

# COMMISSION OF THE EUROPEAN COMMUNITIES

— COM(82) 833 final

Brussels, 17 December 1982

## Report from the Commission to the Council

on information communicated to the Commission, under Council Regulations  
Nos. 1056/72 and 1215/76 relating to the situation at 1 January 1982

COM(82) 833 final

## Background Statement

### INVESTMENT PROJECTS IN THE ELECTRICITY SECTOR OF THE COMMUNITY

The attached report, which is the latest in a series of annual reports reviewing the investment situation in the electricity sector of the Community, is based on information communicated to the Commission by virtue of Council Regulations (EEC) Nos. 1056/72 and 1215/76 relating to the situation as at 1.1.1982.

The Council is requested to NOTE the report and in particular that :

- the amount of solid fuel burning electricity production capacity in construction and planning is reduced compared with the situation as at 1.1.1981.
- 85 GW gross (some 80 GW net) of nuclear capacity is realistically expected to be in service by 1985 and the current indications are that not more than 111 GW (some 104 GW net) can confidently be expected to be in service by 1990, subject to the achievement of construction schedules.
- for the third year in succession, no monovalent natural gas capacity is reported in construction or planning and no monovalent oil capacity in planning.

## INVESTMENT PROJECTS IN THE ELECTRICITY SECTOR OF THE COMMUNITY

Report on information <sup>(1)</sup> communicated to the Commission,  
under Council Regulations Nos. 1056/72 and 1215/76  
relating to the situation at 1.1.1982  
(Information summaries in Annexes 1 and 2)

### DISCUSSION OF COMMISSION CONCLUSIONS

#### Conventional thermal capacity

1. The information received indicates significant downwards revision of plant capacities in this category, resulting from the electricity producers' reduced expectations of electricity growth rates and their current excess of production capacity. For the first time for many years no new projects were reported and some forward projects were withdrawn.
2. Concerning plant with a solid fuel burning capacity, the amount of new plant expected to be commissioned between 1980 and 1985 slightly less (3 GW) than indicated in last year's report and that between 1980 and 1990 some 5 GW less. Whilst there is clearly time for further programme modifications to be effective at the 1990 horizon, Member States must keep their programmes under review to ensure that the Community objective of 70-75% of primary energy input for electricity production from solid fuels and nuclear by 1990 will be achieved.
3. For the third year in succession, no monovalent natural gas capacity is reported in construction or planning and no monovalent oil capacity in planning, although a reduced amount (9,6 GW) of monovalent oil capacity is still in construction.

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- (1)
- The power plant information on which this report is based relates only to thermal power plant of 200 MW and above and hydro plant of 50 MW and above;
  - All figures in the report refer to EUR 10, unless otherwise stated;
  - All plant capacities are given in Megawatts (MW) or Gigawatts (GW) gross, unless otherwise stated.

Nuclear capacity

4. The report indicates that the total nuclear capacity expected to be in service in the Community in 1985 is 85 GW (some 80 GW net). This is unchanged from the indications in last year's report and must now, subject to the achievement of current construction schedules, be regarded as realistic.
5. Five of the ten Community countries (Denmark, Greece, Ireland, Luxemburg and the Netherlands) are so far uncommitted to the development of nuclear power and no projects are reported for these countries. Furthermore, current lead times (for authorisation and construction) are, with the exception of France, such that major efforts will be required to ensure the commissioning by 1990 of any nuclear projects on which construction has not already started.
6. Current indications are that a maximum of 116 GW (some 109 GW net) of nuclear plant could be in service by 1990. However, taking account of the decisional status of some projects, the amount is unlikely to be more than 111 GW (some 104 GW net).

# REVIEW OF INFORMATION RECEIVED

## 7. Total power plant capacities under construction and planned

Table 1 indicates the total capacities under construction and planned in each sector as at 1.1.1982, together with the evolution as reported during the last eight years :

		Table 1			GW gross
		Conventional thermal	Nuclear	Hydro	TOTAL
EUR 9	1.1.1974	72,1	*	13,0	*
"	1.1.1975	60,3	*	12,0	*
"	1.1.1976	50,5	*	11,0	*
"	1.1.1977	46,6	99,4	10,0	156,0
"	1.1.1978	44,6	128,2	14,2	186,6
"	1.1.1979	52,5	100,6	14,8	167,9
"	1.1.1980	66,0	100,7	14,0	180,7
"	1.1.1981	63,9	99,6	11,8	175,3
EUR 10	1.1.1981	67,9	100,2	14,8	182,9
"	1.1.1982	57,8	93,0	14,3	165,1

\* Nuclear not reported in these years.

### Conventional thermal plant

## 8. Table 2 gives an analysis of the current totals by principal fuel capability categories :

- 2,9 GW of plant capable of burning solid fuel was brought into service in 1981;
- of the total of 25,6 GW of plant known to be currently under construction 14,7 GW is capable of burning solid fuel whilst 9,6 GW is capable of burning oil only (It : 6,2 GW, UK : 3,4 GW);
- the total capacity of plant in construction and planning capable of burning solid fuels has decreased (hard coal : - 7,0 GW, brown coal : - 0,3 GW) compared with the situation at 1.1.1981);
- from 1981 - 1985 inclusive, the total added solid fuel burning capability is expected to be 15,9 GW; since 0,3 GW was commissioned in 1980, this represents, for the period 1980-1985, 3,1 GW less than that indicated in last year's report.

Table 2

MW gross

Capable of burning	Commissioned in 1981 (1980)	Currently under construction (*) A	In planning - to be in service			TOTAL (A+B+C+D)
			by 1985 B	1986-1990 C	after 1990 and date unknown D	
1. Hard coal	2613 (-)	11927 (11180)	1635 (6969)	22423 (25556)	4140 (3420)	40125 (47125)
- of which coal only	747 (-)	8792 (7208)	915 (4749)	5913 (8076)	1500 (2100)	17140 (22133)
2. Brown coal	300 (300)	2770 (1850)	- (1200)	3300 (3600)	300 (-)	6370 (6650)
3. Oil	4066 (1600)	13004 (16130)	- (1500)	16870 (17840)	2640 (1320)	32514 (36790)
- of which oil only	2140 (1600)	9640 (11780)				9640 (11780)
4. Natural gas	660 (270)	2371 (2960)	720 (720)	1100 (-)	- (-)	4191 (3680)
- of which natural gas only	- (270)					
5. Fuel unknown or undecided						

- Figures in brackets refer to the situation as at 1.1.1981 ;

- Comparisons with previous years should be made with caution, since project modifications concern not only dates but also capacities and fuel capabilities ;

\*) All except 3290 MW expected to be in service by 1985 [ Hard coal - 2990 MW (of which coal only - 2110 MW) and Brown coal - 300 MW ] .

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- for the third year in succession, there is no plant in planning capable of burning oil only or natural gas only ;
- of the 32,5 GW of plant in construction and planned with an oil burning capability, 21,2 GW is in fact polyvalent plant with a coal burning capability.

### Nuclear plant

9. Table 3 indicates the current situation :

Table 3		MW gross	
	Scheduled to be in service		
	<u>by 1985</u>	<u>1986-1990</u>	<u>after 1990 and date unknown</u>
Currently :			
- in construction	41239	14232	-
- in planning	-	17160	20133
TOTALS	<u>41239</u>	<u>31392</u>	<u>20133</u>

- 9,4 GW of nuclear capacity was commissioned in 1981. The 93,0 GW reported in construction and in planning represents slightly more than twice the existing capacity ;
- subject to the achievement of current construction schedules, the expected total nuclear capacity in service by 1985 is 85,0 GW (some 80 GW net) ;
- for Denmark, Ireland, Luxembourg, Greece and the Netherlands, all so far uncommitted to nuclear development, no projects are reported, and the possibility of nuclear development in these countries by 1990 must be excluded. In Belgium the current nuclear programme, all now in construction, is scheduled to be completed by 1984 ;
- the total reported nuclear capacity (in construction and planned) scheduled to be in service by 1990 is 72,6 GW, which would mean, taking account of capacity already in service, a maximum nuclear capacity in service by 1990 of 116,3 GW (some 109 GW net) ;

- It should be noted that, of the above 72,6 GW, the communications indicate that firm decisions have not been taken concerning start-of-construction dates or sites for 5,1 GW (It : 4,0 GW, UK : 1,1 GW). Failure to take these decisions in time could result in the total nuclear capacity in service by 1990 being no more than 111,2 GW (some 104 GW net).

Hydro plant

10. Table 4 indicates the current situation.

Table 4

MW gross

	Commissioned in 1981	Under Construction	In planning
Primary conversion <sup>(1)</sup>	363	1043	1776
Pumped storage	-	4346	3230 <sup>(2)</sup>
Mixed pumped storage /primary conversion	65	3131	720 <sup>(3)</sup>
TOTALS	428	8520	5726

(1) Includes run-of-river and seasonal- and short-term storage.

(2) Includes 460 MW for which no start-of-construction date is available.

(3) Includes 300 MW for which no start-of-construction date is available.

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Transmission lines and cables

11. Table 5 indicates the current situation.

Table 5 . Circuit - km .

	Commissioned in 1981	Under Construction	Planned
Overhead lines	2591	4540	8735
Underground cables	49	15	205
Underwater cables	-	100	129
TOTALS	2640	4655	9069

INVESTMENT PROJECTS IN THE  
ELECTRICITY SECTOR OF THE COMMUNITY

ANNEX I      Electrical power plant situation  
Position at 1.1.1982

ANNEX II      Summary of Notifications received by the Commission  
by virtue of Council Regulations n°s 1056/72 and 1215/76

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**ELECTRICAL POWER PLANT SITUATION IN THE COMMUNITY**  
(Position at 1.1.1982)

AAH/sb (September 1982)

## Annex I

		EUR-10	B.R. Deutschland	France	Italia	Nederland	Belgique	Luxembourg	United Kingdom	Ireland	Denmark	Hellas
<b>A. INSTALLED CAPACITY</b>												
1) (All generating sets)		336.7	89.6	73.6	48.9	18.1	11.6	1.4	76.0	3.3	8.0	6.2
of which :												
1. Conventional thermal		243.8	72.8	31.4	31.7	17.6	8.5	0.2	66.3	2.8	8.0	4.5
of which :												
generating sets of 200 MW or more		126.4	32.2	18.5	17.0	9.1	2.4	-	39.8	0.8	4.6	2.0
2. Nuclear		43.7	10.3	22.6	1.3	0.5	1.8	-	7.2	-	-	-
of which :												
generating sets of 200 MW or more		40.2	10.2	22.3	1.2	0.5	1.7	-	4.3	-	-	-
3. Hydroelectric		49.2	6.5	19.6	15.9	-	1.3	1.2	2.5	0.5	0.01	1.7
<b>B. PLANT UNDER CONSTRUCTION 2)</b>												
E.1.b. Thermal generating sets of 200 MW or more												
of which :												
Conventional thermal		25.6	6.0	2.4	7.4	0.3	-	-	6.1	0.9	0.7	1.8
Nuclear		55.7	11.4	31.9	2.0	-	3.9	-	6.5	-	-	-
E.2.b. Hydroelectric generating sets of 50 MW or more		8.6	-	4.0	2.3	-	-	-	1.5	-	-	-
<b>C. PROJECTED 2)</b>												
E.1.c. Thermal generating sets of 200 MW or more												
of which :												
Conventional thermal		32.2	11.4	-	17.7	1.5	-	-	-	-	0.4	1.2
Nuclear		37.3	15.6	8.2	10.0	-	-	-	3.5	-	-	-
E.1.c. Hydroelectric generating sets of 50 MW or more		5.7	-	0.1	3.6	-	-	-	0.2	-	-	1.8

1) Source : Estimated on the basis of figures of EUROSTAT/publications.

2) Source : Notifications received by the Commission by virtue of Council Regulations No's 1056/72 and 1215/76.

INVESTMENT PROJECTS IN THE  
ELECTRICITY SECTOR OF THE COMMUNITY

Summary of Notifications received by the Commission  
by virtue of Council Regulations N°s 1056/72 and 1215/76

- 1982 -

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## 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 commissioning - Position at 1.1.1982

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

COUNTRY	Commissioned during 1981	Total		of which : planned year of commissioning (under construction and planned)											Undecided or unknown (1)
		Under construction	Planned	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	
EUR-10	19-15092	106-81317	94-69451	22-12667	22-16018	21-17410	21-19193	17-11303	16-13298	19-15187	20-11619	13-886	10-7140	4-3200	

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

## 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 1.1.1982

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COUNTRY	POWER PLANT UNDER CONSTRUCTION	of which : by cooling system					of which : by cooling system					PROJECTED POWER PLANT	fresh water				tower	unknown	tower	unknown
		fresh water	river	sea or (estuarine)	river + tower	fresh water	fresh water	river	river + tower	sea or (estuarine)	river + tower		fresh water	river	river + tower	sea or (estuarine)				
COMMUNITY (EUR - 10)																				
conventional thermal	54-25646	6-1920	9-5134	19- 8700	20- 9892	2-2000	60-32158	3-1460	2- 765	1- 350	17- 9858	31-17060	6-2665	3-1460	2- 765	1- 350	17- 9858	31-17060		
nuclear	52-55671	3-4043	5-6014	21-20160	19-21524	2-2000	34-37293		1-1300	3-2530	15-19763	15-13700			1-1300	3-2530	15-19763	15-13700		
of which :																				
Belgique																				
nuclear	4- 3860		2-1930	2-1930			-													
Denmark																				
conventional thermal	2- 2700			2- 2700			1- 350									1- 350				
B.R.Deutschland																				
conventional thermal	11- 6017		2-1025		9- 4992		19-11448		2- 765		13- 8658	1- 1300	4-2025		2- 765		13- 8658	1- 1300		
nuclear	10-11347	3-4043			7- 7304		12-15633		1-1300		10-13033				1-1300		10-13033			
France																				
conventional thermal	4- 2400		3-1800		1- 600		-													
nuclear	26-31934		3-4084	11-13630	12-14220		6- 8160									1-1430	5- 6730			
Hellas																				
conventional thermal	6- 1820				6- 1820		4- 1200										4- 1200			
nuclear	-						-													
Ireland																				
conventional thermal	3- 900			3- 900 (estuarine)			-													
Italy																				
conventional thermal	17- 7400	6-1920		11- 5480		2-2000	33-17700						2- 640							
nuclear	2- 2000						10-10000													
Nederland																				
conventional thermal	1- 329		1- 329				3- 1460 of which : 2- 860 (canal)													
United Kingdom																				
conventional thermal	10- 6080		3-1980	3- 1620			6- 3500										2- 1100		4- 2400	
nuclear	10- 6530			10- 6530																

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## E.1. PROJECTED THERMAL POWER STATIONS - Decisional aspects

Generating sets with a capacity of 200 MW or more

Situation at 1.1.1982

Country	Fuel	Total projected	Firm (decided)	Decisional process incomplete	Of which decisions have NOT been taken for					Possible, in study	Status unknown or not reported	Remarks
					Site	Main contractor	Capacity	Type of fuel	Start of work date	Commissioning		
COMMUNITY (EUR-10) convent. thermal nuclear		60-32158 34-37293	15-8504 5-6730	42-21410 17-14950	A 39-20960 14-12400	B 39-20400 16-13500	C 15-5536 4-2400	D 2-1000	E 7-3020 6-3500	F 15-5940 6-3500	12-15633	
Denmark convent. thermal	coal/oil	1- 350		1- 350	1- 350	1- 350			1- 350	1- 350		National heat plan.
B.R.Deutschland convent. thermal	coal coal/nat.gas brown coal	19-11448 14- 8328 1- 720 4- 2400 12-15633	10-5384 1- 720 4-2400	1- 700	1- 750	2- 1150	4-2616		1- 450	1- 450 3-2244		
France nuclear		6-8160	5-6730	1- 1430 (x)							12-15633	Following the national equipment
Hellas convent. thermal nuclear	brown coal	4- 1200		4- 1200	2- 600	4- 1200			1- 300	1- 300		
Ireland convent. thermal		-	-	-	-	-	-	-	-	-	-	Previous projects withdrawn
Italia convent. thermal nuclear	coal/oil	33-17700 10-10000		33-17700 10-10000	31-17060 10-10000	33-17700 10-10000	6-1920			6-1920		2-640 MW : decision CIPE 20-9.73, art. 7 of law 330. 31-17060 MW : decision CIPE 11.1.80.
Nederland convent. thermal	coal/oil deriv.gas/oil	3- 1460 2- 1100 1- 360		3- 1460 2- 1100	2- 1100 2- 1100		1- 500 1- 500	1- 500 1- 500	2- 960 1- 600 1- 360	3-1460 2-1100 1- 360		Electr. Plan SEP Coal/oil or coal/gas
United Kingdom convent. thermal nuclear		- 6- 3500		6- 3500	4- 2400	6- 3500	4-2400		6-3500	-3500		2-1100 MW : construction subject to necessary consents and safety clearances.

**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 -

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

	In service	Under construction	Planned
<u>EUR - 9</u>			
<b>A1. POSITION AT 1.1.1980</b>	(311) 117124	(58) 29778	(64) 34896 +( ) 1300
<b>B1. EVOLUTION DURING 1980</b>			
1. Plant commissioned	+(5) + 1870	-(5) - 1870	
2. Beginning of construction (plant reported planned 1.1.80)		+(2) + 900	-(2) - 900
3. Projects withdrawn		-(7) - 3827	-(6) - 3681
4a. New projects not reported planned at (1.1.1980)		+(2) + 920	+(11) + 5330
4b. Construction halted (conversion a.o.), returned to planning phase			+(5) + 2507
5. Size modifications, adjustments		- 22	- 147
<b>A2. POSITION AT 1.1.1981</b>			
<u>EUR - 9</u>	(316) 118994	(50) 25879	(72) 38005
<u>EUR - 10</u>	(323) 121000	(53) 26779	(82) 41105
<b>B2. EVOLUTION DURING 1981</b>			
1. Plant commissioned	+(10) + 5713	-(10) - 5703	
2. Beginning of construction (plant reported planned 1.1.81)		+(11) + 4517	-(11) - 4517
3. Projects withdrawn			-(11) - 4300
4. New projects not reported planned at (1.1.1981)			
5. Size modifications, adjustments	- 310	+ 53	- 130
<b>A3. POSITION AT 1.1.1982</b>			
<u>EUR - 10</u>	(333) 126403	(54) 25646	(60) 32158



Posit. at 1.1.19'	Commission. during preceding year	Total		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	Year of com- missioning undecided or unknown; Projects in study	
		Under construct.	Planned															
'80	EUR-9	10-5233	58-29778	64-34896 + 1300	12-5948	9-4840	14-7066	11-5337	8-4307	16-7497	19-11231	7-3730	7-4200	3-1580 + 1300	6-3560			10-5378
'81	" "	5-1870	50-25879	72-38005		14-7673	16-7406	6-3650	10-5922	12-6297	11-5532	16-9064	9-5100	8-4260	2-1320			9-2740
'81	EUR-10	6-2170	53-26779	82-41105		15-7973	16-7406	7-3950	12-6522	15-7179	14-6532	17-9364	10-5400	8-4260	2-1320			9-2740
'82	EUR-10	10-5713	54-25646	60-32158			17-7777	10-5272	10-5250	11-5692	11-5077	8-3892	12-7047	9-4560	5-2940			5-2140
	of which :																	
'80	Belgique	1-1300	-	-														
'81		-	-	-														
'82		-	-	-														
'80	B.R.Deutschland	3-1740	12-6459	25-15246														6-4178 (left. 1986)
'81		8-4344	25-15246	19-11448		1- 747	4-1737	1- 750	4-2367	7-4212	6-3332	11-7391	3-1947					3-1500
'82		11-6017	19-11448			4-1808	1- 772	2-1110	5-3112	4-2597								
'80	Denmark	1- 630	1- 660	3- 1260	1- 660			1- 375	1- 375	1- 510								
'81		1- 670	1- 670	3- 1260		1- 670		1- 375	2- 885									
'82		1- 670	2- 700	1- 350				1- 350	1- 350				1- 350					
'80	France	3-1800	3-1800	1- 600	1- 600	1- 600	1- 600											
'81		5-3000	5-3000	-	1- 600	1- 600	1- 600		2-1200									
'82		1- 600	4-2400	-	1- 600	1- 600	1- 600		2-1200									
'81	Hellas	1- 300	3- 900	10- 3100	1- 300	1- 300	1- 300	1- 300	2- 600	3- 900	3-1000	1- 300	1- 300	1- 300	1- 300			
'82		1- 300	6-1820	4- 1200			1- 300	1- 300	2- 610	2- 610	2- 600							
'80	Ireland	-	3- 870	6- 1800	1- 270													
'81		1- 270	3- 900	5- 1500														4-1200
'82		-	3- 900	-														5-1500
'80	Italia	2- 640	20-9120	27-14920	3- 960	4-1960	8-3920	4-1620	1- 600	2- 640	5-2280	5-2960	6-3900	3- 1580	6-3560			-
'81		3-1300	18-8140	34-17940		4-1620	7-2920	3-1640	1- 240	2- 640	2- 640	4-1960	8-4600	9- 4920	8-4260	2-1320		2- 640
'82		2- 980	17-7400	33-17700			6-2260	5-2280	2-1320	1- 660	2- 360	1- 320	8-4600	11- 5560	8-4260	4-2640		2- 640
'80	Nederland	1- 647	2- 957	3- 2370	1- 518		1- 339											
'81		2- 925	3- 1460	3- 1460	1- 596	1- 596	1- 329											
'82		1- 596	1- 329	3- 1460		1- 329	1- 329											
'80	United Kingdom	2-1276	18-10120	-	6-3440	4-2280	3-1460	2- 960	1- 660	1- 660	1- 660							
'81		1- 300	13-7900	2- 600		6-3440	3-1520	1- 660	1- 660	1- 660	1- 660							
'82		3-1820	10-6080	(cancelled)			562780	2-1320	1- 660	1- 660	1- 660							

Posit. at 1.1.19'	Fuel	Commsioned during preceding year	Total		of which : by planned year of commissioning (under construction and planned)														Undecided
			Under construction	Planned	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992		
TOTAL FUELS																			
'80	EUR - 9	10-5233	8-29778	64-34896 + 3- 1300	12-5948	9-4840	14-7066	11-5337	8-4307	16-7496	19-11231	7-3730	7-4200	3-1580 + -1300	6-3560			10-5378	
'81	EUR - 10	6-2170	53-26779	82-41105			16-7406	7-3950	12-6522	15-7179	14-6532	17-9364	10-5400	10-5220	8-4260	2-1320		9-2740	
'82	EUR - 10	10-5713	54-25646	60-32158			17-7777	10-5272	10-5250	11-5696	11-5077	8-3892	12-7047	16-8157	9-4560	5-2940		5-2140	
of which :																			
'80	Coal	3-1740	14-7721	29-15566			2-1347	3-1752	5-2672	9-3917	12-7591	1- 300	1- 300					( 6-4178 (aft.1986) ( 4-1200 7-2100 3-1500	
'81			13-7208	27-14225		1- 747	3-1631	2-1350	4-2517	5-4452	6-3092	9-5544							
'82		1- 747	16-8892	14- 8328			3-1613	2-1372	2-1260	6-3352	6-3557	6-2972	1- 747	1- 747					
'80	Brown coal		3-1550	1- 600				1- 600	1- 600	2- 950									
'81	EUR-9	1- 300	5-1850	14- 5500		1- 300		1- 300	4-1550	3- 900	5-2200	3-1500	1- 300	1- 300	1- 300				
'82	EUR-10	1- 300	8-2770	8- 3600				1- 300	4-1560	2- 610	2- 600		2-1200	3-1500	1- 300	1- 300			
'80	Petr.products (non gaseous)	4-1916	33-15940		7-3080	8-4240	11-5380	6-2580	1- 660										
'81		4-1600	23-11780			8-4080	9-4080	4-2300	2-1320										
'82		4-2140	19-9640				9-4060	7-3600	2-1320	1- 660									
'80	Natural gas	1-1270	1-1270	-	1-1270														
'81			-	-															
'82			-	-															
'80	Coal/pebr.prod.	2-1277	2-1278	31-16780	2-1278			1- 375	1- 375	3-1150	6-2880	5-2960	6-3900	3-1580	6-3560				
'81			5-2381	39-20300		2-1266	1- 475	1- 475	1- 375	3-1125	3-1240	4-1960	9-5100	9-4920	8-4260	2-1320		2- 640	
'82		2-1266	6-2055	36-19150			1- 475		1- 350	1- 350	2- 560	2- 920	9-5100	12-5910	8-4260	4-2640		2- 640	
'80	Coal/beriv. gases	1- 600	1- 600	-		1- 600													
'81						1- 600													
'82		1- 600																	
'80	Coal/natural gas	1- 760	1- 760	2- 1480						2-1480	1- 760								
'81		2- 991		1- 720			1- 231		1- 760	1- 720									
'82		2-1062		1- 720			1- 320		1- 760	1- 720									
'80	Petr.prod./ Nat. Gas	3-1659		-	2-1320		1- 339												
'81		4-1964				2- 980	2- 989												
'82		3-1309					3-1309												
'80	Deriv.gas/ Petr.prod.	1- 660																	
'81		1- 300																	
'82																			
'80	Unknown or undecided																		
'81																			
'82																			

(1) of which 1-600 - coal/oil/nat.gas

(2) of which 1-500 - coal/oil/nat.gas

BALANCE SHEETS 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) MW of corresponding  
total capacity

	In service	Under construction	Planned
<u>EUR - 9</u>			
A1. <u>POSITION AT 1.1.1980</u>	(48) 24148	(56) 58813	(41) 42924
B1. EVOLUTION DURING 1980			
1. Plant commissioned	+(7) + 6610	-(7) - 6610	
2. Beginning of construction (Plant reported planned 1.1.80)		+(8) + 8990	-(8) - 8990
3. Projects withdrawn			-(4) - 2400
4. New projects not reported projected at 1.1.80			+(7) + 7830
5. Size modifications, adjustments		- 460	+ 542
A2. <u>POSITION AT 1.1.1981</u>			
<u>EUR - 9</u>	{ (55) 30758	{ (57) 59733	(36) 39906
<u>EUR - 10</u>			(37) 40506
B2. EVOLUTION DURING 1981			
1. Plant commissioned	+(9) + 9379	-(9) - 9379	
2. Beginning of construction (Plant reported planned 1.1.81)		+(4) + 5300	-(4) - 5300
3. Projects withdrawn			-(1) - 600
4. New projects not reported projected at 1.1.81			+(2) + 2730
5. Size modifications, adjustments		+ 17	- 43
A3. <u>POSITION AT 1.1.1982</u>			
<u>EUR - 10</u>	(64) 40137	(52) 55671	(34) 37293

## E.1. NUCLEAR POWER STATIONS

Generating sets with a capacity of 200 MW or more

By country and planned year of commissioning

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

Posit. at 1.1.19'	Country	Comis. during preceding year	Total		of which : planned year of commissioning (under construction and planned)												Year of comissioning undecided or unknown	
			under construction	planned	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991		1992
'80 '81 '82	COMMUNITY EUR - 9 EUR - 9 EUR - 10 EUR - 10	3-2814 7-6610 7-6610 9-9379	56-57813 57-59733 57-59733 52-55671	41-42924 36-39906 37-40306 34-37293	6-5710 <del>13-12019</del> <del>13-12019</del> <del>13-12019</del>	11-10349 <del>13-12019</del> <del>13-12019</del> <del>13-12019</del>	11-10556 9- 8650 9- 8650 5- 4890	8-8910 7-8310 7-8310 12-10746	9-10613 11-12299 11-12299 11-12160	6-6207 7-9400 7-9400 10-13501	10-11420 6-6207 6-6207 6-6226	5-6312 9-10031 9-10031 8-9406	8-7393 4-4789 4-4789 7-8140	9-9107 6-5403 7-6003 4-3462	13-12830 7-6501 7-6501 4-4300	5-4200 5-4200 5-4200	4-3200 4-3200	1- 1330 9-11830 9-11830 10-12733
'80 '81 '82	of which : Belgique		4-3860 4-3860 4-3860	- - -			2- 1860 2- 1860 2- 1860		2- 2000 2- 2000 2- 2000									
'80 '81 '82	B.R.-Deutschland	1- 900 1-1299 1-1299	11-12629 11-12629 10-11347	11-13934 11-14376 12-15633		1- 1299 1- 1299 1- 1299	1- 1316 2-2626 1-1316	4-4236 2-2626 1-1316	2- 2723 3- 2979 2- 1616	1- 327 2- 2670 4- 5341	1- 327 1- 327 1- 346	1-1362 1-1366 1-1362	2-2633 1-1304 2-2600	3-3907 1-1303 1-1362	6-7430 1-1301 1-1300			1- 1330 9-11830 9-11733
'80 '81 '82	France	2-1914 7-6610 8-8080	31-34044 30-34714 26-31934	10-13040 9-12030 6- 8160	5-5050 <del>9-12030</del> <del>6- 8160</del>	7- 7070 8- 8080 <del>8- 8080</del>	6- 6060 5- 5470 3- 3030	4-4674 5-5684 5-5470	5- 5890 6- 7320 7- 8544	4- 4880 5- 6730 6- 8160	7-9170 4-4880 4-4880	3-4290 4-5720 4-5720	2-2860 3-4290					
'81 '82	Hellas	- -	- -	1- 600 -										1- 600				
'80 '81 '82	Italia		2- 2000 2- 2000 2- 2000	10-10000 10-10000 10-10000					1- 1000	1- 1000 1-1000 1-1000	1-1000 1-1000 1-1000	1-1000 1-1000	3-3000 3-3000 3-3000	4-4000 3-3000 1-1000	3-3000 4-4000 3-3000	2-2000 2-2000	1- 1000	
'80 '81 '82	United Kingdom		8-5280 10-6530 10-6530	10-5950 6-3500 6-3500	1- 660 <del>3- 1980</del> <del>4- 2640</del>	3- 1980 4- 2640 <del>4- 2640</del>	2- 1320 2- 1320 <del>2- 1320</del>	6-3960			2-1250	1- 660 3-1945 2-1320	3-1760 1- 625 2-1250	2-1200 2-1100 2-1100	4-2400 2-1200	2-1200 2-1200	2-1200	

Situation 1.1.1982

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

Reactor type	Country	Size of sets MWe	Total	Under construction	Projected
<u>TOTAL OF ALL TYPES</u>	<u>COMMUNITY</u>		<u>86-92964</u>	<u>52-55671</u>	<u>34-37293</u>
of which : AGR advanced gas cooled	United Kingdom	660 (8) 625 (2)	10-6530	10-6530	
BWR boiling water	<u>COMMUNITY</u> Italia B.R.Deutschland	1000 1310-1316	<u>5-5936</u> <u>2-2000</u> 3-3936	<u>5-5936</u> <u>2-2000</u> 3-3936	
Undecided or unknown	<u>COMMUNITY</u> Italia United Kingdom B.R.Deutschland	1000 600 1300	<u>15-13700</u> <u>10-10000</u> 4-2400 1-1300		<u>15-13700</u> <u>10-10000</u> 4-2400 1-1300
PWR	<u>COMMUNITY</u> Belgique United Kingdom B.R.Deutschland France	930 1000 550 1300 to 1362 1010 1430	<u>53-64922</u> <u>2-1860</u> 2-2000 2-1100 16-21092 13-13130 18-25740	<u>34-41329</u> <u>2-1860</u> 2-2000 5-6759 12-12120 13-18590	<u>19-23593</u> - - 2-1100 11-14333 1-1010 5-7150
HTR high temperature	B.R.Deutschland	306	1-306	1-306	
FBR fast breeder	<u>COMMUNITY</u> B.R.Deutschland France	346 1224	<u>2-1570</u> <u>1-346</u> 1-1224	<u>2-1570</u> <u>1-346</u> 1-1224	

**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	Projected
<u>EUR-9</u>		
A1. <u>POSITION AT 1.1.1980</u>	(48) 7643	(40) 6318
B1. EVOLUTION DURING 1980		
1. Plant commissioned	-(6) - 789	
2. Beginning of construction (Plant reported planned 1.1.1980)	+(8) + 993	-(8) - 993
3. Projects withdrawn		-(7) -1558
4. New projects not reported projected at 1.1.1980		+(1) + 61
5. Size modifications		
6. Adjustments	+ 18	
A2. <u>POSITION AT 1.1.1981</u>		
<u>EUR-9</u>	(50) 7865	(26) 3891
<u>EUR-10</u>	(60) 8738	(42) 6056
B2. EVOLUTION DURING 1981		
1. Plant commissioned	-(5) - 428	
2. Beginning of construction (Plant reported) planned 1.1.1981)	+(2) + 210	-(2) - 210
3. Projects withdrawn		
4. New projects not reported projected at 1.1.1981		
5. Size modifications		- 120
6. Adjustments		
A3. <u>POSITION AT 1.1.1982</u>		
<u>EUR-10</u>	(57) 8520	(40) 5726

## E2. HYDRO-ELECTRIC POWER STATIONS

II/12a

Generating plant of 50 MW or more

By country and by planned year of commissioning

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

Position at 1.1.19'	Country and Category	Commissioned during preceding year	Total		of which by planned year of commissioning (under construction and projected)													
			under construction	projected	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991		
'80 '81 '82	COMMUNITY																	
	EUR-9	4-620	48-7643	40-6381 1)2)	10-1382	9-1402	12-2178	6-1014	16-1958	11-1850	13-1850	2-500					4-1360	
	EUR-9	6-790	50-7865	26-3891	10-1830	10-1830	15-1977	8-1508	6-711	13-2100	17-2600	2-500						
	EUR-10	6-790	60-8738	42-6056 1)2)	13-2130	13-2130	15-1977	8-1508	13-1284	15-2310	21-3070	6-1085	2-180	4-720	2-170	6-900		
	EUR-10 of which : Seasonal storage short-term storage run-of-river pumped storage season.*pumped storage short-term+pump.storage	5-428 4-363 1-65	57-8520 6-710 5-333 23-4346 20-2816 3-315	40-5726 1)2) 11-1546 3-230 20-3230 2) 6-720 1)	<del>10-1382</del> <del>9-1402</del> <del>10-1830</del> <del>13-2130</del> <del>20-3494</del>	<del>9-1402</del> <del>10-1830</del> <del>13-2130</del> <del>20-3494</del>	<del>12-2178</del> <del>15-1977</del> <del>20-3494</del>	<del>6-1014</del> <del>8-1508</del> <del>7-1185</del>	<del>16-1958</del> <del>6-711</del> <del>13-1284</del> <del>18-2042</del>	<del>11-1850</del> <del>13-2100</del> <del>15-2310</del> <del>8-1200</del>	<del>13-1850</del> <del>17-2600</del> <del>21-3070</del> <del>11-1710</del>	<del>2-500</del> <del>2-500</del> <del>6-1085</del> <del>12-2095</del>	<del>2-500</del> <del>2-500</del> <del>2-180</del> <del>2-240</del>	<del>2-180</del> <del>2-240</del>	<del>2-170</del>	<del>4-1360</del> <del>6-900</del> <del>4-720</del> <del>2-180</del>		
'80 '81 '82	BELGIQUE																	
	pumped storage	3-540	3-540	-	3-540													
	"	-	-	-														
	"	-	-	-														
	"	-	-	-														
'80 '81 '82 '79 '80 '81 '82 '80 '81 '82 '80 '81 '82	FRANCE																	
	seasonal storage	1-63	2-322 5-563 4-500	3-243 1-61 1-61		1-257	2-322 4-306 2-390	1-133 2-110 2-110	2-110 1-61 1-614) 1-58									
	"																	
	run-of-river																	
	pumped storage		4-900 9-1670 9-1670	5-750 - -		4-920	4-900 4-920		2-140									
	"																	
	"																	
	short-term+pump.storage	2-480	-	2-140 4)														
	"																	
	"																	
season.*pump.storage		12-1800 12-1800	- -						4-600 <sup>3)</sup> 6-900 <sup>3)</sup>	5-750 5-750								
'80 '81 '82 '80 '81 '82 '80 '81 '82	ITALIA																	
	short-term storage	1-60 1-60	2-135 1-75 1-75	1-50 1-50 1-50		1-60	1-75 1-75		1-50 1-50									
	"																	
	pumped storage	1-80	8-1176 8-1176 8-1176	18-3000 18-3000 18-3000	4-588 4-588 4-588	4-588 4-588 4-588	1-75	6-1000	1-50 6-1000 8-1250	4-500 8-1250 4-750	2-500 2-500 10-1750							
	"																	
	season.*pump.storage	-	11-1270 9-1081 8-1016	4-550 1) 4-550 1) 4-550 1)	3-254 - -	2-254 1-65 4-508	4-588 8-1176 3-381 4-508	3-381 4-508	4-508	1-250 1-250 1-250								
	"	2-190																
	"	1-65																
	'79 '80 '81 '82	UNITED KINGDOM																
		pumped storage		6-1500 2) 6-1500 6-1500	6-1590 2) 2-230 2) 2-230 2)		2-500	2-500 2-500 2-500	2-500 4-1000 4-1000									
"																		
"																		

1) Included : 3-300 MW work suspended

2) Included : 2-230 MW construction postponed indefinitely

3) 8 x 150 MW pumpturbines

4 x 150 MW Pelton-turbines

4) delayed for environmental reasons.

[illegible]



# E.3./E.4. TRANSMISSION LINES AND CABLES

II/13a

By country and planned year of commissioning

Position at 1.1.1982

Country	Voltage (kV)	Commissioned during 1981	Total		of which : planned year of commissioning (under construction and planned)						Circuit - km	
			under construction	planned	1982	1983	1984	1985	1986	after 1986		
Belgique	Overhead 380	65,0	216,6	461,8	206,6	107,0	369,8					
	Overhead 400		26,0	224,0	26,0	18,0	28,0	114,0	64,0			
Denmark	Underground 400	914,0		9,0				9,0				
	Overhead 400		2076,0	1260,0	1370,0	1204,0	406,0	356,0				
France	Underwater 270DC			90 *								
	Underground 270DC			72 *								
B.R.-Deutschland	Overhead 400	786,6	764,0	2916,6	270,4	446,0	1442,2	805,2	386,8	330,0		
	Overhead 400		430,0	640,0	124,0	34,0	342,0	570,0				
Hellas	Underwater 150			31,3		31,3						
	Underground 150			27,5					15,0	12,5		
Ireland	Overhead 420			450,0				235,0	215,0			
	Underground 220		13,9		13,9							
Italia	Overhead 110	649,6		14,0		14,0						
	Overhead 380		2646,7		521,2	1029,5	533,5	440,0	122,5			
Nederland	Overhead 380	8,0	36,0	344,0		36,0	44,0	40,0	80,0	180,0		
	Underwater 380			8 *								

Note : the table includes also the transmission lines which are designed for 345 kV and more but are or will be operated initially at a lower voltage.

(\*) Without date of commissioning.

Continuation : II/13

II/13 b

Country	Voltage (kV)	Commissioned during 1981	Total		of which : planned year of commissioning (under construction and planned)					
			under construction	Planned	1982	1983	1984	1985	1986	after 1986
United Kingdom	Overhead 400	168,5	470,2	358,0	226,2	294,0	53,0	62,0	5,0	238,0
	Underground 400	49,0	1,2	6,0	1,2		6,0			5,0
	132			5,0				72,0		
	275 250DC Underwater 250DC		92,0	72,0				92,0		