**	*13.4*	*14.5*	*15.5*
Other	**0.9**	**0.9**	**0.9**	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*1.0*	*1.0*	*0.9*	*0.9*	**1.8**	**1.7**	**2.2**	**3.0**	**2.5**	**3.0**	**3.2**	**3.3**	*3.5*	*3.6*	*3.8*
TOTAL	**175.8**	**141.0**	**135.2**	*168.5*	*175.4*	*141.2*	*134.4*	*165.8*	*175.5*	*140.5*	*133.1*	*164.9*	**586.9**	**596.9**	**598.7**	**588.1**	**574.4**	**573.3**	**587.6**	**625.4**	*620.5*	*616.7*	*614.1*
Recovered Production																							
Hard Coal	**0.7**	**0.7**	**0.7**	*0.5*	*0.7*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.5*	*0.6*	**3.3**	**3.1**	**2.3**	**2.3**	**1.8**	**2.2**	**2.7**	**2.7**	*2.6*	*2.4*	*2.3*
Oil	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	**1.5**	**1.1**	**1.2**	**1.2**	**0.6**	**0.3**	**0.3**	*0.3*	*0.3*	*0.3*
TOTAL	**0.7**	**0.7**	**0.8**	*0.6*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.7*	*0.6*	*0.6*	**3.6**	**4.6**	**3.4**	**3.5**	**3.0**	**2.8**	**3.0**	**3.0**	*2.8*	*2.7*	*2.6*
Net Imports																							
Solid Fuels:	**22.9**	**23.0**	**22.4**	*21.4*	*22.0*	*21.7*	*21.6*	*24.7*	*24.6*	*23.7*	*22.5*	*26.3*	**63.5**	**60.7**	**60.5**	**62.1**	**66.8**	**76.7**	**86.5**	**88.9**	*89.6*	*90.0*	*97.0*
Hard Coal	**22.4**	**22.6**	**22.2**	*21.1*	*21.6*	*21.3*	*21.2*	*24.4*	*24.3*	*23.3*	*22.1*	*26.0*	**63.3**	**60.3**	**59.5**	**61.4**	**66.6**	**75.5**	**85.1**	**87.0**	*88.3*	*88.5*	*95.7*
Oil	**112.5**	**108.8**	**109.2**	*115.2*	*111.4*	*111.6*	*113.9*	*114.4*	*110.4*	*111.7*	*114.6*	*115.0*	**333.5**	**356.4**	**357.6**	**368.8**	**399.3**	**409.0**	**428.7**	**442.6**	*445.8*	*451.2*	*451.7*
Natural Gas	**23.5**	**22.3**	**20.7**	*25.1*	*29.2*	*21.3*	*18.4*	*26.7*	*29.8*	*22.5*	*19.3*	*27.6*	**59.4**	**64.8**	**71.8**	**73.0**	**78.1**	**80.9**	**83.4**	**87.4**	*91.5*	*95.5*	*99.2*
Electricity	**0.1**	**0.6**	**0.5**	*0.1*	*0.1*	*0.4*	*0.5*	*0.1*	*0.1*	*0.5*	*0.5*	*0.1*	**1.2**	**1.2**	**1.6**	**1.8**	**1.6**	**1.3**	**0.9**	**0.8**	*1.2*	*1.1*	*1.2*
TOTAL	**159.0**	**154.7**	**152.8**	*161.6*	*162.6*	*155.0*	*154.3*	*165.8*	*165.0*	*158.4*	*156.8*	*169.0*	**457.6**	**483.1**	**491.5**	**505.6**	**545.8**	**567.8**	**599.4**	**619.6**	*628.2*	*637.7*	*649.2*
Change in Stocks																							
Solid Fuels:	**-1.7**	**6.0**	**6.2**	*-4.0*	*-3.2*	*3.5*	*4.6*	*-2.9*	*-4.0*	*3.4*	*4.2*	*-3.8*	**-4.1**	**5.8**	**-2.6**	**-0.7**	**-2.2**	**-1.3**	**3.2**	**3.2**	*6.5*	*2.0*	*-0.2*
Hard Coal	**-1.5**	**6.0**	**5.9**	*-4.0*	*-3.1*	*3.6*	*4.3*	*-2.9*	*-3.8*	*3.6*	*3.9*	*-3.7*	**-0.4**	**4.4**	**-4.2**	**1.1**	**-0.2**	**-1.6**	**2.6**	**2.6**	*6.5*	*2.0*	*-0.1*
Coke	**-0.2**	**0.0**	**0.4**	*-0.1*	*-0.2*	*-0.2*	*0.4*	*0.0*	*-0.2*	*-0.2*	*0.3*	*0.0*	**-2.6**	**1.5**	**0.9**	**-1.5**	**-2.0**	**0.3**	**0.2**	**0.2**	*0.1*	*0.0*	*-0.1*
Oil	**-2.4**	**2.9**	**1.1**	*-0.4*	*-5.1*	*3.0*	*4.3*	*-2.3*	*-5.3*	*2.9*	*4.4*	*-2.4*	**0.7**	**4.7**	**2.1**	**-1.7**	**4.5**	**-0.2**	**1.8**	**2.4**	*1.2*	*-0.1*	*-0.5*
Natural Gas	**-7.4**	**5.2**	**8.5**	*-3.3*	*-2.6*	*2.4*	*4.4*	*-1.4*	*-3.1*	*2.1*	*4.3*	*-1.6*	**1.6**	**1.6**	**1.4**	**0.3**	**2.2**	**2.5**	**0.2**	**0.0**	*3.0*	*2.8*	*1.7*
TOTAL	**-11.5**	**14.2**	**15.8**	*-7.7*	*-10.9*	*8.9*	*13.3*	*-6.6*	*-12.4*	*8.4*	*12.8*	*-7.8*	**-1.8**	**12.1**	**0.8**	**-2.1**	**4.4**	**1.1**	**5.2**	**5.7**	*10.8*	*4.6*	*1.0*
Bunkers	**8.2**	**8.2**	**8.7**	*8.2*	*8.2*	*8.5*	*8.6*	*8.2*	*8.1*	*8.4*	*8.5*	*8.1*	**26.2**	**30.5**	**29.5**	**30.5**	**30.2**	**32.6**	**32.5**	**32.7**	*33.3*	*33.3*	*33.1*
Apparent Gross Consumption																							
Solid Fuels:	**72.5**	**59.8**	**58.0**	*68.4*	*68.8*	*57.4*	*55.7*	*68.0*	*69.9*	*57.4*	*54.7*	*68.1*	**239.3**	**230.7**	**231.9**	**226.9**	**230.9**	**232.8**	**235.8**	**274.2**	*258.6*	*249.8*	*250.2*
Hard Coal	**54.4**	**44.6**	**43.1**	*52.2*	*53.0*	*43.8*	*41.8*	*52.7*	*54.9*	*44.4*	*41.7*	*53.8*	**199.6**	**197.6**	**200.0**	**192.2**	**194.4**	**198.0**	**201.0**	**202.9**	*194.3*	*191.4*	*194.8*
Coke	**0.4**	**0.1**	**-0.3**	*0.1*	*0.3*	*0.4*	*-0.1*	*0.1*	*0.3*	*0.4*	*-0.1*	*0.1*	**1.3**	**-2.5**	**-1.1**	**1.2**	**1.1**	**-0.1**	**0.4**	**0.7**	*0.3*	*0.6*	*0.7*
Lignite	**17.7**	**15.0**	**15.2**	*16.1*	*15.5*	*13.2*	*13.9*	*15.2*	*14.7*	*12.6*	*13.1*	*14.2*	**38.4**	**35.6**	**33.1**	**33.5**	**35.5**	**34.9**	**34.4**	**70.6**	*64.0*	*57.8*	*54.6*
Oil	**137.5**	**125.5**	**129.4**	*139.7*	*138.5*	*128.6*	*131.3*	*140.2*	*139.4*	*130.2*	*132.5*	*141.6*	**456.7**	**473.5**	**475.8**	**481.9**	**483.1**	**494.1**	**511.1**	**524.2**	*532.0*	*538.6*	*543.6*
Natural Gas	**78.8**	**45.2**	**34.8**	*73.3*	*82.1*	*47.9*	*37.0*	*73.8*	*84.2*	*49.7*	*38.7*	*75.9*	**184.5**	**186.8**	**198.9**	**191.1**	**199.8**	**207.9**	**225.4**	**231.1**	*232.0*	*241.0*	*248.5*
Heat	**46.4**	**38.3**	**37.6**	*44.3*	*47.2*	*40.1*	*38.9*	*44.4*	*47.3*	*39.8*	*38.3*	*43.6*	**125.6**	**134.0**	**137.8**	**147.6**	**159.2**	**158.5**	**162.0**	**162.0**	*166.6*	*170.6*	*169.0*
Primary Electricity	**2.9**	**4.3**	**3.7**	*3.7*	*4.0*	*4.6*	*3.7*	*3.3*	*3.9*	*4.8*	*4.1*	*3.9*	**15.8**	**15.4**	**16.5**	**18.3**	**12.9**	**13.8**	**14.8**	**14.7**	*14.6*	*15.6*	*16.7*
Other	**0.9**	**0.9**	**0.9**	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*1.0*	*1.0*	*0.9*	*0.9*	**1.8**	**1.7**	**2.2**	**3.0**	**2.5**	**3.0**	**3.2**	**3.3**	*3.5*	*3.6*	*3.8*
TOTAL	**338.9**	**273.9**	**264.3**	*330.2*	*341.5*	*279.4*	*267.5*	*330.7*	*345.6*	*282.7*	*269.2*	*334.2*	**1023.7**	**1042.0**	**1063.1**	**1068.8**	**1088.4**	**1110.1**	**1152.3**	**1209.5**	*1207.3*	*1219.1*	*1231.7*

Table 4 (Continued): European Community
Primary Energy Balance and Final Consumption (Mtoe)

(Last revision: 26 February 1993)

	Quarter												Year (excluding the former GDR)							Year			
	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94	1985	1986	1987	1988	1989	1990	1991	1991	1992	1993	1994
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*	**-0.3**	**0.9**	**-0.7**	**-0.2**	**0.2**	**1.0**	**1.3**	**1.2**	*0.0*	*0.0*	*0.0*
Oil	**1.3**	**1.3**	**1.3**	*1.3*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	**5.8**	**0.4**	**0.8**	**6.1**	**8.5**	**3.4**	**-0.7**	**1.0**	*5.0*	*2.0*	*2.0*
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*	**0.2**	**0.1**	**-0.9**	**1.4**	**1.7**	**-0.3**	**0.4**	**0.4**	*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*	**-0.2**	**0.1**	**0.4**	**1.2**	**-0.3**	**0.7**	**0.8**	**0.8**	*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**	**0.0**	**0.0**	**0.0**	**0.1**	**0.1**	**-0.3**	**-0.3**	*0.0*	*0.0*	*0.0*
TOTAL	**1.3**	**1.3**	**1.3**	*1.3*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	**5.5**	**1.4**	**-0.4**	**8.5**	**10.1**	**5.0**	**1.5**	**3.1**	*5.0*	*2.0*	*2.0*
Gross Inland Consumption																							
Solid Fuels	**72.5**	**59.8**	**58.0**	*68.4*	*68.8*	*57.4*	*55.7*	*68.0*	*69.9*	*57.4*	*54.7*	*68.1*	**239.0**	**231.5**	**231.3**	**226.7**	**231.1**	**233.8**	**237.0**	**275.4**	*258.6*	*249.8*	*250.2*
Oil	**138.7**	**126.7**	**130.7**	*140.9*	*139.0*	*129.1*	*131.8*	*140.7*	*139.9*	*130.7*	*133.0*	*142.1*	**462.6**	**473.9**	**476.6**	**487.9**	**491.6**	**497.6**	**510.4**	**525.1**	*537.0*	*540.6*	*545.6*
Natural Gas	**78.8**	**45.2**	**34.8**	*73.3*	*82.1*	*47.9*	*37.0*	*73.8*	*84.2*	*49.7*	*38.7*	*75.9*	**184.7**	**186.9**	**198.1**	**192.6**	**201.5**	**207.6**	**225.8**	**231.5**	*232.0*	*241.0*	*248.5*
Heat	**46.4**	**38.3**	**37.6**	*44.3*	*47.2*	*40.1*	*38.9*	*44.4*	*47.3*	*39.8*	*38.3*	*43.6*	**125.3**	**134.0**	**138.1**	**148.8**	**158.9**	**159.2**	**162.8**	**162.8**	*166.6*	*170.6*	*169.0*
Primary Electricity	**2.9**	**4.3**	**3.7**	*3.7*	*4.0*	*4.6*	*3.7*	*3.3*	*3.9*	*4.8*	*4.1*	*3.9*	**15.8**	**15.4**	**16.5**	**18.3**	**13.0**	**13.9**	**14.5**	**14.4**	*14.6*	*15.6*	*16.7*
Other	**0.9**	**0.9**	**0.9**	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*1.0*	*1.0*	*0.9*	*0.9*	**1.8**	**1.7**	**2.2**	**3.0**	**2.5**	**3.0**	**3.2**	**3.3**	*3.5*	*3.6*	*3.8*
TOTAL	**340.1**	**275.2**	**265.6**	*331.5*	*342.0*	*279.9*	*268.0*	*331.2*	*346.1*	*283.2*	*269.7*	*334.7*	**1029.2**	**1043.4**	**1062.7**	**1077.3**	**1098.6**	**1115.1**	**1153.7**	**1212.6**	*1212.3*	*1221.1*	*1233.7*
Net imports as % of consumption																							
Hard Coal	**41.2**	**50.7**	**51.4**	*40.4*	*40.7*	*48.7*	*50.7*	*46.3*	*44.2*	*52.5*	*52.9*	*48.4*	**31.7**	**30.4**	**29.9**	**32.0**	**34.3**	**37.9**	**42.3**	**42.8**	*45.4*	*46.3*	*49.1*
Oil	**76.6**	**80.6**	**78.4**	*77.2*	*75.7*	*81.1*	*81.1*	*76.8*	*74.6*	*80.3*	*81.0*	*76.6*	**68.2**	**70.7**	**70.7**	**71.1**	**76.5**	**77.1**	**79.0**	**79.3**	*78.2*	*78.6*	*78.1*
Natural Gas	**29.8**	**49.4**	**59.6**	*34.2*	*35.5*	*44.4*	*49.5*	*36.2*	*35.4*	*45.4*	*49.8*	*36.3*	**32.2**	**34.7**	**36.3**	**37.9**	**38.7**	**39.0**	**36.9**	**37.8**	*39.5*	*39.6*	*39.9*
TOTAL	**45.6**	**54.6**	**55.7**	*47.6*	*46.4*	*53.7*	*55.8*	*48.9*	*46.6*	*54.3*	*56.4*	*49.3*	**43.4**	**45.0**	**45.0**	**45.6**	**48.4**	**49.5**	**50.5**	**49.8**	*50.4*	*50.8*	*51.2*
Oil imports as % of total energy consumption																							
	32.3	**38.4**	**39.8**	*33.9*	*31.8*	*38.7*	*41.2*	*33.7*	*31.2*	*38.3*	*41.2*	*33.6*	**31.6**	**33.2**	**32.7**	**33.3**	**35.4**	**35.6**	**36.1**	**35.5**	*35.8*	*36.0*	*35.7*
Estimated Final Consumption																							
Solid Fuels	**15.6**	**13.2**	**12.9**	*16.0*	*14.4*	*13.1*	*12.5*	*14.8*	*13.5*	*12.3*	*11.8*	*13.9*	**68.5**	**61.6**	**59.7**	**56.5**	**57.7**	**53.2**	**53.5**	**64.9**	*57.7*	*54.7*	*51.5*
Oil	**115.5**	**106.8**	**113.1**	*119.0*	*116.9*	*109.7*	*112.1*	*117.6*	*116.8*	*111.0*	*113.6*	*119.7*	**391.4**	**407.4**	**409.5**	**420.1**	**416.2**	**422.0**	**430.3**	**446.4**	*454.4*	*456.2*	*461.0*
Natural Gas	**68.5**	**37.0**	**27.3**	*60.8*	*69.7*	*39.4*	*28.8*	*61.7*	*71.3*	*40.2*	*29.4*	*62.7*	**155.2**	**156.9**	**166.5**	**161.7**	**166.8**	**171.6**	**189.6**	**194.1**	*193.5*	*199.6*	*203.6*
Derived Gas	**2.3**	**2.2**	**2.2**	*2.0*	*2.2*	*2.1*	*1.8*	*1.9*	*2.0*	*1.9*	*1.6*	*1.7*	**13.2**	**12.1**	**11.6**	**11.6**	**11.6**	**10.2**	**9.6**	**9.6**	*8.8*	*8.0*	*7.2*
Heat	**2.5**	**2.0**	**2.0**	*2.4*	*2.5*	*1.9*	*1.9*	*2.5*	*2.6*	*2.0*	*1.9*	*2.5*	**4.4**	**4.4**	**5.2**	**5.1**	**5.5**	**5.6**	**6.0**	**8.9**	*8.8*	*8.7*	*9.0*
Electricity	**39.5**	**33.3**	**32.2**	*38.4*	*40.2*	*33.8*	*32.1*	*38.8*	*41.2*	*34.5*	*32.6*	*39.6*	**112.8**	**115.9**	**120.4**	**123.8**	**128.1**	**131.2**	**135.6**	**141.3**	*143.4*	*145.0*	*147.9*
TOTAL	**243.9**	**194.5**	**189.6**	*238.7*	*245.8*	*200.0*	*189.3*	*237.2*	*247.4*	*201.9*	*190.9*	*240.0*	**745.4**	**758.3**	**772.9**	**778.8**	**786.0**	**793.9**	**824.6**	**865.3**	*866.6*	*872.3*	*880.3*
for memory: SOEC Annual data																							
Available for Final Consumption													**748.5**	**755.0**	**774.0**	**778.8**	**783.8**	**796.3**	**831.2**				
Total Non-energy Consumption													**69.5**	**69.5**	**69.7**	**75.1**	**75.5**	**75.3**	**76.2**				
Total Energy Consumption													**676.4**	**689.3**	**704.2**	**707.4**	**712.1**	**721.2**	**756.8**				
Total Final Consumption													**745.9**	**758.8**	**773.9**	**782.5**	**787.6**	**796.5**	**833.0**				
Statistical Error													**2.6**	**-3.8**	**0.1**	**-3.7**	**-3.8**	**-0.2**	**-1.8**				

Table 5: European Community
Oil and Natural Gas: Supply and Disposal

(Last revision: 26 February 1993)

	Quarter												Year (excluding the former GDR)							Year			
	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94	1985	1986	1987	1988	1989	1990	1991	1991	1992	1993	1994
1. OIL (Million tonnes)																							
Primary Production	**30.2**	**27.3**	**29.4**	*31.8*	*29.7*	*28.0*	*29.8*	*31.1*	*31.3*	*29.2*	*30.2*	*31.8*	**147.7**	**148.5**	**146.4**	**138.6**	**115.6**	**115.3**	**114.7**	**114.8**	*118.8*	*118.6*	*122.5*
of which: Crude	**29.0**	**26.5**	**28.6**	*30.8*	*28.6*	*27.1*	*28.8*	*30.0*	*30.1*	*28.3*	*29.3*	*30.7*	**144.2**	**143.7**	**141.2**	**134.4**	**111.9**	**112.6**	**111.2**	**111.2**	*114.7*	*114.6*	*118.3*
Oil products	**1.3**	**0.9**	**0.8**	*1.0*	*1.1*	*0.9*	*0.9*	*1.1*	*1.1*	*1.0*	*1.0*	*1.1*	**3.5**	**4.8**	**5.2**	**4.2**	**3.7**	**2.8**	**3.5**	**3.5**	*4.0*	*4.0*	*4.1*
Recovered Production	**0.1**	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.2**	**1.5**	**1.1**	**1.2**	**1.2**	**0.6**	**0.2**	**0.3**	*0.3*	*0.3*	*0.3*
Change in Stocks	**-2.5**	**3.0**	**1.1**	*-0.4*	*-5.1*	*3.0*	*4.3*	*-2.3*	*-5.3*	*2.9*	*4.4*	*-2.4*	**0.7**	**4.8**	**2.0**	**-1.7**	**4.6**	**-0.2**	**1.9**	**2.5**	*1.1*	*-0.1*	*-0.5*
Net Imports	**112.1**	**108.3**	**108.8**	*114.8*	*111.0*	*111.3*	*113.5*	*114.0*	*110.0*	*111.4*	*114.3*	*114.7*	**332.6**	**355.4**	**356.6**	**367.5**	**397.7**	**407.3**	**426.9**	**440.8**	*444.0*	*449.9*	*450.4*
Bunkers	**8.5**	**8.5**	**8.9**	*8.5*	*8.4*	*8.7*	*8.8*	*8.4*	*8.3*	*8.7*	*8.7*	*8.4*	**27.0**	**31.4**	**30.4**	**31.5**	**31.1**	**33.6**	**33.5**	**33.8**	*34.4*	*34.4*	*34.1*
Apparent Consumption	**136.4**	**124.3**	**128.3**	*138.6*	*137.5*	*127.6*	*130.3*	*139.2*	*138.3*	*129.2*	*131.4*	*140.6*	**452.9**	**469.2**	**471.6**	**477.6**	**478.7**	**489.9**	**506.4**	**519.5**	*527.6*	*534.5*	*539.6*
Adjustment	**1.3**	**1.3**	**1.3**	*1.3*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	**7.3**	**1.7**	**1.5**	**6.6**	**8.9**	**4.0**	**0.1**	**1.6**	*5.0*	*2.0*	*2.0*
Gross Inland Consumption	**137.7**	**125.5**	**129.5**	*139.9*	*138.0*	*128.1*	*130.8*	*139.7*	*138.8*	*129.7*	*131.9*	*141.1*	**460.1**	**470.9**	**473.1**	**484.2**	**487.6**	**493.9**	**506.5**	**521.1**	*532.6*	*536.5*	*541.6*
Transformation Input	**151.0**	**146.2**	**152.4**	*148.0*	*146.2*	*143.0*	*151.9*	*157.0*	*149.8*	*144.4*	*151.7*	*156.2*	**492.3**	**515.6**	**506.0**	**526.4**	**536.4**	**550.6**	**566.8**	**582.5**	*597.7*	*598.0*	*602.2*
of which:																							
Refineries	**136.2**	**135.0**	**140.6**	*134.8*	*132.5*	*132.0*	*140.7*	*142.6*	*135.3*	*133.2*	*140.9*	*142.6*	**448.9**	**476.1**	**467.0**	**488.2**	**492.0**	**506.3**	**520.2**	**534.7**	*546.6*	*547.8*	*552.0*
Power Generation	**14.5**	**10.8**	*11.4*	*12.9*	*13.4*	*10.7*	*10.8*	*14.0*	*14.2*	*10.9*	*10.5*	*13.4*	**41.3**	**37.3**	**37.3**	**36.7**	**42.8**	**43.0**	**45.2**	**46.3**	*49.7*	*48.9*	*48.9*
Refineries Gross Output	**135.3**	**134.2**	**139.4**	*134.0*	*131.8*	*131.1*	*139.9*	*141.9*	*134.7*	*132.4*	*140.2*	*141.9*	**444.6**	**473.1**	**464.2**	**485.6**	**489.2**	**500.5**	**515.7**	**530.0**	*542.8*	*544.7*	*549.2*
Refineries Consumption	**8.3**	**8.0**	**8.2**	*8.3*	*8.2*	*7.9*	*8.2*	*8.5*	*8.4*	*8.1*	*8.3*	*8.6*	**24.8**	**27.4**	**27.2**	**28.1**	**29.3**	**29.9**	**30.8**	**31.9**	*32.7*	*32.8*	*33.4*
Refineries Net Output	**127.1**	**126.2**	**131.2**	*125.7*	*123.6*	*123.2*	*131.7*	*133.4*	*126.3*	*124.3*	*131.9*	*133.3*	**419.8**	**445.7**	**437.0**	**457.5**	**459.9**	**470.6**	**484.8**	**498.1**	*510.1*	*511.9*	*515.8*
Avail.Final Consumption	**113.7**	**105.5**	**108.3**	*117.5*	*115.4*	*108.3*	*110.7*	*116.0*	*115.3*	*109.6*	*112.1*	*118.1*	**387.6**	**401.0**	**404.1**	**415.3**	**411.2**	**413.9**	**424.5**	**436.8**	*445.0*	*450.4*	*455.1*
Final Consumption (est)	**113.8**	**104.9**	**111.1**	*117.5*	*115.4*	*108.3*	*110.7*	*116.0*	*115.3*	*109.6*	*112.1*	*118.1*	**385.8**	**401.6**	**403.3**	**413.7**	**409.7**	**415.1**	**423.2**	**439.0**	*447.3*	*450.4*	*455.1*
Statistical Difference	**-0.1**	**0.6**	**-2.8**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**1.9**	**-0.7**	**0.8**	**1.6**	**1.5**	**-1.2**	**1.3**	**-2.3**	*-2.2*	*0.0*	*0.0*
Inland Deliveries:																							
Motor Gasoline	**26.1**	**28.4**	**29.3**	*28.0*	*25.7*	*28.5*	*29.5*	*27.9*	*25.8*	*28.8*	*30.4*	*28.4*	**91.1**	**94.8**	**97.2**	**100.7**	**102.2**	**104.5**	**105.1**	**110.0**	*111.8*	*111.6*	*113.4*
Kerosenes	**6.8**	**7.4**	**8.1**	*7.0*	*6.8*	*7.3*	*8.3*	*7.4*	*7.1*	*7.6*	*8.5*	*7.6*	**21.7**	**22.8**	**24.0**	**25.6**	**26.2**	**27.3**	**27.2**	**27.4**	*29.2*	*29.9*	*30.7*
Gas/Diesel Oil-Total	**51.4**	**40.9**	**45.2**	*52.0*	*53.3*	*43.9*	*45.0*	*51.5*	*54.2*	*45.1*	*45.4*	*52.7*	**162.3**	**169.9**	**168.5**	**170.1**	**166.0**	**170.6**	**178.1**	**184.8**	*189.5*	*193.8*	*197.4*
of which:																							
Autom.Diesel	**22.9**	**23.5**	**23.9**	*24.2*	*22.9*	*24.0*	*24.1*	*24.8*	*23.6*	*24.9*	*25.0*	*25.8*	**60.8**	**65.8**	**69.9**	**76.2**	**81.2**	**85.0**	**87.9**	**91.0**	*94.4*	*95.8*	*99.3*
Heating Gas Oil	**28.5**	**17.4**	**21.3**	*27.9*	*30.5*	*19.9*	*20.8*	*26.8*	*30.6*	*20.2*	*20.4*	*26.9*	**101.4**	**104.1**	**98.5**	**94.0**	**84.8**	**85.6**	**90.2**	**93.8**	*95.1*	*98.0*	*98.1*
Heavy Fuel Oil	**21.6**	**16.1**	**16.2**	*19.4*	*20.4*	*16.1*	*15.6*	*19.8*	*20.0*	*15.7*	*14.9*	*18.9*	**78.1**	**74.2**	**70.4**	**67.6**	**71.0**	**68.1**	**69.5**	**71.9**	*73.3*	*71.9*	*69.5*
Other Products	**22.8**	**23.3**	**24.2**	*24.2*	*22.8*	*23.5*	*23.4*	*23.7*	*22.8*	*23.6*	*23.7*	*24.3*	**76.1**	**79.5**	**82.3**	**88.0**	**88.6**	**89.0**	**90.0**	**92.7**	*94.5*	*93.5*	*94.3*
TOTAL	**128.7**	**116.1**	**122.8**	*130.7*	*129.1*	*119.3*	*121.8*	*130.4*	*129.8*	*120.8*	*122.9*	*131.8*	**429.2**	**441.1**	**442.3**	**451.9**	**454.0**	**459.4**	**469.9**	**486.8**	*498.3*	*500.6*	*505.3*
Total Oil Stocks																							
(end of period)	**132.3**	**135.2**	**136.3**	*135.9*	*130.8*	*133.8*	*138.1*	*135.8*	*130.5*	*133.3*	*137.7*	*135.3*	**121.5**	**126.4**	**128.4**	**126.6**	**131.2**	**131.0**	**132.5**	**134.8**	*135.9*	*135.8*	*135.3*
2. NATURAL GAS (Million toe)																							
Primary Production	**47.9**	**28.1**	**22.6**	*44.9*	*50.4*	*29.0*	*23.1*	*45.8*	*51.2*	*29.3*	*23.7*	*46.7*	**126.7**	**123.6**	**128.5**	**118.4**	**123.9**	**129.6**	**142.2**	**143.7**	*143.5*	*148.3*	*150.9*
Change in Stocks	**-7.4**	**5.2**	**8.5**	*-3.3*	*-2.6*	*2.4*	*4.4*	*-1.4*	*-3.1*	*2.1*	*4.3*	*-1.6*	**1.6**	**1.6**	**1.4**	**0.3**	**2.2**	**2.5**	**0.2**	**0.0**	*3.0*	*2.8*	*1.7*
Net Imports	**23.5**	**22.3**	**20.7**	*25.1*	*29.2*	*21.3*	*18.4*	*26.7*	*29.8*	*22.5*	*19.3*	*27.6*	**59.4**	**64.8**	**71.8**	**73.0**	**78.1**	**80.9**	**83.4**	**87.4**	*91.5*	*95.5*	*99.2*
Apparent Consumption	**78.8**	**45.2**	**34.8**	*73.3*	*82.1*	*47.9*	*37.0*	*73.8*	*84.2*	*49.7*	*38.7*	*75.9*	**184.5**	**186.8**	**198.9**	**191.1**	**199.8**	**207.9**	**225.4**	**231.1**	*232.0*	*241.0*	*248.5*
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*	**0.2**	**0.1**	**-0.9**	**1.4**	**1.7**	**-0.3**	**0.4**	**0.4**	*0.0*	*0.0*	*0.0*
Gross Inland Consumption	**78.8**	**45.2**	**34.8**	*73.3*	*82.1*	*47.9*	*37.0*	*73.8*	*84.2*	*49.7*	*38.7*	*75.9*	**184.7**	**186.9**	**198.1**	**192.6**	**201.5**	**207.6**	**225.8**	**231.5**	*232.0*	*241.0*	*248.5*
of which:																							
Power Generation	**7.2**	**6.3**	*6.1*	*9.6*	*9.2*	*6.6*	*6.7*	*9.2*	*9.5*	*7.5*	*7.8*	*10.2*	**22.7**	**21.9**	**23.8**	**23.6**	**26.8**	**27.7**	**27.1**	**28.0**	*29.2*	*31.7*	*34.9*
Final Consumption (est)	**68.5**	**37.0**	**27.3**	*60.8*	*69.7*	*39.4*	*28.8*	*61.7*	*71.3*	*40.2*	*29.4*	*62.7*	**155.2**	**156.9**	**166.5**	**161.7**	**166.8**	**171.6**	**189.6**	**194.1**	*193.5*	*199.6*	*203.6*

Table 6: European Community
Solid Fuels: Supply and Disposal (*)

(Last revision: 26 February 1993)

	Quarter												Year (excluding the former GDR)						Year				
	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94	1985	1986	1987	1988	1989	1990	1991	1991	1992	1993	1994
1. HARD COAL (Million tonnes)																							
Primary Production	**49.7**	**45.8**	**43.7**	*44.6*	*47.0*	*43.3*	*41.3*	*42.2*	*44.4*	*40.9*	*39.0*	*39.8*	**217.5**	**228.2**	**221.8**	**214.7**	**208.8**	**197.4**	**193.4**	**193.4**	*183.8*	*173.7*	*164.1*
Recovered Production	**1.5**	**1.4**	**1.6**	*1.1*	*1.5*	*1.4*	*1.3*	*1.3*	*1.4*	*1.3*	*1.2*	*1.3*	**7.4**	**6.8**	**5.0**	**5.0**	**4.1**	**5.2**	**6.2**	**6.2**	*5.7*	*5.6*	*5.3*
Change in Stocks:																							
Collieries	**0.2**	**6.3**	**4.2**	*-2.9*	*1.1*	*1.5*	*0.5*	*-1.9*	*0.5*	*1.8*	*0.3*	*-2.7*	**-10.3**	**0.3**	**-2.8**	**1.2**	**0.8**	**-2.5**	**0.1**	**0.1**	*7.8*	*1.2*	*0.0*
Power Plants	**-3.0**	**4.1**	**5.7**	*-3.2*	*-5.8*	*4.1*	*6.0*	*-2.6*	*-6.4*	*3.7*	*5.6*	*-3.1*	**8.2**	**8.2**	**-4.3**	**0.6**	**-1.8**	**0.1**	**3.6**	**3.6**	*3.7*	*1.8*	*-0.1*
Coking Plants	**-0.1**	**-0.5**	**-0.1**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**1.4**	**-0.8**	**-0.1**	**0.1**	**0.4**	**-0.1**	**0.6**	**0.6**	*-0.7*	*0.0*	*0.0*
Total	**-2.9**	**10.0**	**9.8**	*-6.1*	*-4.7*	*5.6*	*6.6*	*-4.4*	*-5.9*	*5.6*	*6.0*	*-5.8*	**-0.7**	**7.6**	**-7.2**	**1.9**	**-0.6**	**-2.6**	**4.4**	**4.4**	*10.8*	*3.0*	*-0.1*
Net Imports	**33.8**	**34.2**	**33.6**	*32.0*	*32.7*	*32.3*	*32.1*	*37.0*	*36.8*	*35.4*	*33.4*	*39.5*	**96.4**	**91.8**	**90.9**	**93.3**	**101.5**	**114.6**	**128.8**	**131.7**	*133.6*	*134.2*	*145.0*
Apparent Consumption	**87.9**	**71.5**	**69.0**	*83.8*	*85.9*	*71.4*	*68.1*	*84.9*	*88.4*	*72.0*	*67.6*	*86.3*	**322.0**	**319.2**	**324.7**	**311.0**	**314.8**	**319.5**	**323.9**	**326.8**	*312.1*	*310.2*	*314.4*
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*	**-0.2**	**0.3**	**-0.9**	**0.6**	**0.5**	**0.4**	**1.9**	**1.9**	*0.0*	*0.0*	*0.0*
Gross Inland Consumption	**87.9**	**71.5**	**69.0**	*83.8*	*85.9*	*71.4*	*68.1*	*84.9*	*88.4*	*72.0*	*67.6*	*86.3*	**321.8**	**319.5**	**323.8**	**311.6**	**315.3**	**319.9**	**325.8**	**328.7**	*312.1*	*310.2*	*314.4*
Transformation Input	**76.7**	**61.4**	**60.1**	*73.0*	*76.1*	*62.2*	*59.3*	*74.4*	*78.7*	*62.9*	*58.8*	*75.8*	**272.9**	**276.9**	**280.0**	**270.4**	**273.1**	**280.0**	**284.4**	**285.9**	*271.2*	*272.0*	*276.2*
of which:																							
Power Generation	**60.6**	**45.3**	*44.5*	*57.1*	*60.8*	*46.9*	*44.4*	*59.6*	*64.5*	*48.6*	*44.9*	*61.8*	**188.2**	**195.4**	**205.1**	**196.1**	**200.4**	**210.3**	**217.8**	**218.4**	*207.5*	*211.6*	*219.8*
Coke	**15.6**	**15.6**	**15.0**	*15.2*	*14.7*	*14.7*	*14.4*	*14.2*	*13.7*	*13.8*	*13.5*	*13.3*	**81.3**	**78.1**	**71.9**	**71.7**	**70.8**	**67.9**	**64.3**	**65.2**	*61.4*	*58.0*	*54.4*
Production Patent Fuels	**0.4**	**0.4**	**0.4**	*0.6*	*0.5*	*0.4*	*0.3*	*0.6*	*0.4*	*0.3*	*0.3*	*0.5*	**3.6**	**3.2**	**3.0**	**2.5**	**1.6**	**1.8**	**2.1**	**2.1**	*1.8*	*1.8*	*1.5*
Energy Branch	**0.2**	**0.2**	**0.2**	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	**1.1**	**1.1**	**0.7**	**1.0**	**0.9**	**0.8**	**0.8**	**0.8**	*0.8*	*0.7*	*0.7*
Avail.Final Consumption	**11.5**	**10.2**	**9.2**	*11.1*	*10.1*	*9.4*	*9.0*	*10.9*	*9.9*	*9.3*	*8.9*	*10.9*	**51.4**	**44.7**	**46.1**	**42.6**	**42.9**	**40.8**	**42.7**	**44.1**	*42.0*	*39.4*	*39.0*
Final Consumption (est)	**10.1**	**9.1**	**8.1**	*11.1*	*10.1*	*9.4*	*9.0*	*10.9*	*9.9*	*9.3*	*8.9*	*10.9*	**50.0**	**45.4**	**46.2**	**41.7**	**43.0**	**40.2**	**40.9**	**42.3**	*38.5*	*39.4*	*39.0*
Industry	**6.1**	**5.7**	**5.0**	*7.2*	*6.3*	*6.2*	*6.2*	*7.1*	*6.4*	*6.4*	*6.3*	*7.4*	**28.1**	**24.1**	**27.1**	**25.7**	**29.2**	**27.0**	**25.5**	**26.3**	*23.9*	*25.8*	*26.5*
Domestic	**4.0**	**3.3**	**3.2**	*4.0*	*3.9*	*3.2*	*2.8*	*3.8*	*3.6*	*2.9*	*2.6*	*3.5*	**21.9**	**21.3**	**19.1**	**16.0**	**13.8**	**13.2**	**15.4**	**16.0**	*14.5*	*13.6*	*12.5*
Statistical Difference	**1.4**	**1.2**	**1.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**1.4**	**-0.6**	**-0.1**	**0.9**	**0.0**	**0.6**	**1.8**	**1.7**	*3.6*	*0.0*	*0.0*
Deliveries of Hard Coal to:																							
Power Plants	**55.3**	**47.4**	*48.4*	*52.1*	*53.4*	*49.5*	*48.9*	*55.3*	*56.5*	*50.8*	*49.0*	*56.9*	**189.2**	**195.4**	**194.9**	**188.1**	**194.8**	**202.5**	**211.9**	**212.6**	*203.2*	*207.0*	*213.1*
Coking Plants	**15.6**	**15.6**	*15.0*	*15.2*	*14.7*	*14.7*	*14.4*	*14.2*	*13.7*	*13.8*	*13.5*	*13.3*	**81.3**	**78.1**	**71.9**	**71.7**	**70.8**	**67.9**	**64.3**	**65.2**	*61.4*	*58.0*	*54.4*
Patent Plants	**0.5**	**0.5**	*0.5*	*0.7*	*0.6*	*0.5*	*0.5*	*0.7*	*0.5*	*0.4*	*0.4*	*0.7*	**3.4**	**3.4**	**3.0**	**2.7**	**1.9**	**1.8**	**2.4**	**2.4**	*2.3*	*2.3*	*2.0*
All Industries	**8.1**	**7.8**	*6.7*	*8.9*	*7.8*	*7.7*	*7.6*	*8.8*	*7.9*	*7.9*	*7.9*	*9.2*	**33.6**	**30.9**	**31.5**	**32.9**	**32.2**	**34.0**	**34.4**	**35.2**	*31.6*	*32.0*	*32.9*
Households	**3.6**	**2.9**	*2.8*	*3.4*	*3.4*	*2.8*	*2.5*	*3.2*	*3.2*	*2.6*	*2.3*	*3.0*	**18.3**	**18.1**	**16.1**	**13.6**	**12.2**	**11.4**	**13.3**	**14.0**	*12.7*	*11.8*	*11.0*
Other	**0.1**	**0.0**	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**1.8**	**1.4**	**1.6**	**1.5**	**0.8**	**0.8**	**0.5**	**0.5**	*0.2*	*0.2*	*0.2*
TOTAL	**83.3**	**74.3**	73.6	*80.3*	*79.9*	*75.3*	*74.0*	*82.2*	*81.8*	*75.6*	*73.1*	*83.1*	**327.5**	**327.3**	**319.0**	**310.4**	**312.7**	**318.6**	**326.8**	**329.8**	*311.5*	*311.3*	*313.6*
Power Sector:																							
Deliv. to Power Plants	**55.3**	**47.4**	*48.4*	*52.1*	*53.4*	*49.5*	*48.9*	*55.3*	*56.5*	*50.8*	*49.0*	*56.9*	**189.2**	**195.4**	**194.9**	**188.1**	**194.8**	**202.5**	**211.9**	**212.6**	*203.2*	*207.0*	*213.1*
Industry	**2.2**	**2.1**	*1.8*	*1.8*	*1.6*	*1.5*	*1.5*	*1.8*	*1.6*	*1.6*	*1.6*	*1.8*	**7.2**	**8.3**	**6.0**	**8.7**	**3.8**	**7.8**	**9.5**	**9.5**	*7.9*	*6.4*	*6.6*
Total	**57.5**	**49.5**	*50.2*	*53.9*	*55.0*	*51.0*	*50.4*	*57.0*	*58.0*	*52.3*	*50.5*	*58.8*	**196.4**	**203.6**	**200.8**	**196.8**	**198.6**	**210.3**	**221.4**	**222.0**	*211.1*	*213.4*	*219.7*
Change in Stocks	**-3.0**	**4.1**	**5.7**	*-3.2*	*-5.8*	*4.1*	*6.0*	*-2.6*	*-6.4*	*3.7*	*5.6*	*-3.1*	**8.2**	**8.2**	**-4.3**	**0.6**	**-1.8**	**0.1**	**3.6**	**3.6**	*3.7*	*1.8*	*-0.1*
Consumption in Power Stations	**60.6**	**45.3**	**44.5**	*57.1*	*60.8*	*46.9*	*44.4*	*59.6*	*64.5*	*48.6*	*44.9*	*61.8*	**188.2**	**195.4**	**205.1**	**196.1**	**200.4**	**210.3**	**217.8**	**218.4**	*207.5*	*211.6*	*219.8*

(*) NOTE:

1) Final demand figures for hard coal include patent fuel

Table 6 (Continued): European Community Solid Fuels: Supply and Disposal (*)

(Last revision: 26 February 1993)

	Quarter												Year (excluding the former GDR)							Year			
	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94	1985	1986	1987	1988	1989	1990	1991	1991	1992	1993	1994
2. HARD COKE (Million tonnes)																							
Coking Plants																							
Production	**11.6**	**12.0**	**11.5**	*11.3*	*10.8*	*10.9*	*10.6*	*10.4*	*10.1*	*10.2*	*9.9*	*9.7*	**60.8**	**58.4**	**53.8**	**52.9**	**52.7**	**50.8**	**47.9**	**47.9**	*46.4*	*42.8*	*39.9*
Change in Stocks	**-0.3**	**0.0**	**0.6**	*-0.1*	*-0.3*	*-0.2*	*0.6*	*-0.1*	*-0.3*	*-0.3*	*0.5*	*-0.1*	**-3.9**	**2.2**	**1.4**	**-2.2**	**-3.0**	**0.4**	**0.3**	**0.3**	*0.2*	*0.0*	*-0.2*
Deliveries to the Iron	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	*0.0*	*0.0*	*0.0*
and Steel Industry	**10.5**	**9.5**	**10.0**	*9.8*	*9.8*	*9.8*	*9.2*	*9.1*	*9.3*	*9.3*	*8.7*	*8.5*	**53.2**	**47.9**	**45.0**	**47.1**	**47.8**	**45.1**	**42.4**	**42.8**	*39.9*	*38.0*	*35.7*
Final Consumption (est)	**8.0**	**7.5**	**7.5**	*7.7*	*7.4*	*7.6*	*6.9*	*7.1*	*7.0*	*7.1*	*6.5*	*6.6*	**44.3**	**38.9**	**35.6**	**36.1**	**36.4**	**33.4**	**31.5**	**32.4**	*30.7*	*29.1*	*27.1*
3. LIGNITE (Million tonnes)																							
Production	**88.5**	**75.6**	**76.3**	*81.5*	*78.0*	*66.8*	*70.7*	*76.8*	*74.2*	*63.8*	*66.4*	*72.0*	**186.8**	**183.0**	**179.8**	**179.8**	**188.7**	**185.8**	**190.1**	**357.7**	*321.9*	*292.3*	*276.3*
Gross Inland Consumption	**89.6**	**76.2**	**77.0**	*82.1*	*78.9*	*67.3*	*71.2*	*77.4*	*75.0*	*64.3*	*66.8*	*72.5*	**195.6**	**187.5**	**180.2**	**183.9**	**191.5**	**188.2**	**190.9**	**358.4**	*324.9*	*294.9*	*278.6*
Consumption in Power																							
Stations	**72.0**	**63.8**	*62.8*	*65.8*	*64.8*	*57.1*	*58.7*	*63.8*	*63.2*	*55.6*	*56.2*	*61.1*	**170.9**	**162.7**	**156.4**	**163.8**	**168.9**	**169.3**	**170.7**	**274.6**	*264.4*	*244.4*	*236.1*
Briquette Plants	**10.6**	**8.8**	**11.7**	*9.8*	*9.5*	*7.9*	*10.6*	*8.8*	*8.6*	*7.1*	*9.5*	*7.9*	**17.4**	**16.8**	**16.4**	**14.5**	**14.2**	**14.2**	**15.4**	**60.7**	*40.9*	*36.8*	*33.1*
Production of Briquettes	**4.6**	**3.8**	**5.1**	*4.2*	*4.1*	*3.4*	*4.6*	*3.8*	*3.7*	*3.1*	*4.1*	*3.4*	**6.6**	**5.7**	**5.6**	**5.0**	**5.0**	**5.2**	**6.5**	**26.4**	*17.8*	*16.0*	*14.4*
Final Consumption (est)	**8.7**	**5.3**	**6.0**	*8.9*	*7.0*	*4.2*	*4.8*	*7.1*	*5.6*	*3.4*	*3.8*	*5.7*	**12.5**	**12.2**	**11.7**	**10.2**	**11.3**	**9.4**	**11.9**	**37.7**	*28.9*	*23.1*	*18.5*

(*) NOTES:

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

2) Final demand figures for lignite include briquettes

Table 7: European Community
Electricity: Generation and Disposal

(Last revision: 26 February 1993)

	Quarter												Year (excluding the former GDR)							Year			
	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94	1985	1986	1987	1988	1989	1990	1991	1991	1992	1993	1994
1. ELECTRICAL POWER (TWh)																							
A. GENERATION																							
Total Gross Generation	**544.9**	**454.1**	**439.3**	*532.1*	*555.2*	*464.0*	*440.9*	*537.2*	*568.4*	*473.1*	*446.9*	*547.5*	**1571.1**	**1612.0**	**1659.3**	**1706.7**	**1755.1**	**1799.1**	**1872.6**	**1957.8**	*1970.4*	*1997.2*	*2036.0*
(Produced by Pumping)	**3.8**	**4.1**	**4.2**	*4.3*	*4.1*	*4.1*	*4.0*	*4.2*	*4.0*	*4.1*	*3.9*	*4.1*	**13.6**	**12.5**	**11.9**	**12.5**	**13.7**	**13.8**	**13.6**	**14.9**	*16.4*	*16.4*	*16.1*
net of Pumping	**541.1**	**450.1**	**435.1**	*527.7*	*551.1*	*459.9*	*436.9*	*532.9*	*564.3*	*469.1*	*443.0*	*543.4*	**1557.5**	**1599.4**	**1647.4**	**1694.2**	**1741.4**	**1785.3**	**1858.9**	**1942.9**	*1954.0*	*1980.8*	*2019.9*
of which: Primary (Hydro)	**32.2**	**43.7**	**37.1**	*42.4*	*44.7*	*48.9*	*37.5*	*38.1*	*43.5*	*49.9*	*42.4*	*44.9*	**169.9**	**165.4**	**173.9**	**192.1**	**131.6**	**144.9**	**161.9**	**162.2**	*155.4*	*169.1*	*180.8*
Derived:	**508.9**	**406.4**	**398.0**	*485.3*	*506.5*	*410.9*	*399.4*	*494.9*	*520.8*	*419.1*	*400.6*	*498.5*	**1387.6**	**1434.1**	**1473.4**	**1502.1**	**1609.8**	**1640.4**	**1697.1**	**1780.7**	*1798.6*	*1811.7*	*1839.1*
Nuclear	**189.1**	**156.5**	**150.4**	*175.2*	*187.1*	*161.0*	*154.2*	*175.6*	*187.2*	*159.8*	*151.6*	*172.3*	**483.2**	**522.6**	**538.2**	**581.2**	**627.4**	**627.5**	**648.8**	**648.8**	*671.3*	*677.8*	*670.9*
Conventional Thermal	**318.9**	**249.0**	**246.7**	*309.2*	*318.5*	*249.0*	*244.3*	*318.4*	*332.8*	*258.4*	*248.1*	*325.3*	**901.7**	**908.7**	**932.2**	**917.8**	**979.3**	**1009.7**	**1045.0**	**1128.7**	*1123.8*	*1130.3*	*1164.5*
Geothermal	**0.9**	**0.9**	**0.9**	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	**2.7**	**2.8**	**3.0**	**3.1**	**3.2**	**3.2**	**3.2**	**3.2**	*3.5*	*3.6*	*3.7*
Total Net Production	**514.5**	**427.9**	**415.7**	*501.6*	*523.7*	*437.6*	*414.9*	*506.3*	*536.0*	*446.2*	*420.6*	*516.0*	**1486.3**	**1523.5**	**1567.8**	**1611.1**	**1656.4**	**1698.3**	**1767.1**	**1841.4**	*1859.7*	*1882.5*	*1918.8*
net of Pumping	**510.7**	**423.8**	**411.5**	*497.3*	*519.6*	*433.5*	*410.9*	*502.1*	*532.0*	*442.1*	*416.7*	*511.9*	**1472.7**	**1511.0**	**1555.8**	**1598.6**	**1642.7**	**1684.5**	**1753.5**	**1826.5**	*1843.3*	*1866.1*	*1902.6*
B. DISPOSAL																							
Total Gross Generation	**544.9**	**454.1**	**439.3**	*532.1*	*555.2*	*464.0*	*440.9*	*537.2*	*568.4*	*473.1*	*446.9*	*547.5*	**1571.1**	**1612.0**	**1659.3**	**1706.7**	**1755.1**	**1799.1**	**1872.6**	**1957.8**	*1970.4*	*1997.2*	*2036.0*
Net Imports	**1.1**	**6.8**	**5.5**	*0.7*	*1.3*	*4.8*	*5.4*	*0.7*	*1.6*	*5.3*	*5.7*	*1.0*	**14.3**	**13.7**	**18.5**	**20.5**	**18.9**	**15.2**	**10.1**	**8.8**	*14.1*	*12.2*	*13.6*
Gross Inland Consuption	**546.0**	**460.9**	**444.8**	*532.8*	*556.5*	*468.8*	*446.3*	*537.9*	*570.0*	*478.5*	*452.6*	*548.5*	**1585.4**	**1625.6**	**1677.8**	**1727.2**	**1774.0**	**1814.3**	**1882.7**	**1966.6**	*1984.5*	*2009.5*	*2049.6*
Absorbed by Pumping	**5.5**	**5.8**	**6.0**	*6.1*	*5.8*	*5.8*	*5.7*	*6.0*	*5.7*	*5.8*	*5.5*	*5.8*	**18.8**	**17.3**	**16.4**	**16.9**	**19.2**	**19.4**	**19.4**	**21.2**	*23.4*	*23.3*	*22.8*
Own Consumption	**30.4**	**26.3**	**23.6**	*30.5*	*31.5*	*26.4*	*26.0*	*30.8*	*32.4*	*27.0*	*26.4*	*31.5*	**84.8**	**88.5**	**91.5**	**95.6**	**98.7**	**100.7**	**105.4**	**116.4**	*110.7*	*114.7*	*117.2*
Available for Int.Market	**510.1**	**428.9**	**415.2**	*496.2*	*519.2*	*436.6*	*414.6*	*501.1*	*531.9*	*445.7*	*420.7*	*511.2*	**1481.8**	**1519.9**	**1569.9**	**1614.7**	**1656.1**	**1694.1**	**1757.9**	**1829.0**	*1850.4*	*1871.5*	*1909.5*
Distribution Losses	**34.3**	**28.6**	**27.7**	*33.5*	*35.0*	*29.2*	*27.8*	*33.8*	*35.8*	*29.8*	*28.2*	*34.5*	**106.3**	**104.9**	**105.5**	**110.7**	**110.8**	**113.0**	**119.9**	**123.6**	*124.1*	*125.8*	*128.3*
Consumption Int.Market	**475.8**	**400.3**	**387.6**	*462.7*	*484.2*	*407.4*	*386.9*	*467.2*	*496.1*	*415.9*	*392.5*	*476.7*	**1375.5**	**1414.9**	**1464.4**	**1504.1**	**1545.3**	**1581.1**	**1638.0**	**1705.5**	*1726.3*	*1745.7*	*1781.2*
Energy Branch Consumption	**16.3**	**13.6**	**13.2**	*16.0*	*16.7*	*13.9*	*13.2*	*16.1*	*17.1*	*14.2*	*13.4*	*16.4*	**63.3**	**67.6**	**64.8**	**64.4**	**56.5**	**56.8**	**57.8**	**59.7**	*59.1*	*59.9*	*61.1*
Final Consumption (est)	**459.4**	**386.7**	**374.4**	*446.7*	*467.6*	*393.4*	*373.6*	*451.1*	*479.0*	*401.7*	*379.1*	*460.3*	**1311.2**	**1347.2**	**1399.5**	**1439.9**	**1489.9**	**1525.9**	**1576.9**	**1642.5**	*1667.2*	*1685.8*	*1720.1*
2. INPUT TO CONVENTIONAL THERMAL POWER STATIONS (Mtoe)																							
Hard Coal	**35.1**	**26.3**	*25.8*	*33.1*	*35.2*	*27.2*	*25.8*	*34.5*	*37.4*	*28.2*	*26.0*	*35.9*	**107.2**	**112.5**	**117.7**	**113.4**	**116.3**	**122.7**	**126.2**	**126.6**	*120.3*	*122.7*	*127.5*
Lignite	**13.6**	**12.2**	*12.0*	*12.5*	*12.3*	*10.8*	*11.2*	*12.1*	*12.0*	*10.6*	*10.7*	*11.6*	**32.5**	**30.7**	**28.3**	**28.9**	**30.9**	**30.6**	**31.3**	**52.5**	*50.4*	*46.4*	*44.9*
Brown Coal Briquettes	**0.1**	**0.1**	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	**0.6**	**0.6**	**0.3**	**0.3**	**0.4**	**0.4**	**0.1**	**0.5**	*0.5*	*0.4*	*0.3*
Petroleum Products	**14.0**	**10.4**	*11.0*	*12.4*	*12.9*	*10.3*	*10.4*	*13.5*	*13.6*	*10.5*	*10.1*	*12.8*	**39.4**	**35.8**	**35.8**	**35.3**	**41.1**	**41.3**	**43.4**	**44.5**	*47.7*	*47.0*	*47.0*
Natural Gas	**7.2**	**6.3**	*6.1*	*9.6*	*9.2*	*6.6*	*6.7*	*9.2*	*9.5*	*7.5*	*7.8*	*10.2*	**22.7**	**21.9**	**23.8**	**23.6**	**26.8**	**27.7**	**27.1**	**28.0**	*29.2*	*31.7*	*34.9*
Derived Gas	**1.5**	**1.4**	*1.4*	*1.5*	*1.4*	*1.5*	*1.5*	*1.4*	*1.4*	*1.5*	*1.5*	*1.4*	**5.5**	**5.5**	**5.1**	**5.8**	**5.9**	**5.8**	**6.1**	**6.2**	*5.9*	*5.9*	*5.9*
Other	**0.9**	**0.9**	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*1.0*	*1.0*	*0.9*	*0.9*	**1.8**	**1.7**	**2.2**	**3.0**	**2.5**	**3.0**	**3.2**	**3.3**	*3.5*	*3.6*	*3.8*
TOTAL. excl Geothermal	**72.4**	**57.7**	*57.4*	*70.0*	*72.0*	*57.4*	*56.5*	*71.7*	*74.8*	*59.3*	*57.1*	*72.9*	**209.8**	**208.7**	**213.2**	**210.4**	**223.9**	**231.6**	**237.5**	**261.6**	*257.5*	*257.7*	*264.2*
Geothermal	**0.5**	**0.5**	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.6*	*0.6*	*0.5*	**1.7**	**1.7**	**1.8**	**1.8**	**1.9**	**2.0**	**2.0**	**2.0**	*2.1*	*2.1*	*2.2*
TOTAL	**73.0**	**58.2**	*57.9*	*70.5*	*72.5*	*58.0*	*57.1*	*72.2*	*75.4*	*59.8*	*57.7*	*73.4*	**211.5**	**210.5**	**215.0**	**212.3**	**225.7**	**233.6**	**239.5**	**263.6**	*259.6*	*259.8*	*266.3*
3. HEAT (TWh)																							
Production Nuclear Heat	**533.4**	**439.3**	**430.5**	*509.6*	*543.1*	*459.5*	*445.6*	*510.6*	*543.4*	*456.1*	*438.5*	*501.3*	**1440.3**	**1537.5**	**1580.4**	**1694.9**	**1829.0**	**1819.7**	**1860.6**	**1860.6**	*1912.8*	*1958.8*	*1939.3*
Production Geoth. Heat	**6.1**	**6.1**	**6.1**	*5.7*	*6.1*	*6.4*	*6.4*	*5.9*	*6.3*	*6.5*	*6.5*	*6.0*	**19.8**	**20.1**	**21.5**	**21.4**	**21.7**	**23.0**	**22.7**	**22.7**	*24.0*	*24.7*	*25.3*
Production Total Heat	**539.5**	**445.4**	**436.6**	*515.3*	*549.2*	*465.9*	*452.0*	*516.4*	*549.7*	*462.6*	*445.0*	*507.3*	**1460.0**	**1557.6**	**1601.9**	**1716.3**	**1850.7**	**1842.7**	**1883.4**	**1883.4**	*1936.8*	*1983.5*	*1964.6*
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*	**-2.6**	**0.9**	**4.2**	**13.5**	**-3.3**	**8.0**	**9.4**	**9.4**	*0.0*	*0.0*	*0.0*
Gross Consumption	**539.5**	**445.4**	**436.6**	*515.3*	*549.2*	*465.9*	*452.0*	*516.4*	*549.7*	*462.6*	*445.0*	*507.3*	**1457.5**	**1558.5**	**1606.0**	**1729.8**	**1847.4**	**1850.7**	**1892.8**	**1892.8**	*1936.8*	*1983.5*	*1964.6*
Nuclear Capacity (GW)	**107.0**	**106.6**	**106.6**	*106.6*	*107.9*	*107.9*	*107.9*	*107.9*	*107.6*	*107.1*	*107.1*	*107.1*	**79.0**	**88.8**	**94.3**	**101.1**	**102.4**	**104.6**	**105.6**	**105.6**	*106.6*	*107.9*	*107.1*

Table 8: European Community
Main Variables: Growth Rates from same Quarter of Previous Year - in %

(Last revision: 26 February 1993)

	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94
A. SPECIFIC UNITS												
1. HARD COAL												
Primary Production	**-0.4**	**-6.3**	**-6.0**	*-7.4*	*-5.5*	*-5.5*	*-5.5*	*-5.5*	*-5.5*	*-5.5*	*-5.5*	*-5.5*
Net Imports	**16.6**	**6.6**	**-4.1**	*-10.1*	*-3.1*	*-5.5*	*-4.5*	*15.8*	*12.3*	*9.5*	*4.0*	*6.7*
Apparent Consumption	**-1.4**	**-7.7**	**-6.0**	*-3.6*	*-2.3*	*-0.1*	*-1.3*	*1.3*	*3.0*	*0.9*	*-0.7*	*1.6*
Gross Inland Consumption	**-1.9**	**-8.2**	**-6.6**	*-4.1*	*-2.3*	*-0.1*	*-1.3*	*1.3*	*3.0*	*0.9*	*-0.7*	*1.6*
Deliveries												
Power Plants	**5.3**	**-8.0**	*-5.2*	*-9.3*	*-3.5*	*4.4*	*1.0*	*6.1*	*5.7*	*2.6*	*0.1*	*3.1*
Coking Plants	**-1.1**	**-7.9**	*-7.6*	*-6.2*	*-5.8*	*-5.3*	*-4.0*	*-7.0*	*-6.7*	*-6.3*	*-6.2*	*-6.2*
All Industries	**-3.0**	**-9.7**	*-25.7*	*-2.6*	*-4.8*	*-0.7*	*13.4*	*-1.0*	*1.7*	*2.5*	*3.0*	*4.1*
Domestic	**-6.4**	**-14.9**	*-3.8*	*-10.5*	*-7.1*	*-5.3*	*-10.7*	*-5.2*	*-5.4*	*-6.9*	*-6.9*	*-7.1*
TOTAL	**2.4**	**-8.5**	*-8.0*	*-8.0*	*-4.1*	*1.4*	*0.6*	*2.3*	*2.4*	*0.4*	*-1.1*	*1.1*
Transform. Power Generation	**-3.0**	**-10.5**	*-4.1*	*-3.2*	*0.3*	*3.5*	*-0.2*	*4.4*	*6.1*	*3.6*	*1.1*	*3.8*
Final Consumption (est.)	**-5.9**	**-12.4**	**-19.4**	*-0.1*	*0.2*	*3.8*	*10.5*	*-2.5*	*-1.7*	*-1.3*	*-0.8*	*0.0*
2. COKE												
Production	**-4.6**	**-0.2**	**-2.9**	*-4.6*	*-6.6*	*-8.9*	*-7.8*	*-7.5*	*-7.1*	*-6.6*	*-6.5*	*-6.6*
Deliv. to Iron and Steel	**-3.7**	**-13.9**	**-4.5**	*-5.2*	*-6.5*	*3.6*	*-7.7*	*-7.2*	*-6.0*	*-5.7*	*-6.1*	*-6.5*
Final Consumption (est.)	**-1.1**	**-10.4**	**-4.3**	*-5.7*	*-7.0*	*1.8*	*-8.1*	*-7.7*	*-6.5*	*-6.3*	*-6.5*	*-7.0*
3. LIGNITE												
Primary Production	**-13.9**	**-10.5**	**-7.2**	*-7.6*	*-11.9*	*-11.6*	*-7.3*	*-5.7*	*-4.9*	*-4.6*	*-6.1*	*-6.4*
Apparent Consumption	**-12.7**	**-10.4**	**-6.9**	*-7.2*	*-11.9*	*-11.6*	*-7.6*	*-5.7*	*-4.9*	*-4.6*	*-6.1*	*-6.4*
Gross Inland Consumption	**-12.6**	**-10.2**	**-6.7**	*-7.1*	*-11.9*	*-11.6*	*-7.6*	*-5.7*	*-4.9*	*-4.6*	*-6.1*	*-6.4*
Transform. Power Generation	**-1.5**	**-5.2**	*-4.7*	*-3.8*	*-10.1*	*-10.5*	*-6.4*	*-3.0*	*-2.5*	*-2.6*	*-4.2*	*-4.3*
4. OIL												
Crude Production	**3.1**	**10.1**	**-1.2**	*1.9*	*-1.2*	*2.3*	*0.9*	*-2.3*	*5.3*	*4.5*	*1.4*	*2.1*
Total Primary Production	**5.1**	**10.6**	**-1.7**	*1.3*	*-1.7*	*2.4*	*1.3*	*-2.1*	*5.3*	*4.4*	*1.4*	*2.0*
Net Imports	**-1.2**	**0.6**	**0.7**	*2.9*	*-1.0*	*2.7*	*4.4*	*-0.7*	*-0.9*	*0.1*	*0.6*	*0.6*
Apparent Consumption	**4.4**	**-1.8**	**3.2**	*0.5*	*0.8*	*2.6*	*1.6*	*0.4*	*0.6*	*1.2*	*0.9*	*1.0*
Gross Inland Consumption	**5.0**	**-1.1**	**3.8**	*1.1*	*0.2*	*2.0*	*1.0*	*-0.1*	*0.6*	*1.2*	*0.9*	*1.0*
Deliveries												
Motor Gasoline	**3.7**	**0.9**	**1.7**	*0.3*	*-1.6*	*0.3*	*1.0*	*-0.4*	*0.6*	*1.1*	*2.8*	*1.7*
Gas/Diesel Oil	**1.8**	**-8.1**	**15.4**	*2.6*	*3.7*	*7.4*	*-0.5*	*-0.9*	*1.6*	*2.7*	*1.0*	*2.2*
Autom. Diesel Oil	**7.3**	**1.3**	**5.9**	*1.0*	*-0.3*	*2.3*	*1.1*	*2.5*	*3.1*	*3.8*	*3.8*	*4.2*
Heating Gas Oil	**-2.1**	**-18.3**	**28.4**	*4.1*	*7.0*	*14.2*	*-2.3*	*-3.9*	*0.5*	*1.4*	*-2.2*	*0.4*
Heavy Fuel Oil	**12.9**	**-5.7**	**4.3**	*-4.0*	*-5.6*	*0.1*	*-3.4*	*2.0*	*-2.2*	*-2.0*	*-4.3*	*-4.9*
Kerosenes	**8.8**	**13.4**	**5.5**	*0.5*	*0.8*	*-0.6*	*2.5*	*5.8*	*3.7*	*2.9*	*2.6*	*2.6*
Other products	**1.4**	**2.0**	**2.6**	*1.6*	*0.3*	*0.6*	*-3.1*	*-2.1*	*-0.4*	*0.4*	*1.2*	*2.6*
TOTAL	**4.2**	**-2.5**	**7.2**	*0.8*	*0.3*	*2.8*	*-0.8*	*-0.2*	*0.6*	*1.2*	*0.9*	*1.1*
Transform. Power Generation	**23.4**	**3.2**	*-0.7*	*2.7*	*-7.7*	*-1.4*	*-5.4*	*8.9*	*5.7*	*1.8*	*-2.9*	*-4.7*
Input to Refineries	**4.0**	**4.4**	**1.6**	*-0.8*	*-2.7*	*-2.3*	*0.1*	*5.8*	*2.2*	*0.9*	*0.1*	*-0.1*
Refineries Gross Output	**4.2**	**4.3**	**2.2**	*-0.8*	*-2.6*	*-2.3*	*0.4*	*5.9*	*2.2*	*1.0*	*0.2*	*0.0*
Final Consumption (est.)	**2.2**	**-3.0**	**8.1**	*0.6*	*1.4*	*3.2*	*-0.3*	*-1.2*	*0.0*	*1.2*	*1.3*	*1.8*

Table 8 (Continued): European Community
Main Variables: Growth Rates from same Quarter of Previous Year - in %

(Last revision: 26 February 1993)

	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94
A. SPECIFIC UNITS												
5. NATURAL GAS												
Primary Production	**1.8**	**-7.6**	**5.5**	*0.3*	*5.2*	*3.3*	*2.0*	*1.9*	*1.7*	*0.8*	*2.7*	*2.0*
Net Imports	**0.8**	**-0.8**	**11.4**	*8.8*	*24.4*	*-4.7*	*-11.5*	*6.6*	*2.2*	*5.9*	*5.1*	*3.4*
Apparent Consumption	**1.8**	**-6.9**	**5.9**	*1.3*	*4.3*	*6.0*	*6.5*	*0.8*	*2.4*	*3.7*	*4.5*	*2.8*
Gross Inland Consumption	**1.7**	**-7.1**	**5.6**	*1.2*	*4.3*	*6.0*	*6.5*	*0.8*	*2.4*	*3.7*	*4.5*	*2.8*
Transform. Power Generation	**6.5**	**-1.8**	*-7.4*	*16.7*	*28.0*	*4.2*	*9.7*	*-3.7*	*2.7*	*13.7*	*15.5*	*10.6*
Final Consumption (est.)	**1.3**	**-7.9**	**9.0**	*-0.9*	*1.8*	*6.4*	*5.7*	*1.5*	*2.4*	*2.0*	*2.0*	*1.6*
6. HEAT												
Production of Nuclear Heat	**2.4**	**4.1**	**-0.5**	*5.1*	*1.8*	*4.6*	*3.5*	*0.2*	*0.0*	*-0.7*	*-1.6*	*-1.8*
Apparent Consumption	**2.4**	**4.1**	**-0.4**	*5.1*	*1.8*	*4.6*	*3.5*	*0.2*	*0.1*	*-0.7*	*-1.5*	*-1.8*
Gross Inland Consumption	**2.0**	**3.6**	**-1.0**	*4.6*	*1.8*	*4.6*	*3.5*	*0.2*	*0.1*	*-0.7*	*-1.5*	*-1.8*
7. ELECTRICITY												
Primary electricity:												
Apparent Consumption	**-26.9**	**5.3**	**12.4**	*9.0*	*37.9*	*6.4*	*0.6*	*-10.0*	*-1.8*	*2.9*	*12.1*	*18.2*
Total Gross Generation	**1.9**	**-0.8**	**0.0**	*1.2*	*1.9*	*2.2*	*0.4*	*1.0*	*2.4*	*2.0*	*1.4*	*1.9*
Total Net Production	**2.0**	**-1.0**	**1.5**	*1.3*	*1.8*	*2.3*	*-0.2*	*1.0*	*2.4*	*2.0*	*1.4*	*1.9*
Generation Primary	**-28.3**	**-3.1**	**11.7**	*8.9*	*38.5*	*12.0*	*1.0*	*-10.2*	*-2.6*	*2.1*	*13.2*	*18.0*
Generation Derived	**4.7**	**-0.7**	**-1.0**	*0.4*	*-0.5*	*1.1*	*0.4*	*2.0*	*2.8*	*2.0*	*0.3*	*0.7*
Generation Nuclear	**4.3**	**6.8**	**1.0**	*1.8*	*-1.1*	*2.9*	*2.5*	*0.2*	*0.0*	*-0.7*	*-1.6*	*-1.9*
Generation Conv. Thermal	**4.9**	**-4.9**	**-2.2**	*-0.3*	*-0.1*	*0.0*	*-0.9*	*3.0*	*4.5*	*3.8*	*1.5*	*2.2*
Gross Inland Consumption	**2.0**	**0.0**	**0.2**	*1.2*	*1.9*	*1.7*	*0.3*	*1.0*	*2.4*	*2.1*	*1.4*	*2.0*
Available Internal Market	**2.1**	**-0.3**	**1.6**	*1.2*	*1.8*	*1.8*	*-0.1*	*1.0*	*2.4*	*2.1*	*1.5*	*2.0*
Consumption Intern. Market	**2.1**	**-0.3**	**1.7**	*1.2*	*1.8*	*1.8*	*-0.2*	*1.0*	*2.5*	*2.1*	*1.5*	*2.0*
Final Consumption	**2.4**	**0.0**	**2.0**	*1.4*	*1.8*	*1.8*	*-0.2*	*1.0*	*2.5*	*2.1*	*1.5*	*2.0*
B. TOE												
Primary Production	**-0.3**	**-1.2**	**-1.5**	*-0.4*	*-0.3*	*0.1*	*-0.6*	*-1.6*	*0.1*	*-0.5*	*-0.9*	*-0.6*
Net Imports	**1.3**	**1.4**	**1.2**	*1.6*	*2.3*	*0.2*	*1.0*	*2.6*	*1.4*	*2.2*	*1.6*	*1.9*
Aparrent Consumption	**1.4**	**-3.3**	**0.7**	*0.2*	*0.8*	*2.0*	*1.2*	*0.2*	*1.2*	*1.2*	*0.7*	*1.0*
Gross Inland Consumption	**1.5**	**-3.1**	**0.9**	*0.3*	*0.5*	*1.7*	*0.9*	*-0.1*	*1.2*	*1.2*	*0.7*	*1.0*
of which:												
Solids	**-3.8**	**-9.0**	**-7.0**	*-5.1*	*-5.1*	*-4.0*	*-4.0*	*-0.6*	*1.7*	*0.1*	*-1.7*	*0.1*
Oil	**5.0**	**-0.8**	**3.8**	*1.1*	*0.2*	*1.8*	*0.9*	*-0.1*	*0.6*	*1.2*	*0.9*	*1.0*
Natural Gas	**1.7**	**-7.1**	**5.6**	*1.2*	*4.3*	*6.0*	*6.5*	*0.8*	*2.4*	*3.7*	*4.5*	*2.8*
Heat	**2.0**	**3.6**	**-1.0**	*4.6*	*1.8*	*4.6*	*3.5*	*0.2*	*0.1*	*-0.7*	*-1.5*	*-1.8*
Primary Electricity	**-25.5**	**7.2**	**14.9**	*11.4*	*37.9*	*6.4*	*0.6*	*-10.0*	*-1.8*	*2.9*	*12.1*	*18.2*
Total Final Consumption	**1.0**	**-4.5**	**5.2**	*-0.5*	*0.8*	*2.9*	*-0.2*	*-0.6*	*0.6*	*1.0*	*0.8*	*1.2*

Table 9: European Community
Main Variables: Year to Date Growth Rates - in %

(Last revision: 26 February 1993)

	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94
A. SPECIFIC UNITS												
1. HARD COAL												
Primary Production	**-0.4**	**-3.3**	**-4.2**	*-5.0*	*-5.5*	*-5.5*	*-5.5*	*-5.5*	*-5.5*	*-5.5*	*-5.5*	*-5.5*
Net Imports	**16.6**	**11.3**	**5.7**	*1.4*	*-3.1*	*-4.4*	*-4.4*	*0.4*	*12.3*	*10.9*	*8.6*	*8.1*
Apparent Consumption	**-1.4**	**-4.3**	**-4.8**	*-4.5*	*-2.3*	*-1.3*	*-1.3*	*-0.6*	*3.0*	*2.0*	*1.2*	*1.3*
Gross Inland Consumption	**-1.9**	**-4.8**	**-5.4**	*-5.0*	*-2.3*	*-1.3*	*-1.3*	*-0.6*	*3.0*	*2.0*	*1.2*	*1.3*
Deliveries												
Power Plants	**5.3**	**-1.3**	*-2.6*	*-4.4*	*-3.5*	*0.2*	*0.4*	*1.9*	*5.7*	*4.2*	*2.9*	*2.9*
Coking Plants	**-1.1**	**-4.6**	*-5.6*	*-5.7*	*-5.8*	*-5.5*	*-5.0*	*-5.5*	*-6.7*	*-6.5*	*-6.4*	*-6.3*
All Industries	**-3.0**	**-6.4**	*-13.1*	*-10.4*	*-4.8*	*-2.8*	*2.0*	*1.2*	*1.7*	*2.1*	*2.4*	*2.9*
Domestic	**-6.4**	**-10.4**	*-8.5*	*-9.0*	*-7.1*	*-6.3*	*-7.6*	*-7.0*	*-5.4*	*-6.1*	*-6.3*	*-6.5*
TOTAL	**2.4**	**-3.0**	*-4.7*	*-5.6*	*-4.1*	*-1.5*	*-0.9*	*0.0*	*2.4*	*1.4*	*0.6*	*0.7*
Coking Plants	**-1.1**	**-4.6**	*-5.6*	*-5.7*	*-5.8*	*-5.5*	*-5.0*	*-5.5*	*-6.7*	*-6.5*	*-6.4*	*-6.3*
All Industries	**-3.0**	**-6.4**	*-13.1*	*-10.4*	*-4.8*	*-2.8*	*2.0*	*1.2*	*1.7*	*2.1*	*2.4*	*2.9*
Domestic	**-6.4**	**-10.4**	*-8.5*	*-9.0*	*-7.1*	*-6.3*	*-7.6*	*-7.0*	*-5.4*	*-6.1*	*-6.3*	*-6.5*
TOTAL	**2.4**	**-3.0**	*-4.7*	*-5.6*	*-4.1*	*-1.5*	*-0.9*	*0.0*	*2.4*	*1.4*	*0.6*	*0.7*
Transform. Power Generation	**-3.0**	**-6.3**	*-5.7*	*-5.0*	*0.3*	*1.7*	*1.1*	*2.0*	*6.1*	*5.0*	*3.9*	*3.9*
Final Consumption (est.)	**-5.9**	**-9.1**	**-12.4**	*-9.2*	*0.2*	*1.9*	*4.5*	*2.5*	*-1.7*	*-1.5*	*-1.3*	*-0.9*
2. COKE												
Production	**-4.6**	**-2.4**	**-2.6**	*-3.1*	*-6.6*	*-7.8*	*-7.8*	*-7.7*	*-7.1*	*-6.9*	*-6.7*	*-6.7*
Deliv. to Iron and Steel	**-3.7**	**-8.8**	**-7.4**	*-6.9*	*-6.5*	*-1.7*	*-3.7*	*-4.6*	*-6.0*	*-5.9*	*-5.9*	*-6.1*
Final Consumption (est.)	**-1.1**	**-5.8**	**-5.3**	*-5.4*	*-7.0*	*-2.8*	*-4.5*	*-5.3*	*-6.5*	*-6.4*	*-6.4*	*-6.6*
3. LIGNITE												
Primary Production	**-13.9**	**-12.4**	**-10.8**	*-10.0*	*-11.9*	*-11.8*	*-10.3*	*-9.2*	*-4.9*	*-4.7*	*-5.2*	*-5.5*
Apparent Consumption	**-12.7**	**-11.7**	**-10.2**	*-9.5*	*-11.9*	*-11.8*	*-10.4*	*-9.3*	*-4.9*	*-4.8*	*-5.2*	*-5.5*
Gross Inland Consumption	**-12.6**	**-11.5**	**-10.1**	*-9.3*	*-11.9*	*-11.8*	*-10.4*	*-9.3*	*-4.9*	*-4.8*	*-5.2*	*-5.5*
Transform. Power Generation	**-1.5**	**-3.3**	*-3.7*	*-3.7*	*-10.1*	*-10.3*	*-9.1*	*-7.6*	*-2.5*	*-2.5*	*-3.1*	*-3.4*
4. OIL												
Crude Production	**3.1**	**6.3**	**3.6**	*3.1*	*-1.2*	*0.5*	*0.6*	*-0.2*	*5.3*	*4.9*	*3.7*	*3.3*
Total Primary Production	**5.1**	**7.6**	**4.3**	*3.5*	*-1.7*	*0.2*	*0.6*	*-0.1*	*5.3*	*4.9*	*3.7*	*3.3*
Net Imports	**-1.2**	**-0.3**	**0.0**	*0.7*	*-1.0*	*0.8*	*2.0*	*1.3*	*-0.9*	*-0.4*	*0.0*	*0.1*
Apparent Consumption	**4.4**	**1.4**	**1.9**	*1.6*	*0.8*	*1.7*	*1.6*	*1.3*	*0.6*	*0.9*	*0.9*	*0.9*
Gross Inland Consumption	**5.0**	**2.0**	**2.6**	*2.2*	*0.2*	*1.1*	*1.1*	*0.7*	*0.6*	*0.9*	*0.9*	*0.9*
Deliveries												
Motor Gasoline	**3.7**	**2.2**	**2.1**	*1.6*	*-1.6*	*-0.6*	*-0.1*	*-0.1*	*0.6*	*0.9*	*1.6*	*1.6*
Gas/Diesel Oil	**1.8**	**-2.8**	**2.5**	*2.5*	*3.7*	*5.4*	*3.4*	*2.2*	*1.6*	*2.1*	*1.8*	*1.9*
Autom. Diesel Oil	**7.3**	**4.2**	**4.7**	*3.8*	*-0.3*	*1.1*	*1.1*	*1.4*	*3.1*	*3.4*	*3.5*	*3.7*
Heating Gas Oil	**-2.1**	**-9.0**	**0.3**	*1.4*	*7.0*	*9.7*	*5.9*	*3.0*	*0.5*	*0.9*	*0.0*	*0.1*
Heavy Fuel Oil	**12.9**	**4.1**	**4.2**	*1.9*	*-5.6*	*-3.2*	*-3.2*	*-1.8*	*-2.2*	*-2.1*	*-2.8*	*-3.4*
Kerosenes	**8.8**	**11.1**	**9.0**	*6.9*	*0.8*	*0.0*	*0.9*	*2.1*	*3.7*	*3.2*	*3.0*	*2.9*
Other products	**1.4**	**1.7**	**2.0**	*1.9*	*0.3*	*0.5*	*-0.8*	*-1.1*	*-0.4*	*0.0*	*0.4*	*0.9*
TOTAL	**4.2**	**0.9**	**2.9**	*2.4*	*0.3*	*1.5*	*0.7*	*0.5*	*0.6*	*0.9*	*0.9*	*0.9*
Transform. Power Generation	**23.4**	**13.9**	*8.9*	*7.2*	*-7.7*	*-5.0*	*-5.1*	*-1.5*	*5.7*	*4.0*	*1.8*	*0.0*
Input to Refineries	**4.0**	**4.2**	**3.3**	*2.2*	*-2.7*	*-2.5*	*-1.6*	*0.2*	*2.2*	*1.5*	*1.1*	*0.8*
Refineries Gross Output	**4.2**	**4.2**	**3.5**	*2.4*	*-2.6*	*-2.5*	*-1.5*	*0.3*	*2.2*	*1.6*	*1.1*	*0.8*
Final Consumption (est.)	**2.2**	**-0.4**	**2.3**	*1.9*	*1.4*	*2.3*	*1.4*	*0.7*	*0.0*	*0.6*	*0.8*	*1.1*

Table 9 (Continued): European Community
Main Variables: Year to Date Growth Rates - in %

(Last revision: 26 February 1993)

	1Q92	2Q92	3Q92	4Q92	1Q93	2Q93	3Q93	4Q93	1Q94	2Q94	3Q94	4Q94
A. SPECIFIC UNITS												
5. NATURAL GAS												
Primary Production	**1.8**	**-1.9**	**-0.3**	*-0.1*	*5.2*	*4.5*	*3.9*	*3.3*	*1.7*	*1.4*	*1.7*	*1.8*
Net Imports	**0.8**	**0.0**	**3.3**	*4.7*	*24.4*	*10.2*	*3.5*	*4.3*	*2.2*	*3.8*	*4.1*	*3.9*
Apparent Consumption	**1.8**	**-1.5**	**0.0**	*0.4*	*4.3*	*4.9*	*5.2*	*3.8*	*2.4*	*2.9*	*3.3*	*3.1*
Gross Inland Consumption	**1.7**	**-1.7**	**-0.2**	*0.2*	*4.3*	*4.9*	*5.2*	*3.8*	*2.4*	*2.9*	*3.3*	*3.1*
Transform. Power Generation	**6.5**	**2.4**	*-0.9*	*4.3*	*28.0*	*16.8*	*14.6*	*8.6*	*2.7*	*7.3*	*9.8*	*10.0*
Final Consumption (est.)	**1.3**	**-2.2**	**-0.1**	*-0.3*	*1.8*	*3.4*	*3.9*	*3.1*	*2.4*	*2.3*	*2.2*	*2.0*
6. HEAT												
Production of Nuclear Heat	**2.4**	**3.1**	**2.0**	*2.8*	*1.8*	*3.1*	*3.2*	*2.4*	*0.0*	*-0.3*	*-0.7*	*-1.0*
Apparent Consumption	**2.4**	**3.2**	**2.0**	*2.8*	*1.8*	*3.1*	*3.2*	*2.4*	*0.1*	*-0.3*	*-0.7*	*-1.0*
Gross Inland Consumption	**2.0**	**2.7**	**1.5**	*2.3*	*1.8*	*3.1*	*3.2*	*2.4*	*0.1*	*-0.3*	*-0.7*	*-1.0*
7. ELECTRICITY												
Primary electricity:												
Apparent Consumption	**-26.9**	**-10.4**	**-3.8**	*-0.8*	*37.9*	*19.0*	*12.8*	*7.0*	*-1.8*	*0.7*	*4.1*	*7.2*
Total Gross Generation	**1.9**	**0.6**	**0.5**	*0.6*	*1.9*	*2.0*	*1.5*	*1.4*	*2.4*	*2.2*	*1.9*	*1.9*
Total Net Production	**2.0**	**0.6**	**0.9**	*1.0*	*1.8*	*2.0*	*1.3*	*1.2*	*2.4*	*2.2*	*1.9*	*1.9*
Generation Primary	**-28.3**	**-15.7**	**-8.3**	*-4.2*	*38.5*	*23.3*	*15.9*	*8.8*	*-2.6*	*-0.2*	*3.7*	*6.9*
Generation Derived	**4.7**	**2.2**	**1.2**	*1.0*	*-0.5*	*0.2*	*0.3*	*0.7*	*2.8*	*2.5*	*1.8*	*1.5*
Generation Nuclear	**4.3**	**5.4**	**4.0**	*3.5*	*-1.1*	*0.7*	*1.3*	*1.0*	*0.0*	*-0.3*	*-0.7*	*-1.0*
Generation Conv. Thermal	**4.9**	**0.3**	**-0.5**	*-0.4*	*-0.1*	*-0.1*	*-0.3*	*0.6*	*4.5*	*4.2*	*3.4*	*3.0*
Gross Inland Consumption	**2.0**	**1.1**	**0.8**	*0.9*	*1.9*	*1.8*	*1.4*	*1.3*	*2.4*	*2.3*	*2.0*	*2.0*
Available Internal Market	**2.1**	**1.0**	**1.2**	*1.2*	*1.8*	*1.8*	*1.2*	*1.1*	*2.4*	*2.3*	*2.0*	*2.0*
Consumption Intern. Market	**2.1**	**1.0**	**1.2**	*1.2*	*1.8*	*1.8*	*1.2*	*1.1*	*2.5*	*2.3*	*2.0*	*2.0*
Final Consumption	**2.4**	**1.3**	**1.5**	*1.5*	*1.8*	*1.8*	*1.2*	*1.1*	*2.5*	*2.3*	*2.0*	*2.0*
B. TOE												
Primary Production	**-0.3**	**-0.7**	**-0.9**	*-0.8*	*-0.3*	*-0.1*	*-0.2*	*-0.6*	*0.1*	*-0.1*	*-0.4*	*-0.4*
Net Imports	**1.3**	**1.4**	**1.3**	*1.4*	*2.3*	*1.3*	*1.2*	*1.5*	*1.4*	*1.8*	*1.8*	*1.8*
Aparrent Consumption	**1.4**	**-0.8**	**-0.3**	*-0.2*	*0.8*	*1.3*	*1.3*	*1.0*	*1.2*	*1.2*	*1.0*	*1.0*
Gross Inland Consumption	**1.5**	**-0.6**	**-0.2**	*0.0*	*0.5*	*1.1*	*1.0*	*0.7*	*1.2*	*1.2*	*1.0*	*1.0*
of which:												
Solids	**-3.8**	**-6.2**	**-6.4**	*-6.1*	*-5.1*	*-4.6*	*-4.4*	*-3.4*	*1.7*	*0.9*	*0.1*	*0.1*
Oil	**5.0**	**2.1**	**2.7**	*2.3*	*0.2*	*1.0*	*0.9*	*0.7*	*0.6*	*0.9*	*0.9*	*0.9*
Natural Gas	**1.7**	**-1.7**	**-0.2**	*0.2*	*4.3*	*4.9*	*5.2*	*3.8*	*2.4*	*2.9*	*3.3*	*3.1*
Heat	**2.0**	**2.7**	**1.5**	*2.3*	*1.8*	*3.1*	*3.2*	*2.4*	*0.1*	*-0.3*	*-0.7*	*-1.0*
Primary Electricity	**-25.5**	**-8.7**	**-1.9**	*1.1*	*37.9*	*19.0*	*12.8*	*7.0*	*-1.8*	*0.7*	*4.1*	*7.2*
Total Final Consumption	**1.0**	**-1.5**	**0.4**	*0.2*	*0.8*	*1.7*	*1.1*	*0.7*	*0.6*	*0.8*	*0.8*	*0.9*

ANNEX I
ENERGY DATA

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

DATA IN SPECIFIC UNITS

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

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

Apparent Consumption = Primary Production + Recovered Production + Net Imports - Change in Stocks - Bunkers (for oil). *(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. *(2)*

The latest known annual balance sheet covers 1991. Exceptionally, adjustment for oil for the years 1993 and 1994 is different from zero.

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

The following remarks give some additional information 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 1991: 1.1 Mt).

b) Oil products: The item "out of refinery production" of SOEC balance sheet of petroleum products is considered as "recovered production".

c) The line "Available to final consumption" is estimated thus:

Available to Final Consumption = Gross Inland Consumption - Transformation Input + Refineries net Output *(3)*

d) The line "Final consumption" is estimated:

Final Consumption = Total Inland Deliveries - (Total Transformation Input - Input to Refineries) *(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 (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:

Input to Power Generation = Deliveries to Power Plants + Transformation for Power Generation in Industry - Change in Stocks in Power Plants (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:

Transformation Input = Input to Power Generation + Deliveries to Coke + Deliveries to Patent Plants (7)

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

Available to Final Consumption = Gross Inland Consumption - Transformation Input + Production of Patent Fuels - Energy Branch Consumption (8)

f) The line "Final consumption" is estimated:

Final Consumption =Final Consumption of Industry + Final Consumption Domestic (9)

where:

Final Consumption of Industry =Deliveries to all Industries + 'Other' Deliveries - Transformation for Power Generation in Industry (10)

Final Consumption Domestic = Deliveries to Households + Patent Fuels (11)

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

Gross Inland Consumption = Total Inland Deliveries - Change in Stocks in Power Plants + Energy Branch Consumption + Statistical Difference (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.

d) Import data up to 1991 are adjusted to annual values.

Table 7

Electricity

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

Primary Electricity =Gross Production of Hydro - Pumping (Electricity produced) *(13)*

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

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

Table 7

Input to power stations

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

Table 7

Heat

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

b) Data on nuclear capacity are based on the informations of the "ELECNUC" data base and can be different from those of other sources.

DATA IN TOE

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

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

An estimation of final consumption by fuel is also presented.

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

Historic	1979 to 83	1984	1985	1986	1987-92
Hard Coal					
Production	0.615	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Recov.Production	0.450	0.450	0.450	0.450	SOEC/MBS
Imports	0.650	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Exports	0.675	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Stocks	0.580	0.580	0.580	0.580	SOEC/MBS
Patent Fuels					SOEC/MBS
Coke	0.681	0.681	0.681	0.681	0.681
Lignite					
Production	0.192	0.192	0.192	0.186	SOEC/MBS*
Imports	0.400	0.400	0.400	0.400	0.400
Exports	0.480	0.480	0.480	0.480	SOEC/MBS
Stocks	0.220	0.220	0.220	0.220	SOEC/MBS
Crude Oil					
Production	1.008	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Imports	1.004	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Exports	1.010	SOEC/MBS	SOEC/MBS	SOEC/MBS	SOEC/MBS
Stocks	1.005	1.005	1.005	1.005	1.005
Oil Products					
Production	1.100	1.100	1.100	1.100	1.100
Recov.Production	1.100	1.100	1.100	1.100	1.100
Imports	1.000	1.000	1.000	1.000	1.000
Exports	1.003	1.003	1.000	1.000	1.000
Stocks	0.970	0.970	0.970	0.970	0.970
Bunkers	0.970	0.970	0.970	0.970	0.970
Natural gas	0.0215	0.0215	0.0215	0.0215	0.0215
Heat and electricity	0.086	0.086	0.086	0.086	0.086

SOEC/MBS: SOEC Monthly Balance Sheet

*) *Lignite production - adjusted to annual values.*

Forecast	Production	Recovered Production	Net Imports	Stocks	Bunkers	Power Generation	Final Consumption
Hard Coal	0.590	0.440	0.660	0.650	0.580	0.670	
Patent Fuels			0.700				
Coke			0.681	0.681		0.681	0.681
Lignite	0.195		0.320	0.220		0.190	0.370
Crude Oil	1.014						
Oil Products	1.014	1.000					
Total Oil			1.003	1.000	0.970	0.9603	1.013
Natural gas	0.0215		0.0215	0.0215		0.0215	0.0215
Heat and electricity	0.086		0.086				0.086

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

a) Coke: A slightly different conversion factor is used (0.681 in place of 0.7)

b) Lignite: Our primary production and import figures are slightly adjusted.

c) Oil: SOEC uses generally a 1:1 conversion factor for oil products. In addition, recovered production is ignored. These factors can lead to considerable differences for EUR-12. For example the difference in apparent consumption for 1991 is 4 Mtoe (524.2 against 520.2 Mtoe, or 0.8%).

d) Annual, rather than monthly data, are used for geothermal heat and other fuels.

The following table compares the 1991 figures by source.

It can be seen that the major differences come from the oil sector.

					memo :
1991	SOEC montly	STEO	Diff	in %	SOEC annual BS
1. Hard Coal	202.98	202.99	-0.01	0.0%	203.19
2. Patent Fuels	-0.09	-0.09	0.00	0.0%	-0.10
3. Coke	0.73	0.72	0.02	2.2%	1.12
4. Lignite and Briquettes	70.86	70.61	0.25	0.4%	71.21
5a. Crude Oil	529.94	531.06	-1.13	-0.2%	530.02
5b. Oil Products	-9.78	-6.86	-2.92	-29.8%	-4.86
5. Total Oil	520.16	524.20	-4.04	-0.8%	525.16
6. Natural Gas	231.02	231.07	-0.05	0.0%	231.50
7. Nuclear Heat	159.98	160.02	-0.04	0.0%	160.83
8. Geothermal Heat	1.73	1.95	-0.23	-13.1%	1.95
9. Electricity	14.70	14.71	-0.01	-0.1%	14.42
10. Other	5.20	3.35	1.85	35.6%	3.35
TOTAL	1207.26	1209.52	-2.25	-0.2%	1212.63

Source: SIRENE, February 1993

Table2: STEO. Average Errors for Main Variables

VARIABLE	Unit	Average absolute error	in percent
EXOGENOUS			
1.GDP (*)	Index. 100	1.4	1.2%
2.Crude oil price	USD/bbl	2.62	12.9%
OIL			
3.Deliveries. Total	Mt	3.0	2.6%
4.Motor Gasoline	Mt	0.4	1.8%
5.Gas Diesel Oil	Mt	1.8	4.3%
6.Heavy Fuel Oil	Mt	1.2	7.0%
7.Crude Production	Mt	2.7	9.5%
8.Net Imports	Mt	5.5	5.5%
NATURAL GAS			
9.Consumption	Mtoe	2.0	4.0%
10.Production	Mtoe	1.9	5.8%
SOLIDS			
11.Hard Coal Deliveries	Mt	2.6	3.2%
12.Deliveries to Power Plants	Mt	2.5	5.1%
13.Hard Coal Production	Mt	1.3	2.7%
14.Coke Production	Mt	0.2	1.8%
NUCLEAR			
15.Nuclear Heat	TWh	19.9	4.6%
ELECTRICITY			
16.Demand	TWh	6.7	1.6%
17.Generation	TWh	7.3	1.7%
18.Production of primary electricity	TWh	6.9	18.2%
TOTAL ENERGY			
19.Apparent Consumption	Mtoe	4.8	1.7%
20.Production	Mtoe	4.2	2.9%

(*) Adjusted for change of base year

ANNEX II
ERROR ANALYSIS OF PREVIOUS FORE CASTS

In our previous "Annual Energy Review" we have published an error analysis of previous forecasts. This Annex updates the results including our last forecast. Given the break in series, the error statistics refer only to the period up to the fourth quarter 1991 with the exception of crude oil prices and GDP that cover also the year 1992.

Table 1 presents the main characteristics of the STEO examined.

Average absolute errors have been calculated by quarter, by forecast and globally for the whole period. Table 2 presents the average absolute error (AAE) over the whole period (55 to 58 forecast points) for the twenty most important variables.

The AAE of the total energy demand (Total Apparent Consumption) forecast was 1.7%, which can be considered as an excellent result given the magnitude of the statistical error of the whole system.

Table 1: Steo: Main Features

No	EE Issue	Date	Last known quarter	Forecast horizon	Forecast quarters ahead
1	9	Dec-87	2 Q 87	1988	6
2	10	Apr-88	3 Q 87	1988	5
3	11	Sep-88	4 Q 87	1988	4
4	12	Dec-88	2 Q 88	1989	6
5	Suppl	May-89	4 Q 88	1990	8
6	Suppl	Nov-89	2 Q 89	1990	6
7	Suppl	Aug-90	4 Q 89	1991	8
8	Unpubl	Dec-90	2 Q 90	1991	6
9	Suppl	May-91	4 Q 90	1991	4
10	En.Review	Dec-91	2 Q 91	1992	6