

# COMMISSION OF THE EUROPEAN COMMUNITIES

SEC(91) 2039 final

Brussels, 3 December 1991

REPORT FROM THE COMMISSION TO THE COUNCIL

ON

ENERGY INVESTMENT PROJECTS IN THE COMMUNITY

PURSUANT TO COUNCIL REGULATION 1056/72:

SITUATION AS OF 1 JANUARY 1990

# I

REPORT FROM THE COMMISSION TO THE COUNCIL

ON

ENERGY INVESTMENT PROJECTS IN THE COMMUNITY

PURSUANT TO COUNCIL REGULATION 1056/72:

SITUATION AS OF 1 JANUARY 1990

---

## CONTENTS

### PART A: SUMMARY REPORT BY THE COMMISSION

1. Résumé and conclusions of the Commission.
2. Comments on the implementation of the Regulation.
3. Review of investment projects in the petroleum sector.
4. Review of investment projects in the natural gas sector.
5. Review of investment projects in the electricity sector.
6. List of aggregated data presented in the Annexes.

### PART B: ANNEXES

Aggregated data for investment projects in the petroleum, natural gas and electricity sectors in the Community

**REPORT FROM THE COMMISSION TO THE COUNCIL  
ON ENERGY INVESTMENT PROJECTS IN THE COMMUNITY  
BASED ON COUNCIL REGULATION 1056/72: SITUATION AS OF 1 JANUARY 1990**

---

**PART A: SUMMARY REPORT BY THE COMMISSION**

**1. RESUME AND CONCLUSIONS OF THE COMMISSION**

1.1 The main trends which have emerged from this review of energy investment projects in the Community for the period 1990-95 are set out below.

**PETROLEUM:**

- stabilization of primary distillation capacities (for crude-oil refining) at 570 million tonnes/yr, following a long period of reduction in capacities which fell by 38% between 1980 and 1990;
- continued increase in conversion capacities in refineries (for the processing of heavy products resulting from primary distillation) which will rise to 166 million tonnes/yr of catalytic cracking equivalent capacity and will then account for 30% of primary capacity.

**NATURAL GAS:**

- LNG: the new terminals for liquified natural gas planned in Greece and Portugal and the extensions of terminals in Spain involve the construction of 310 000 m<sup>3</sup> storage capacity, i.e. an increase in the present storage capacities for natural gas in liquid form of 22%.
- underground storage: the planned new storage capacities for gas - approximately 11 billion m<sup>3</sup> - represent a 20% increase in existing capacities; half of these new capacities will enter into service by 1995, while the rest will be operational between 1996 and 1998.
- gas pipelines: approximately 3 400 km of new gas pipelines will be added to existing natural gas transport infrastructures in the Community (i.e. + 10%).

## ELECTRICITY:

- Power production: the total power production capacity amounted to 458 GW in 1990, 107 GW of which was nuclear power capacity. Planned capacities amount to 45 GW, i.e. 10% of existing capacity; of these new capacities, 23 GW will be conventional thermal capacity, 16 GW will be nuclear and 6 GW will be hydroelectric. 17 GW of the new thermal capacities are scheduled to be fuelled with natural gas, which confirms the predominance of that fuel in new power stations.
- Power transmission: approximately 7850 km of new extra-high-voltage transmission and interconnecting lines are planned in the Community; 90% of these new lines will be operational in 1995.

- 1.2 At the same time as drawing up this report on notifications of investment projects, the Commission has continued to examine the importance of Regulation 1056/72 in its present form, as well as the action to be taken on its proposal of 1989 to amend that Regulation,<sup>1</sup> taking into account, among other things, the completion of the internal market for energy and the establishment of trans-European networks.

At this stage, the Commission has drawn two conclusions concerning:

- firstly, the usefulness of Regulation 1056/72 in its present form as a tool for providing the Commission with information;
- secondly, the need to promote greater integration in the planning and use of electricity and natural gas transmission networks at Community level.

- 1.3 With regard to the usefulness of Regulation 1056/72 in its present form, the Commission wishes to draw attention to the fact that in view of the fundamental contribution of investments in energy reception, production, transport/transmission and storage to the security of the Community's energy supply, the Community must be informed of such developments in order to take them into account when formulating Community policies. The abovementioned Regulation is the only measure binding on undertakings which the Commission has at its disposal in order to collect this information.

Consequently, the Commission considers it necessary to retain this Regulation.

However, the very long delays sometimes encountered in the forwarding of information to the Commission prompt it to call for the deadlines for notifications to be more strictly applied by all Member States.

---

1 COM(89) 335 final.

- 1.4 Infrastructures for the transmission of electricity and natural gas are of great importance for the creation of an integrated European area and an integrated internal market, and are called upon to play an essential rôle in relation to the right of transit via the major electricity and natural gas networks, in the progressive opening-up of the market in those sources of energy, and for the more efficient operation of the European electricity and gas systems.

For these reasons the Commission is at present preparing a specific communication to the Council on the Community's infrastructures for the transmission of electricity and natural gas. The Commission could also include in this communication, where infrastructures are concerned, its proposal of 1989 to modify Regulation 1056/72 so as to set up a consultation procedure at Community level.

- 1.5 With regard to the desirability of introducing a procedure for consultation on electricity production investment projects, which was also the subject of the proposal to amend Regulation 1056/72, the Commission will deal with the matter at the appropriate time.

## 2. COMMENTS BY THE COMMISSION ON THE IMPLEMENTATION OF THE REGULATION

### 2.1 General comments on the three energy sectors

#### . **The objective of Regulation 1056/72**

Council Regulation (EEC) No 1056/72,<sup>5</sup> as amended by Council Regulation (EEC) No 1215/76,<sup>6</sup> requires that the Commission be notified of investment projects of Community interest in the petroleum, natural gas and electricity sectors.

This Regulation, under which information on projects of a certain scale defined in the Annex thereto must be communicated, concerns installations for reception (terminals for the importation of liquified natural gas) and energy production (electricity generation and petroleum refining), lines for the transport of petroleum, natural gas and electricity and facilities for the storage of petroleum and natural gas.

The objective of this Regulation is to provide the Commission with precise information on energy investment projects planned within the Community and hence to enable it to obtain an overall picture and to inform the Council of the principal developments and trends of such investments.

#### . **Delays in the forwarding of data**

Information on the projects must be forwarded by the undertakings to the Member States before 15 January of each year and by the Member States to the Commission before 15 February.

Most of the notifications had not reached the Commission by mid-1990. Despite reminders, the Commission had still not received all the expected information in December 1990. This long delay has an impact on the processing of the data and on the preparation of the summary report.

The Member States involved in these delays should intensify their efforts in order to accelerate the compilation of information on the projects and the forwarding of such information to the Commission.

#### . **The lack of long-term forecasting of capacities**

Regulation 1056/72 requires that information on the investment projects be forwarded to the Commission three or five years before construction begins (three years in the case of the natural gas and petroleum sectors and five years in that of the electricity sector).

---

5 OJ No L 120/7, 25.5.1972.

6 OJ No L 140/1, 28.5.1976.

The information, however, is communicated quite belatedly to the Commission although the undertakings' investment programmes or plans have in general been drawn up for some time.

In the present situation, the undertakings and the Member States must accept the need for strict compliance with the notification deadlines laid down in the Regulation.

In its proposal for a Council Decision referred to at point 1.4 above, the Commission will ask for information on individual projects to be supplemented with information on investment programmes on infrastructure for the transmission of electricity and natural gas.

**The lack of any link between the development of capacities, known under Regulation 1056/72, and the likely demand trend**

The Commission can assess the development of capacities in the energy sector only insofar as that development is compared with the likely demand trend in that sector.

For this reason, the Commission has been prompted in recent years to compare the information that it receives under Regulation 1056/72 with the outlook for demand which emerges from the sectoral energy analyses which it performs and from those performed by the Member States and the principal undertakings in the sectors concerned rather than using them to prepare a specific report on the implementation of Regulation 1056/72.

**The reliability of the information received**

Owing to the wide variety of data to be compiled, the number of parties involved in the operation and the possible differences of interpretation, it is indispensable to check the information received. Experience has shown that it is necessary to verify and supplement the data and to compare them with data from other sources, i.e. with information provided by groups of experts or received directly from undertakings or available in specialist publications.

This check forms an integral part of the Commission's permanent monitoring of developments in the various energy sectors.

## 2.2 Specific comments on the petroleum sector

### . Use of the information

The notifications of investment projects in the petroleum sector have so far been used mainly for the preparation of the Commission's communications and reports on the petroleum sector in general and the refining industry in particular (for example, COM(86)263 and COM(88)491).

### . The reliability of the information

There have been certain divergences between the capacities notified to the Commission under the Regulation and the data provided directly by the industry, mainly owing to differences between the authorized capacity, the installed capacity, which may be lower, and the usable capacity, account being taken of the capacities being held in reserve or mothballed for periods of varying length.

In this connection, the Commission has sought and published the most representative values, namely the capacities actually in use and those that can be placed in service within a very short time without the need for additional investment.

## 2.3 Specific comments on the natural gas sector

### . Use of the information

The notifications of investment projects in the natural gas sector have been used by the Commission notably for analyses of the security of gas supply which have been forwarded on a regular basis to the Member States.

These notifications, moreover, have been discussed at annual meetings with gas experts from the Member States.

### . Access to and reliability of the information

In the past, access to information on gas projects was often difficult, since the Member States did not forward their notifications systematically; reminders were the general rule.

Very often, the initial data provided by the Member States were modified after discussions with the gas experts referred to above.

### 3. REVIEW OF INVESTMENT PROJECTS IN THE PETROLEUM SECTOR

#### 3.1 Primary distillation capacity

Primary distillation capacity, i.e., the crude-oil processing capacity, continued to fall within the Community (EUR-12) right through the 1980s. From its maximum level of 920 million tonnes/yr in 1980, it had dropped to 583 million tonnes/yr by 1 January 1989 and to 567 million tonnes/yr by 1 January 1990.

Most of the refinery closures, however, occurred between 1980 and 1986 (shutdowns amounting to 301 million tonnes/yr, or about one-third of the capacity); in January 1986, crude-oil prices collapsed, boosting consumption over the remainder of the decade and prompting oil companies to cancel already planned reductions in capacity. Nevertheless, the drop in capacity from 1987 to 1990 amounts to 52 million tonnes/yr.

It is not likely that there will be any further refinery closures over the next few years; there is even a plan to increase capacity by about 3 million tonnes/yr up to 1992 by lifting output restrictions in the case of existing units.

Figures and a graph illustrating trends with regard to primary distillation capacity since 1980 are presented in the Annex. The capacity reduction rate has not been uniform throughout the Member States, but varies from 12% in Greece to 49% in Germany. In Ireland, where there is only one refinery, capacity has remained unchanged.

#### 3.2 Conversion capacity

As the need arose to reduce the considerable excess primary capacity, it also became necessary to modify refining patterns to cope with the steep decline in the consumption of heavy fuel oil.

It hence became necessary for oil companies to invest in conversion units in refineries that had been kept in service in order to meet the increasing demand for lighter and better quality products.

Expressed as catalytic cracking equivalent capacity, the conversion capacity in Community refineries (EUR-12) thus rose from 81 million tonnes/yr in 1980 to 146 million tonnes/yr by 1 January 1989 and 155 million tonnes/yr by 1 January 1990.

Most of these investments were made in the first half of the decade, the conversion capacity already reaching 140 million tonnes/yr in 1985. Subsequently, the climate favourable to investments in this type of very costly equipment deteriorated owing to the substantial drop in crude-oil prices and the decreasing refining and conversion margins. This situation is reflected in the more modest increase in conversion capacities during the second half of the decade.

Several investment projects are planned for the next few years; they are presented in the Annex for each type of unit and each Member State. In 1995, conversion capacity within the Community as a whole should reach 166 million tonnes/yr (expressed as catalytic cracking equivalent capacity); it will then account for 30% of the primary distillation capacity.

#### 4. REVIEW OF INVESTMENT PROJECTS IN THE NATURAL GAS SECTOR

##### 4.1 Gas pipelines

The existing gas-pipeline systems reflect the sizes of the countries, the extent of their gas industries, the rate of penetration of gas on their energy markets and their specific geographical features. On 1 January 1990, the total length of existing gas pipelines (of a diameter not less than 300 mm) in the Community was 35 269 km (see data for each Member State in the Annex).

The situation as regards pipelines under construction is as follows: major projects have been initiated in Spain and Italy with a view to supplementing and extending existing systems.

Further pipeline-laying projects are under way in Germany, France and the United Kingdom (see data in the Annex). On 1 January 1990, the total length of gas pipelines under construction (of a diameter not less than 300 mm) in the Community was 1 406 km.

Major investments in pipeline projects are planned for the transmission of natural gas in Greece and Portugal in conjunction with the scheduled arrival in those countries of Algerian gas (LNG) and also gas from the USSR in the case of Greece.

A further major project is the gas pipeline between Ireland and the United Kingdom. Other projects, some of them large-scale, are planned in Germany, Belgium, Italy and the Netherlands (see data in the Annex). On 1 January 1990, the total length of planned gas pipelines (of a diameter not less than 300 mm) in the Community was about 2 000 km.

#### 4.2 Terminals for importing liquified natural gas

Nine terminals for importing liquified natural gas (LNG) are in service in the Community: three in France (Le Havre, Montoir and Fos), three in Spain (Barcelona, Cartagena and Huelva) and one each in Italy (La Spezia), in Belgium (Zeebrugge) and the United Kingdom (Canvey Island). The total LNG storage capacity of all these terminals is 1.4 million m<sup>3</sup> of natural gas in liquid form.

Work has begun in Spain on the terminals at Cartagena and Aurin-Jaca with a view to increasing Spain's import capacity by 1992-1994. The increase in LNG storage capacity will amount to 50 000 m<sup>3</sup>.

There are plans at present to set up three gas terminals in the Community: one at Wilhelmshaven in Germany, a relatively long-standing plan which has now been frozen, and two others, more recently planned, in Greece (island of Revithoussa) and in Portugal (Setubal), which are scheduled to be placed in service in 1994.

The German project provides for a capacity of 240 000 m<sup>3</sup>, while the Greek and Portuguese terminals should each have a LNG storage capacity of 130 000 m<sup>3</sup>.

Details on each of the LNG terminals are presented in the Annex.

#### 4.3 Underground storage facilities for natural gas

Underground storage facilities must also be regarded as an integral part of the natural gas transmission systems.

Three Member States (Italy, France and Germany) possess almost all (97%) of the underground storage capacity for natural gas in the Community, which, on 1 January 1990, amounted as a whole to  $45.5 \times 10^9$  m<sup>3</sup>. Three other Member States, the United Kingdom, Denmark and Belgium, also have storage capacities.

Four Member States (Germany, Belgium, Denmark and the United Kingdom) have started construction work on additional underground storage facilities with a total capacity of  $2.7 \times 10^9$  m<sup>3</sup>, one-third of which is scheduled to enter service by 1991 and the rest by 1996.

Three Member States (Germany, Denmark and Italy) are planning to set up further storage facilities with a total capacity of about  $8.6 \times 10^9$  m<sup>3</sup>, half of which should be operational by 1992 and the rest between 1996 and 1998.

Details on the total and usable underground storage capacities and on the maximum offtake potential are provided in the Annex for each Member State concerned.

## 5. REVIEW OF INVESTMENT PROJECTS IN THE ELECTRICITY SECTOR

The information on which this review is based concerns thermal power stations with a capacity of 200 MW or more and hydroelectric power stations with a capacity of 50 MW or more. Power-station capacities are given in megawatts (MW) or gigawatts (GW) of gross electrical output unless otherwise indicated.

### 5.1 Total power production capacity

The total installed power production capacity in the Community amounted to 458 GW on 1 January 1990, an increase of 3.2% in comparison with 1 January 1989.

Capacities under construction or planned on 1 January 1990 amounted to 45 GW, a decrease of 14 GW in comparison with 1 January 1989; this decrease can be attributed mainly to the number of power stations commissioned in 1989 (with a total capacity of about 14 GW), while the emergence of new plans (involving about 6 GW) was offset by the cancellation of certain previously announced projects.

The following table shows the overall reduction in capacities under construction or planned between 1 January 1989 and 1 January 1990 for the three principal types of power station.

Power production capacity under construction or planned in the Community:

(In GW)	Conventional thermal capacity	Nuclear capacity	Hydroelectric capacity	Total capacity
On 1 January 1989	26.9	25.4	7.1	59.3
On 1 January 1990	23.3	15.6	6.4	45.3

The 45 GW of capacities under construction or planned on 1 January 1990 are equivalent to 10% of the total installed capacity; of these capacities, 28 GW have reached the construction stage (or 6.3% of the total installed capacity), while the remaining 17 GW are still at the planning stage.

The situation as regards total power production capacities installed, under construction and planned is set out in the Annex for each Member State.

## 5.2 Conventional thermal capacity

Investments in conventional thermal capacity (23.3 GW on 1 January 1990) were concentrated mainly in Italy (13.0 GW or over half the new capacities); the other countries that will be constructing this type of power station are the Netherlands (3.6 GW), Denmark (3.0 GW), Greece (1.3 GW), Portugal (1.2 GW), Germany (1.0 GW) and France (0.2 GW).

An analysis of the capacities under construction or planned in relation to the fuels that may be used reveals that:

- . the capacity of new single-fuel power stations amounts to 5.1 GW, 3.1 GW of which being derived exclusively from natural gas, 1.7 GW from coal and 0.3 GW from oil;
- . the capacity of the new power stations to be fuelled with natural gas is 17.2 GW, which confirms the predominance of that fuel in future thermal power stations.

The information on the decision-making procedures relating to planned conventional thermal capacities (11.3 GW on 1 January 1990) is not precise enough to be put to any useful purpose: the decision-making process was completed in respect of projects representing only 0.2 GW, while, where 7.8 GW (or 69% of the projects) are concerned, the state of progress of the procedure is not known or has not been notified.

## 5.3 Nuclear-power production capacity

The total nuclear power production capacity in service in the Community on 1 January 1990 was 107.2 GW, an increase of 10.0 GW (or 10.3%) as compared with 1 January 1989.

Nuclear power stations are under construction or planned in three Member States: France (12.7 GW), Germany (1.7 GW) and the United Kingdom (1.2 GW), or a total of 15.6 GW up to 1997.

The nuclear power stations under construction on 1 January 1990 corresponded to a capacity of 12.8 GW, or 12% of the nuclear capacity in service on that date in the Community.

If the scheduled deadlines for completion of the power stations currently under construction are met, the nuclear capacity will attain 119.6 GW in 1995.

## 5.4 Hydroelectric capacity

The hydroelectric power capacity under construction and planned on 1 January 1990 in the Community amounted to 6.4 GW. Of this capacity, 65% is for primary conversion, 23% for pumped storage and 12% for mixed pumped storage/primary conversion projects.

## 5.5 Power transmission lines

The information received concerning the situation as regards overhead line projects for a voltage of not less than 345 kV and underground and underwater cable for a voltage of not less than 100 kV can be summarized as follows:

- overhead lines: 1 150 km were placed in service in 1989; 2 612 km are under construction and 5 252 km are planned;
- underground cables: 2 km were placed in service in 1989; 4 km are under construction and 87 km are planned;
- underwater cables: no additions either placed in service in 1989 or planned.

The Annexes contain the lengths of the lines under construction and planned in the Member States and the anticipated year of entry into service.

Work in Spain accounts for 60% of the total length of lines under construction. With regard to planned lines, Italy (52%), Germany (24%) and the United Kingdom (20%) are the main countries involved.

## 6. LIST OF AGGREGATED DATA PRESENTED IN THE ANNEXES

### 6.1 Aggregated data for the petroleum sector

#### **Refining capacity**

Primary distillation and conversion capacity in the Community and the Member States:

OIL 1: Investment projects up to 1995 (situation on 1 January 1990).

OIL 2: Existing capacity on 1 January 1990.

OIL 3: Existing capacity on 1 January 1989.

#### **Primary distillation capacity**

OIL 4: Evolution of capacity in EUR-12 and the Member States since 1980.

OIL 5: Evolution of capacity in EUR-12 since 1980 (graph).

### **Conversion capacity**

OIL 6: Evolution of capacity in EUR-12 since 1980.

OIL 7: Evolution of capacity in EUR-12 since 1980 (graph).

## **6.2 Aggregated data for the natural gas sector**

### **Gas pipelines**

Natural gas pipelines with a transport capacity of at least  $10^9$  m<sup>3</sup>/yr; situation on 1 January 1990 in the Community and the Member States:

NG 1: Existing pipelines.

NG 2: Pipelines under construction.

NG 3: Planned pipelines.

### **LNG terminals**

Facilities for importing liquefied natural gas; situation on 1 January 1990 in the Community and the Member States:

NG 4: Existing terminals.

NG 5: Terminals under construction and planned.

### **Underground natural gas storage**

Storage facilities with a capacity of at least 150 million m<sup>3</sup>; situation on 1 January 1990 in the Community and the Member States:

NG 6: Existing storage facilities and facilities under construction and planned.

## **6.3 Aggregated data for the electricity sector**

### **Power stations**

Thermal and hydroelectric power stations; situation on 1 January 1990 in the Community and the Member States:

EL 1: Installed capacity and capacity under construction and planned.

### **Thermal power stations**

Conventional and nuclear thermal power stations; units with a capacity of 200 MW or more; situation on 1 January 1990 in the Community and the Member States:

- EL 2: Power stations under construction and planned, by scheduled year of commissioning.
- EL 3: Power stations under construction and planned, by cooling system.
- EL 4: Power stations under construction and planned, by type of fuel.
- EL 5: State of progress of the decision-making process in respect of planned power stations.

### **Nuclear power stations**

Power stations under construction and planned; units of 200 MW or more; situation on 1 January 1990 in the Community and the Member States:

- EL 6: By scheduled year of commissioning.
- EL 7: By type of reactor and unit capacity.

### **Hydroelectric power stations**

Power stations under construction and planned; units of 50 MW or more; situation on 1 January 1990 in the Community and the Member States:

- EL 8: By power station category and year of commissioning.

### **Statement of power production investment projects in the Community**

- EL 9: Conventional thermal power production.
- EL 10: Nuclear power production.
- EL 11: Hydroelectric power production.

### **Transmission lines**

Overhead lines and underground cables; situation on 1 January 1990 in the Member States:

- EL 12: Transmission lines under construction and planned, by scheduled year of entry into service.

A-1

REPORT BY THE COMMISSION TO THE COUNCIL

ON

ENERGY INVESTMENT PROJETS IN THE COMMUNITY

BASED ON COUNCIL REGULATION 1056/72 :

SITUATION AT 1-1-1990

---

PART B : ANNEXES\*

Aggregated data for investment projets in the oil, natural gas and electricity sectors of the Community

---

\* The annexes (tables and graphic figures) are presented in English; a translation of the heading of each annex is given in Part A of this report (§6 : List of aggregated data presented in the annexes)..

AGGREGATED DATA  
FOR THE OIL SECTOR  
OF THE COMMUNITY

---

Refining capacity

Primary distillation and conversion capacity in the Community and the Member States :

OIL 1 : Investment projects to 1995 (situation at 1.1.1990)

OIL 2 : Existing capacity at 1.1.1990

OIL 3 : Existing capacity at 1.1.1989

Primary distillation capacity

OIL 4 : Evolution of capacity in EEC-12 and the Member States since 1980.

OIL 5 : Evolution of capacity in EEC-12 since 1980 (graphic figure).

Conversion capacity

OIL 6 : Evolution of capacity in EEC-12 since 1980

OIL 7 : Evolution of capacity in EEC-12 since 1980 (graphic figure)

# EEC 12

## INVESTMENTS IN DISTILLATION AND UPGRADING FACILITIES TO 1995

'000 TONS/YEAR

	DISTILLATION	REFORMING	HYDROCRACKING	CATALYTIC CRACKING	THERMAL CRACKING	VISBREAKING	COKING
B	NO INVESTMENTS						
DK	500(1992) <small>DEBOTTLENECKING</small>	50(1991)				200(1990)	
DE		122(1990)	500(1990)	255(1990)			
EL		900 (PLANNED)					
ES		100(1992)	100(1992)	950(1992)			800(1990) 800(1995)
FR	NO RETURN MADE						
IRE	NO INVESTMENTS						
ITA	1991(1991)	1064(1991)	300	218(1992)	108(1991) 1320(1992)		1000
NL		453(1990)			100(1990) FLEXICOKER		
PO		600(1994)		1700(1994)		1300(1994)	
UK	233(1990)	241(1990)	650(1993)				
EEC	2724	3530	1550	3123	1528	1500	2600

-17-

# REFINING CAPACITY IN THE EEC

IN MIO/TONS YEAR

AT 1.1.1990

	DIST.	REF.	H.C.	C.C.	T.C.	VISB.	COK.
B	32.4	4.4	—	5.3	—	4.0	—
DK	9.0	1.3	—	—	1.9	2.1	—
D	78.9	13.9	6.1	10.5	6.8	9.3	1.1
EL	17.7	1.5	1.3	2.8	—	2.3	—
ES	62.0	7.8	0.8	7.4	0.7	8.9	—
FR	86.5	13.1	0.7	16.3	2.8	7.0	—
IRL	2.9	0.6	—	—	—	—	—
ITA	112.7	14.7	5.6	13.8	3.5	16.6	1.5
NL	60.1	7.7	4.6	6.9	5.1	3.8	—
PO	14.4	2.2	0.5	0.4	—	0.6	—
UK	90.5	15.1	2.5	19.9	3.1	2.9	—
EEC	567.1	82.3	22.1	83.3	23.9	57.5	2.6

0112

- 18 -

# REFINING CAPACITY IN THE EEC

IN MIO/TONS YEAR

AT 1.1.1989

	DIST.	REF.	H.C.	C.C.	T.C.	VISB.	COK.
B	32.4	4.4	—	5.3	—	4.0	—
DK	9.0	1.4	—	—	1.9	1.9	—
D	78.9	13.5	5.6	10.3	6.8	9.1	0.8
EL	17.7	1.5	1.3	2.8	—	2.3	—
ES	61.6	7.8	0.8	7.4	—	8.9	0.7
FR	95.3	13.1	0.7	16.3	2.8	7.0	—
IRL	2.9	0.6	—	—	—	—	—
ITA	117.7	14.7	4.6	12.9	3.5	16.6	1.5
NL	65.5	7.0	1.6	6.7	4.3	4.1	—
PO	14.4	2.2	0.5	0.5	—	0.6	—
UK	87.5	15.1	2.5	19.9	3.1	2.9	—
EEC	582.9	81.3	17.6	82.1	22.4	57.4	3.0

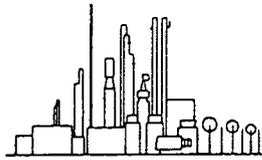
0113

- 19 -

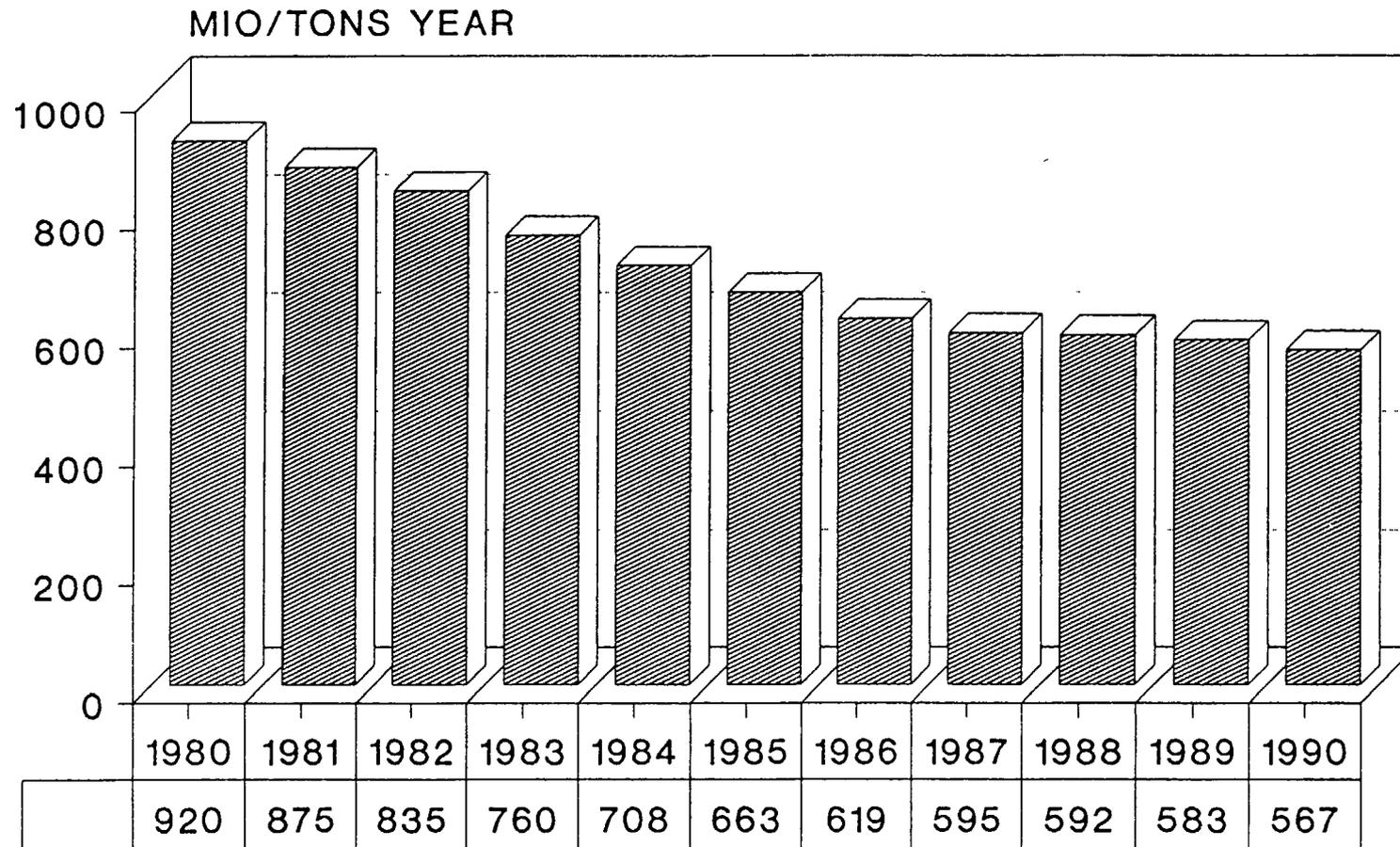
REFINING CAPACITY IN THE COMMUNITY  
PRIMARY DISTILLATION (ON 1 JAN)

MIO. TONNES/ YEAR	1980	1985	1989	1990	% RED. 1990/80
BELGIUM	55	35	32	32	-42%
DENMARK	11	8	9	9	-18%
DEUTSCHLAND	154	104	79	79	-49%
ELLAS	20	18	18	18	-12%
ESPANA	72	67	62	62	-14%
FRANCE	167	111	95	87	-48%
IRELAND	3	3	3	3	0
ITALIA	180	130	118	113	-37%
LUXEM.	-	-	-	-	-
NEDERLAND	102	74	65	60	-41%
PORTUGAL	19	14	14	14	-26%
UNITED KINGDOM	137	99	88	90	-34%
EEC 12	920	663	583	567	-38%

SOURCES / INFORMATION RECEIVED BY THE COMMISSION  
UNDER REGULATION 1056/72 + OIL COMPANIES



# EEC 12 REFINING DISTILLATION CAPACITY



OILS

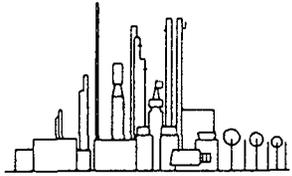
-24-

## EEC-12 : CONVERSION CAPACITY

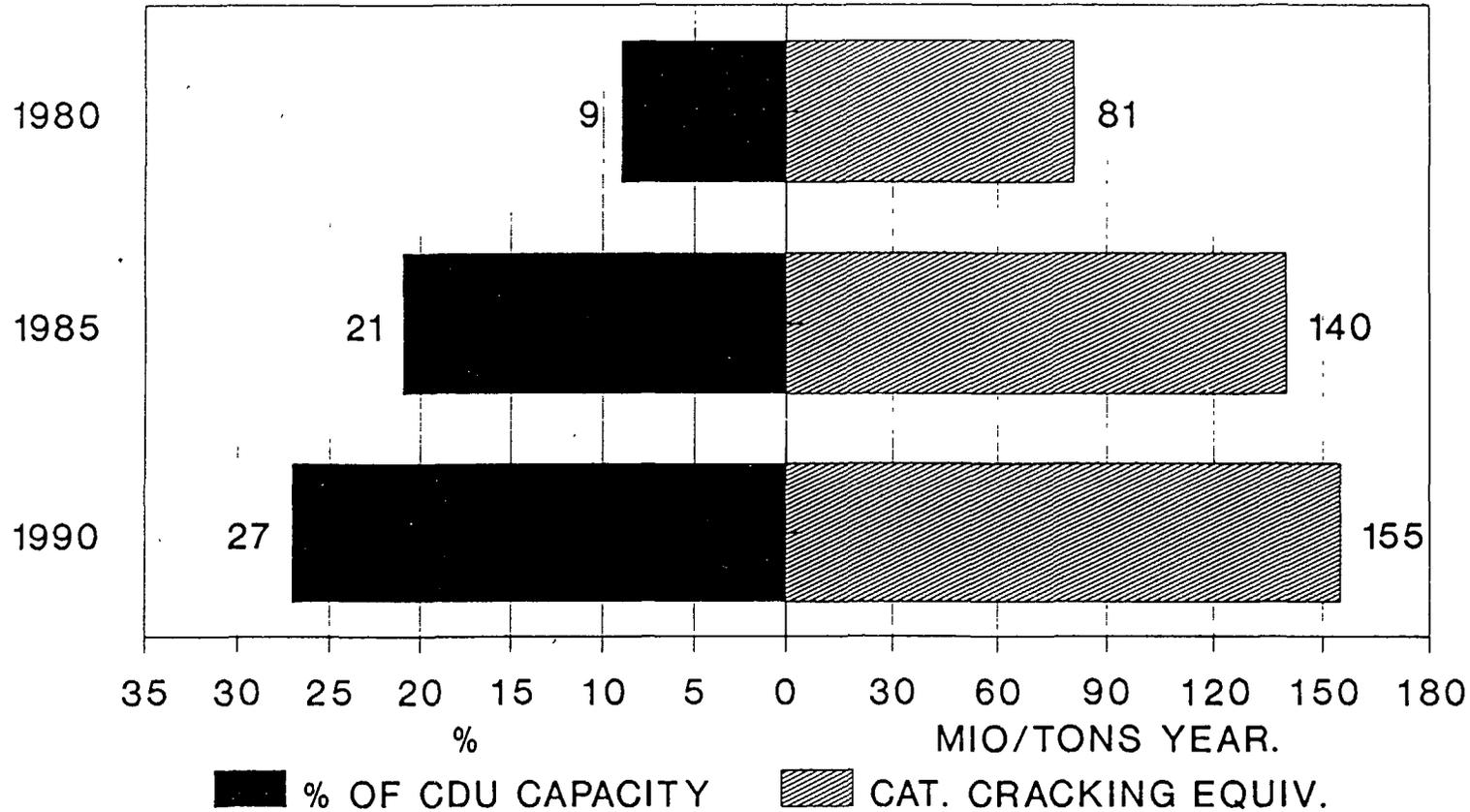
IN MIO. TONS/YEAR	1980	1985	1988	1989	1990
CATALYTIC CRACKERS	47.6	83.1	81.2	82.1	83.3
THERMAL CRACKERS	19.3	20.8	19.7	20.5	22.0
VISBREAKERS	24.9	46.1	57.2	57.4	57.5
HYDROCRACKERS	5.8	10.6	16.9	17.6	20.8
HYDROCONVERSION	-	-	-	-	1.3
COKING	2.9	8.5	2.3	3.0	2.6
FLEXICOKING	-	-	1.9	1.9	1.9
TOTAL CAPACITY	100.5	169.1	179.2	182.5	189.4
CATCRACKER EQUIV*	81	140	143	146	155
AS % CDU CAPACITY	9	21	24	25	27

\* BASED ON TOTAL DISTILLATE YIELD, AS A PERCENTAGE OF FEED , RELATIVE TO THAT OF A CATALYTIC CRACKER.

SOURCES: INFORMATION RECEIVED BY THE COMMISSION UNDER REGULATION 1056/72 + OIL COMPANIES



# EEC 12 REFINING UPGRADING CAPACITY



IN CAT. CRACKING EQUIVALENT

-23-

INVESTMENT IN THE NATURAL GAS SECTOR  
 PIPELINES WITH A CAPACITY NOT LESS THAN 10<sup>9</sup>M<sup>3</sup>/YEAR  
 SITUATION AT 1.1.1990

In km

COUNTRY	DIAMETER			TOTAL
	300-599 mm	600-899 mm	900 & + mm	
<b>A. EXISTING</b>				
- Germany	2.696	2.351	3.134	8.181
- France	3.708	2.498	809	7.015
- Italy	2.688	1.999	1.623	6.310
- Netherlands	489	1.437	1.942	3.868
- Belgium	442	285	597	1.324
- United Kingdom	744	3.806	859	5.409
- Ireland	353	-	-	353
- Denmark	250	638	-	888
- Spain	388	1.533	-	1.921
- Greece	-	-	-	-
<b>Total km</b>	<b>11.758</b>	<b>14.547</b>	<b>8.964</b>	<b>35.269</b>

-24-

AGGREGATED DATA  
FOR THE NATURAL GAS SECTOR  
OF THE COMMUNITY

---

NG Pipelines

Natural gas pipelines with a capacity of not less than  $10^9 \text{M}^3/\text{year}$  ;  
situation at 1.1.1990 in the Community and the Member States :

NG 1 : Existing pipelines

NG 2 : Pipelines under construction

NG 3 : Planned pipelines

LNG Terminals

Facilities for importing liquified natural gas ;  
situation at 1.1.1990 in the Community and Member States :

NG 4 : Existing terminals

NG 5 : Terminals under construction and planned

Underground natural gas storage

Storage facilities with a minimum capacity of 150 million  $\text{M}^3$  ;  
situation at 1.1.1990 in the Community and the Member States :

NG 6 : Existing under construction and planned storage facilities

INVESTMENT IN THE NATURAL GAS SECTOR  
 PIPELINES WITH A CAPACITY NOT LESS THAN 10<sup>8</sup>M<sup>3</sup>/YEAR  
 SITUATION AT 1.1.1990

In km

COUNTRY	DIAMETER			TOTAL
	300-599 mm	600-899 mm	900 & + mm	
<b>B. UNDER CONSTRUCTION</b>				
- Germany	-	82	110	192
- France	100	86	-	186
- Italy	307	164	-	471
- Netherlands	-	-	-	-
- Belgium	-	-	-	-
- United Kingdom	-	59	-	59
- Ireland	-	-	-	-
- Denmark	-	-	-	-
- Spain	50	448	-	498
- Greece	-	-	-	-
<b>Total km</b>	<b>457</b>	<b>839</b>	<b>110</b>	<b>1.406</b>

- 26 -

INVESTMENT IN THE NATURAL GAS SECTOR  
 PIPELINES WITH A CAPACITY NOT LESS THAN 10<sup>9</sup>M<sup>3</sup>/YEAR  
 SITUATION AT 1.1.1990

In km

COUNTRY	DIAMETER			TOTAL
	300-599 mm	600-899 mm	900 & + mm	
<b>C. PLANNED</b>				
- Germany	-	104	360	464
- France	-	80	-	80
- Italy	-	-	180	180
- Netherlands	32	-	31	63
- Belgium	-	-	145	145
- United Kingdom	-	-	-	-
- Ireland	-	-	-	-
- Denmark	-	47	-	47
- Spain	69	139	-	208
- Greece	390	-	-	390
- Portugal	-	-	-	-
<b>Total km</b>	<b>491</b>	<b>370</b>	<b>716</b>	<b>1.577</b>

-27-

INVESTMENT IN THE NATURAL GAS SECTOR  
 TERMINALS FOR LNG IMPORTS  
 SITUATION AT 1.1.1990

COUNTRY AND LOCATION	COMMISSION DATE	LNG STORAGE CAPACITY LIQUID (m <sup>3</sup> )	MAXIMUM REGASIFICATION (m <sup>3</sup> /h)	UCV AFTER REGASIFICATION (Kjoules/m <sup>3</sup> )	ORIGIN OF LIQUID NATURAL GAS
<b>A. EXISTING</b>					
<b>1. <u>France</u></b>					
- Fos-sur-Mer	1972	150.000	1.350.000	42.300	Algeria
- Le Havre	1972	150.000	1.350.000	42.300	Algeria
- Montoir	1982	360.000	1.600.000	43.500	Algeria
<b>2. <u>Italy</u></b>					
- Panigaglia (La Spezia)	1971	100.000	460.000	44.855	Lybia?
<b>3. <u>United Kingdom</u></b>					
- Canvey Island	1964	49.000	210.000	44.900	Algeria
<b>4. <u>Spain</u></b>					
- Barcelone	1969	240.000	1.300.000	44.000	Algeria/Lybia
- Huelva	1988	100.000	300.000	44.000	Algeria
- Cartagena	-	-	-	-	-
<b>5. <u>Belgium</u></b>					
- Zeebrugge	1987	261.000	700.000	38.000	Algeria
<b>TOTAL EUR</b>		<b>1 410.000</b>	<b>7 270 000</b>		

- 28 -

INVESTMENT IN THE NATURAL GAS SECTOR  
 TERMINALS FOR LNG IMPORTS  
 SITUATION AT 1.1.1990

COUNTRY AND LOCATION	COMMISSION DATE	LNG STORAGE CAPACITY LIQUID (m <sup>3</sup> )	MAXIMUM REGASIFICATION (m <sup>3</sup> /h)	UCV AFTER REGASIFICATION (Kjoules/m <sup>3</sup> )	ORIGIN OF LIQUID NATURAL GAS
<b>B. UNDER CONSTRUCTION</b>					
1. <u>Spain</u>					
- Huelva	-	-	-	-	Algeria
- Aurin-Jaca	1989	390	160.000	44.000	Algeria
- Cartagena	1989	50.000	-	44.000	Algeria
<b>TOTAL EUR</b>		<b>50.390</b>	<b>210.000</b>		
<b>C. PLANNED</b>					
1. <u>Germany</u>					
- Wilhelmshaven	-	240.000	1.000.000	45.220	Nigeria/Algeria
2. <u>Portugal</u>					
- Peninsula de Metruca (Setobal)	1994	130.000	550.000	41.860	Algeria
3. <u>Greece</u>					
- Pachi Megara	1994	130.000	200.000	44.000	Algeria
<b>TOTAL EUR</b>		<b>500.000</b>	<b>1.750.000</b>		

-28-

INVESTMENT IN THE NATURAL GAS SECTOR (SITUATION AT 1.1.1990)  
 UNDERGROUND NATURAL GAS STORAGE WITH A MINIMUM CAPACITY OF  
 150 MILLION M<sup>3</sup>

COUNTRY AND COMMISSIONING DATE(S)	CAPACITY		
	OVERALL 10 <sup>6</sup> M <sup>3</sup>	USEFUL 10 <sup>6</sup> M <sup>3</sup>	MAXIMUM OFFTAKE 10 <sup>6</sup> M <sup>3</sup>
<b>A. EXISTING</b>			
1. Belgium 83	400	200	2
2. Denmark 89	450	239	11
3. France 77-84	14,725	6,155	134
4. Germany 75-86	9,106	4,998	137
5. Italy 66-86	20,513	8,550	115
6. United K. 86	339	182	4
TOTAL	45,533	20,142	403
<b>B. UNDER CONSTRUCTION</b>			
1. Belgium 91	150	75	2
2. Denmark 91	122	68	1
3. Germany 90-96	2,260	1,460	23
4. United K. 90	142	77	1
TOTAL	2,674	1,680	27
<b>C. PLANNED</b>			
1. Denmark 94	800	300	7
2. Germany 96-98	4,410	2,260	46
3. Italy 92	3,420	2,250	24
TOTAL	8,630	4,810	77

AGGREGATED DATA  
FOR THE ELECTRICITY SECTOR  
OF THE COMMUNITY

---

Electrical power plants

Thermal and hydro-electric powers stations ;  
situation at 1.1.1990 in the Community and the Member States :

EL 1 : Installed, under construction and projected capacity

Thermal power stations

Conventional thermal and nuclear power stations ; generating sets with  
a capacity of 200 MW or more ; situation at 1.1.1990 in the Community  
and the Member States :

EL 2 : Under construction and projected plants, by planned year of  
commissioning

EL 3 : Under construction and projected plants, by cooling system

EL 4 : Under construction and projected plants, by fuel

EL 5 : Decisional status of Project plants

Nuclear power stations

Under construction and projected power stations ; generating sets with  
a capacity of 200 MW or more ; situation at 1.1.1990 of the in the  
Community and the Member States :

EL 6 : By planned year of Commissioning

EL 7 : By type of reactor and size of the sets

Hydro-electric power stations

Under construction and projected power stations ; generating plant of 50 MW or more ; situation at 1.1.1990 in the Community and the Member States :

EL 8 : By category of plant and by planned year of commissioning

Balance sheet of investments projects in power generation in the Community

EL 9 : In conventional thermal power generation

EL 10: In nuclear power generation

EL 11: In hydro-electric power generation

Transmission lines

Overhead lines and underground cables ; situation at 1.1.1990 in the Member States :

EL 12 : Under construction and projected transmission lines by planned year of commissioning.

ELECTRICAL POWER PLANT SITUATION IN THE COMMUNITY  
(Position at 1.1.1990)

- GW gross -

	EUR-12	Belgique	Danmark	BR Deutsch- land	España	France	Hellas	Ireland	Italia	Luxem- bourg	Nederland	Portugal	United Kingdom
<b>A. <u>INSTALLED CAPACITY</u><sup>1</sup> (All generating sets)</b>	<u>458,4</u>	<u>14,8</u>	<u>8,7</u>	<u>104,1</u>	<u>44,4</u>	<u>109,3</u>	<u>8,8</u>	<u>4,0</u>	<u>59,1</u>	<u>1,2</u>	<u>18,0</u>	<u>6,7</u>	<u>79,2</u>
of which:													
1. Conventional thermal	268,5	7,5	8,7	73,3	20,9	25,2	6,5	3,5	39,5	0,1	17,5	3,5	62,3
2. Nuclear	110,9	5,9	-	23,9	7,3	59,4	-	-	1,2	-	0,5	-	12,7
3. Hydroelectric	79,0	1,4	-	6,9	16,3	24,7	2,3	0,5	18,4	1,1	-	3,2	4,2
<b>B. <u>PLANT UNDER CONSTRUCTION</u><sup>2</sup></b>													
E.1.b. Thermal generating sets of 200 MW or more	24,7	-	1,0	0,3	-	11,2	0,3	-	9,2	-	1,2	0,3	1,2
of which:													
Conventional thermal	12,0	-	1,0	-	-	-	0,3	-	9,2	-	1,2	0,3	-
Nuclear	12,7	-	-	0,3	-	11,2	-	-	-	-	-	-	1,2
E.2.b. Hydroelectric generating sets of 50 MW or more	3,3	-	-	-	0,3	-	0,8	-	1,7	-	-	0,5	-
<b>C. <u>PROJECTED</u><sup>2</sup></b>													
E.1.c. Thermal generating sets of 200 MW or more	14,1	-	1,9	2,3	-	1,7	1,0	-	3,8	-	2,4	0,9	-
of which:													
Conventional thermal	11,3	-	1,9	1,0	-	0,2	1,0	-	3,8	-	2,4	0,9	-
Nuclear	2,8	-	-	1,3	-	1,5	-	-	-	-	-	-	-
E.2.c. Hydroelectric generating sets of 50 MW or more	3,1	-	-	-	1,2	-	0,2	-	1,3	-	-	0,4	-

- 33 -

<sup>1</sup> Source : Estimated on the basis of figures of EUROSTAT/publications (provisional data).

<sup>2</sup> Source : Notifications received by the Commission by virtue of Council Regulations N°s 1056/72 and 1215/76

E.1. THERMAL POWER STATIONS (Including nuclear power stations)  
 Generating sets with a capacity of 200 MW or more

By country and planned year of commission - Position at 1.1.90

Pairs of figures : number of sets and MW of total capacity

COUNTRY	Commissio- ned during 1989	Total		of which : planned year of commissioning (under construction and planned)											
		Under Construction	Planned	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	unknown (1)
EUR-12	21-12843	73-24772	38-14103	5-5599	17-4327	17-6008	7-4584	5-2725	16-3882	19-3890	11-4036	-	6-2246	6-1920	3-900
of which :															
Belgique	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Danmark	3- 950	3- 1005	5- 1955	1- 250	1- 385	2- 675	-	1- 350	1- 350	1- 350	1- 600	-	-	-	-
B.R.															
Deutschland	4- 2344	1- 346	3- 2315	-	-	1- 480	1- 535	-	-	-	-	-	2-1646	-	-
España	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
France	2- 2726	8-11246	2- 1716	4-5349	1-1362	3-3098	2-2879	-	-	-	1-1516	-	-	-	-
Hellas	-	1- 300	4- 1015	-	1- 300	1- 115	-	2- 600	-	1- 300	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Italia	1- 320	56- 9200	17- 3802	-	14-2280	10-1640	2- 270	-	14-2932	16-2640	8-1320	-	3- 0	6-1920	-
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nederland	1- 219	2- 1200	4- 2400	-	-	-	1- 600	1- 600	1- 600	1- 600	1- 600	-	1- 600	-	-
Portugal	1- 300	1- 300	3- 900	-	-	-	1- 300	-	-	-	-	-	-	-	3-900
United Kingdom	9- 5984	1- 1175	-	-	-	-	-	1-1175	-	-	-	-	-	-	-

(1) Dates not yet decided or unknown, projects in study or probable projects; programme is tentative.

- 24 -

E.1 THERMAL POWER STATIONS  
 Generating sets with a capacity of 200 MW or more  
By country and by TYPE OF COOLING SYSTEM  
 Position at 1.1.90

Pairs of figures : number of sets and MW of total capacity

COUNTRY	POWER PLANT UNDER CONSTRUCTION	of which : by cooling system						PROJECTED POWER PLANT	of which : by cooling system					
		fresh water			sea or estuarine	tower	unknown		fresh water			sea or estuarine	tower	unknown
		fresh water	river	river + tower					fresh water	river	river + tower			
EUR - 12														
conventional thermal	63-12005	7- 1645	2- 1200	-	52- 8560	2- 600	-	36-11287	9-3401	-	-	8-3316	4-1435	15-3135
nuclear	10-12767	-	-	4- 5450	3- 3939	3- 3378	-	2- 2816	-	1-1516	-	-	1-1300	-
-----														
of which :														
Danmark														
conventional thermal	3- 1005	3- 1005	-	-	-	-	-	5-1955	5-1955	-	-	-	-	-
B.R. Deutschland														
conventional thermal	-	-	-	-	-	-	-	2-1015	1- 480	-	-	-	1- 535	-
nuclear	1- 346	-	-	-	-	-	1- 346	1-1300	-	-	-	-	1-1300	-
France														
conventional thermal	-	-	-	-	-	-	-	1- 200	-	-	-	-	-	1- 200
nuclear	8-11246	-	-	4- 5450	2- 2764	2- 3032	-	1-1516	-	1-1516	-	-	-	-
Hellas														
conventional thermal	1- 300	-	-	-	-	1- 300	-	4-1015	-	-	-	-	-	4-1015
Italia														
conventional thermal	56- 9200	4- 640	-	-	52- 8560	-	-	17-3802	3- 966	-	-	4- 916	-	10-1920
Nederland														
conventional thermal	2- 1200	-	2- 1200	-	-	-	-	4-2400	-	-	-	4-2400	-	-
Portugal														
conventional thermal	1- 300	-	-	-	-	1- 300	-	3- 900	-	-	-	-	3- 900	-
United kingdom														
nuclear	1- 1175	-	-	-	1- 1175	-	-	-	-	-	-	-	-	-

- 35 -

EL3

POWER STATIONS Capable of burning	Commissioned in 1989 (1988)	Under cons- truction  A	In planning-to be in service		TOTAL  A+B+C
			by 1995  B	after 1995 and date unknown  C	
			MW gross		
1. Hard coal	2280 (1577)	8425 (9755)	2020 (2020)	4970 (4370)	15415 (16145)
- of which coal only	1100 (710)	300 (1400)	535 (535)	900 (900)	1735 (2835)
2. Brown coal	- (-)	300 (300)	- (2400)	300 (1200)	600 (3900)
3. Oil	1270 (670)	10205 (11125)	2400 (1685)	2870 (1910)	15475 (14720)
- of which oil only	320 (320)	- (320)	315 (200)	- (-)	315 (520)
4. Natural gas	449 (212)	10400 (10249)	3082 (1615)	3720 (2760)	17202 (14624)
- of which natural gas only	219 (212)	- (219)	2482 (1615)	600 (1200)	3082 (3034)
5. Fuel unknown or undecided	- (-)	- (-)	- (-)	- (-)	- (-)

Figures in brackets refer to the situation as at 1.1.1989 (except colu Commissioned, in which the situation as at 1.1.1988)

E.1 PROJECTED THERMAL POWER STATIONS - Decisional aspects  
 Generating sets with a capacity of 200 MW or more  
 Situation 1.1.1990

Pairs of figures : number of sets and MW of total capacity

COUNTRY	Fuel	Total projected	Firm (decided)	Decisional process incomplete	of which decisions have <u>NOT</u> been taken for						Possible in study	Status unknown or not reported
					Site	Main contractor	Capacity	Type of fuel	Start of work date	Commissioning		
					A	B	C	D	E	F		
EUR - 12	conventional thermal	36-11287	1- 200	10-3125	2- 270	5-1955	-	-	3- 900	-	-	25-7962
		2- 2816	1-1516	-	-	-	-	-	-	-	-	1-1300
Danmark	conventional thermal	Coal/oil	5- 1955	-	5-1955	-	-	-	-	-	-	-
B.R. Deutschland	conventional thermal	Coal/oil	1- 480	-	-	-	-	-	-	-	-	1- 480
		Coal	1- 535	-	-	-	-	-	-	-	-	1- 535
	nuclear	1- 1300	-	-	-	-	-	-	-	-	-	1-1300
France	conventional thermal	Oil	1- 200	1- 200	-	-	-	-	-	-	-	-
		nuclear	1- 1516	1-1516	-	-	-	-	-	-	-	-
Hellas	conventional thermal	Brown coal	1- 300	-	-	-	-	-	-	-	-	1- 300
		oil	1- 115	-	-	-	-	-	-	-	-	1- 115
		oil/n.gas	2- 600	-	-	-	-	-	-	-	-	1- 600
Italia	conventional thermal	c./ng./o.	6- 1920	-	-	-	-	-	-	-	-	6-1920
		n.gas	11- 1882	-	2- 270	2- 270	-	-	-	-	-	9-1612
Nederland	conventional thermal	Coal/n.gas	2- 1200	-	-	-	-	-	-	-	-	2-1200
		n.gas	2- 1200	-	-	-	-	-	-	-	-	2-1200
Portugal	conventional thermal	Coal	3- 900	-	3- 900	-	-	-	3- 900	-	-	-

- 27 -

E.1. NUCLEAR POWER STATIONS  
Generating sets with a capacity of 200 MW or more

By country and planned year of commission - Position at 1.1.90

Pairs of figures : number of sets and MW of total capacity

COUNTRY	Commissio- ned during 1989	Total		of which : planned year of commissioning (under construction and planned)											
		Under Construction	Planned	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	>1999	unknown (1)
EUR-12	12-10024	10-12767	2- 2816	3-4107	1-1362	2-2898	2-2879	1-1175	-	-	1-1516	-	2-1646	-	-
of which :															
B.R. Deutschland	1- 1314	1- 346	1- 1300	-	-	-	-	-	-	-	-	-	2-1646	-	-
France	2- 2726	8-11246	1- 1516	3-4107	1-1362	2-2898	2-2879	-	-	-	1-1516	-	-	-	-
United Kingdom	9- 5984	1- 1175	-	-	-	-	-	1-1175	-	-	-	-	-	-	-

-38-

(1) Dates not yet decided or unknown ; projects in study or probable projects , programme is tentative.

E.1. NUCLEAR POWER STATIONS - continued  
By reactor type, country and size of sets  
Situation 1.1.90

Pairs of figures : number of sets and MW of total capacity

Reactor type	Country	Size of sets MWe	Total	Under construction	Planned
<u>TOTAL OF ALL TYPES</u>	<u>COMMUNITY</u>		<u>12-15583</u>	<u>10-12767</u>	<u>2- 2816</u>
of which :					
FBR fast breeder	B.R.Deutschland	346	1- 346	1- 346	
PWR pressurized water	COMMUNITY		11-15237	9-12421	2- 2816
	B.R.Deutschland	1300	1- 1300		1- 1300
	France	1362-1363	4- 5450	4- 5450	
		1382	2- 2764	2- 2764	
		1516	3- 4548	2- 3032	1- 1516
	United Kingdom	1175	1- 1175	1- 1175	

-39-

**E.2. HYDRO-ELECTRIC POWER STATIONS**  
**Generating plant of 50 MW or more**  
**By country and planned year of commissioning**  
**Position at 1.1.90**

Pairs of figures : number of sets and MW of total capacity

Country and category	Commissioned during 1989	Total		of which planning year of commissioning (under construction and planning)							
		under construction	planned	1990	1991	1992	1993	1994	1995	>1995	unknown
<b>COMMUNITY</b> of which :	<u>8-1330</u>	<u>25-3273</u>	<u>36-3127</u>	<u>9-1279</u>	<u>1- 250</u>	<u>3- 567</u>	<u>1- 56</u>	<u>9- 601</u>	<u>11-1227</u>	<u>26-1209</u>	<u>1-1211</u>
Seasonal storage		12-1050	7- 368	4- 293		2- 317		6- 393	4- 360	3- 55	
Short-term storage			10- 585					1- 34	2- 186	7- 365	
Run-of-river		1- 194	5- 480					1- 66	1- 194	4- 414	
Pumped storage	8-1330	7-1358	1- 108	4- 802	1-250	1- 250		1- 108	1- 56		
Seasonal + p.storage		3- 387	10- 195				1- 56		2- 331	10- 195	
Short-term + p.storage	11-1111	1- 184		1- 184							
Unknown or not reported	11-1111	1- 100	3-1391						1- 100	2- 180	1-1211
<b>B.R. DEUTSCHLAND</b> Pumped storage	1- 150										
<b>ESPAÑA</b> Seasonal storage		2- 83		2- 83							
Pumped storage	5- 912										
Short-term + p.storage		1- 184		1- 184							
Unknown or not reported			1-1211								1-1211
<b>HELLAS</b> Seasonal storage		8- 650		2- 210				4- 300	2- 140		
Unknown or not reported		1- 100	2- 180						1- 100	2- 180	
<b>ITALIA</b> Seasonal storage			7- 368					2- 93	2 220	3- 55	
Short-term storage			10- 585					1- 34	2- 186	7- 365	
Run-of-river			2- 132					1- 66		1- 66	
Pumped storage	2- 260	7-1358	1- 108	4- 802	1- 250	1- 250		1- 108	1- 56		
Seasonal + p.storage		3- 387	8- 125				1- 56		2- 331	8- 125	
<b>PORTUGAL</b> Seasonal storage		2- 317				2- 317					
Run-of-river		1- 194	3- 348						1- 194	3-348	
Seasonal + p.storage			2- 70							2- 70	

-40-

-41-

EL9

**BALANCE SHEET OF INVESTMENT PROJECTS  
IN CONVENTIONAL THERMAL POWER STATIONS (excluding nuclear)  
IN THE COMMUNITY (E.1.)**

- Generating sets with a capacity of 200 MW or more -

Pairs of figures :  
(Number of sets) and MW of corresponding  
total capacity

	In service	Under construction	Planned
<u>EUR - 12</u>			
A1. <u>POSITION AT 1.1.1989</u>		(70) 13874	(34) 13005
B1. EVOLUTION DURING 1989			
1. Plant commissioned	+ (9) + 2819	- (9) - 2819	
2. Beginning of construction (plant reported planned at 1.1.89)			
3. Projects withdrawn			- (15) - 5520
4a. New projects not reported planned at 1.1.89		+ (2) + 850	+ (17) + 3805
4b. Construction halted (conversion a.o.), returned to planning phase			
5. Size modifications, adjustments			- 3
A2. <u>POSITION AT 1.1.1990</u>		(63) 12835	(36) 11287

BALANCE SHEET OF INVESTMENT PROJECTS  
 IN NUCLEAR POWER STATIONS IN THE COMMUNITY (E.1.)  
 - Generating sets with a capacity of 200 MW or more -

Pairs of figures :  
 (Number of sets) and MW of corresponding  
 total capacity

	In service	Under construction	Planned
<u>EUR - 12</u>			
A1. <u>POSITION AT 1.1.1989</u>	(111) 97914	(22) 22597	(2) 2755
B1. EVOLUTION DURING 1989			
1. Plant commissioned	+ (12) +10024	- (12) -10024	
2. Beginning of construction (plant reported planned at 1.1.89)			
3. Projects withdrawn	- (2) - 639		
4a. New projects not reported planned at 1.1.89			
4b. Construction halted (conversion a.o.), returned to planning phase			
5. Size modifications, adjustments		+ 194	+ 61
A2. <u>POSITION AT 1.1.1990</u>	(121) 107299	(10) 12767	(2) 2816

BALANCE SHEET OF INVESTMENT PROJECTS  
 IN HYDRO-ELECTRIC POWER STATIONS IN THE COMMUNITY (E.2.)  
 - Generating sets with a capacity of 50 MW or more -

Pairs of figures :  
 (Number of sets) and MW of corresponding  
 total capacity

	Under construction	Planned
<u>EUR - 12</u>		
A1. <u>POSITION AT 1.1.1989</u>	(40) 4696	(31) 2386
B1. EVOLUTION DURING 1989		
1. Plant commissioned	- (9) - 1330	
2. Beginning of construction (plant reported planned at 1.1.89)		
3. Projects withdrawn	- (7) - 210	- (4) - 166
4. New projects not reported projected at 1.1.89	+ (1) + 150	+ (9) + 907
5. Adjustments	- 33	
A2. <u>POSITION AT 1.1.1990</u>	(25) 3273	(36) 3127

E.3./E 4 TRANSMISSION LINES AND CABLES  
By country and planned year of commissioning  
 Position at 1.1.90

Circuit - Km

Country	Voltage (KV)	Commissioned during 1989	Total Total		of which planning year of commissioning (under construction and planning)									
			under construction	planned	1990	1991	1992	1993	1994	1995	1996	>1996		
Belgique	Overhead 380	3,5	119,3	113,0	125,3	17,0	90,0							
	Underground 150	1,8	4,3	14,1	5,3	13,1						1		
B.R.Deutschland	Overhead 380	93,2	79,5	1113,3	32,0	46,5	548,1	65,0	95,0	86,8	73,0	246,4		
	420			158,0		158,0								
España	Overhead 400	213,6	1538,0		547,0	801,0	190,0							
France	Overhead 400	0,0	0,0	0,0	0,0	0,0								
Hellas	Overhead 380		0,0			0,0		0,0						
	400					0,0								
	Underwater 250DC		0,0	0,0		0,0								
Italia	Overhead 220		147,7		145,0	2,7								
	380	506,5	235,0	2783,5	228,0	354,3	857,4	635,2	522,6	421,0				
Nederland	Overhead 380	110,0	115,0	0,0		115,0								
PORTUGAL	Overhead 400		114,0	105,0	52,0	97,0	70,0							
United Kingdom	Overhead 275			34,6						34,6				
	400	222,8	269,6	943,2	269,6	227,6	254,6	272,2	188,8					
	Underground 275			18,0				18,0						
	400			40,8								40,8		
	?			14,0					14,0					

- 44 -

EL12