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The Main Findings of the Commission's
Review of Member States' Energy Policies

The 1995 Community Energy Objectives

(Communication from the Commission)

THE MAIN FINDINGS OF THE COMMISSION'S
REVIEW OF MEMBER STATES' ENERGY POLICIES

THE 1995 COMMUNITY ENERGY OBJECTIVES

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The Main Findings of the Commission's Review of Member States' Energy Policies

The 1995 Community Energy Objectives

Introduction

1. In a separate and more detailed Communication to the Council (COM (88)174^{final}Vol.II) the Commission is presenting in parallel a full analysis of Member States' energy policies and of the prospects for meeting the Community's 1995 energy objectives. This is the first review since the Council agreed, in a Resolution of September 1986¹⁾, on Community energy objectives for 1995. The aim of this separate political summary is to indicate the main findings of that analysis and to outline some important policy conclusions which should be in the forefront of Community and national energy discussions.

2. In its analysis the Commission has taken into account the sectoral and horizontal energy objectives as indicative guidelines for the monitoring of national energy policies. The sectoral objectives are:
 - The efficiency of final energy demand should be improved by at least 20% by 1995;
 - Oil consumption should be kept down to around 40% of energy consumption and net oil imports thus maintained at less than one-third of total energy consumption in the Community in 1995;
 - To maintain the share of natural gas in the energy balance on the basis of a policy aimed at ensuring stable and diversified supplies;

The share of solid fuels in energy consumption should be increased; to pursue efforts to promote consumption of solid fuels and improve the competitiveness of their production capacities in the Community;
 - The proportion of electricity generated from hydrocarbons should be reduced to less than 15% in 1995.
 - The output of renewable energy sources should be substantially increased, thereby enabling them to make a significant contribution to the total energy balance.

3. The review is broader than in the past in that it covers not only all major energy sectors but also the more general policy framework contained in the horizontal objectives, although some of these will be dealt with in separate Communications such as that on the Community's internal energy market. Up to now it was not possible to analyse to what extent the initiative on the internal energy market will influence the 1995 energy objectives. Studies will be undertaken on this subject to carefully assess the interaction between a better integrated market for energy and the

¹⁾ OJ N° C 241, 25.9.1986

and the energy policy objectives. The review highlights some areas of concern where, according to the Commission's findings, difficulties could exist in achieving the agreed 1995 objectives. This communication is based on the concept of Community solidarity, that is the intention that Member States, having regard to their own characteristics in the sphere of energy and in the light of their specific possibilities and constraints, should make efforts of comparable intensity to ensure that the energy objectives are achieved at Community level. Finally some policy priorities are identified in this Communication, where new measures may need to be introduced to guarantee the achievement of the 1995 objectives.

The Community Energy Situation

4. There have been major changes on the international energy markets in the period under review (1982 to 1986) particularly when compared with the post - 1973 period. The uncertainties created by the rapid fall in oil prices and the Chernobyl nuclear accident have affected both the international energy situation and that of the Community. These concerns have been discussed by the Energy Council on various occasions. When adopting the 1995 energy objectives, the Council was aware of these events and it was concluded that the existence of considerable uncertainty as to the long-term prospects for supply and demand made it all the more essential that the substantial progress already made in restructuring the Community's energy economy be maintained and, if necessary, reinforced.
5. At present a worldwide surplus of energy production capacity, relatively low energy prices, a weak US\$ and reduced influence of OPEC countries characterize the market situation. This relatively relaxed situation has led to reduced public and political interest in energy. For this and other reasons there has been a substantial slow down of inter fuel substitution away from oil and of energy efficiency improvements. Budget constraints have had a negative impact on most of the Member States' spending for energy efficiency programmes and thus aggravated these effects. Whereas in the period 1973/1982 energy efficiency in the Community (EUR 12) improved by 20% the corresponding figure for 1982/1986 was only about 2%. Over the review period (1982-1986) the Community, after having been in the past successful in decoupling energy from economic growth, has again more or less reached the old traditional 1:1 relationship between energy consumption and GDP growth.
6. The developments in the various energy sectors, shown in detail in the attached Table 1, are as follows:
 - Gross energy consumption in 1986 for the Community as a whole was about 8% higher than in 1982 and some 4% higher than in 1973;
 - The share of oil in gross energy consumption decreased from 63% in 1973 to 51% in 1982 and to 47% in 1986;
 - The share of net oil imports in gross energy consumption fell from 62% in 1973 to 38% in 1982 and to 33% in 1986;
 - The share of natural gas in gross energy consumption grew substantially from 1973 to 1982 (11 to 16%) and it remained more or less stable in the period 1982 to 1986 (modest increase from 16 to 17%);

- The share of solid fuels in the Community's energy balance decreased from 24% in 1982 to 22% in 1986 (1973=23%)
 - The share of hydrocarbons in electricity generation dropped from about 42% in 1973 to 24% in 1982 and to 16% in 1986. The share of solid fuels in electricity increased from 45% in 1973 to 48% in 1982 but then fell back to 42% in 1986. The nuclear share, however, increased constantly from 8% in 1973 to 21% in 1982 and to 37% in 1986.
7. From these data it can be seen that trends in some sectors have not continued in the direction laid down by the 1995 energy objectives. With regard to energy efficiency and solid fuels consumption, past positive trends up to 1982 have slowed down drastically or even been reversed. However, even with some questioning of nuclear energy by the public after the Chernobyl accident and the fall in energy prices, it would be premature to conclude that the restructuring of the Community's energy economy is in jeopardy because of persistent structural changes having occurred in the Community's energy market. The Commission therefore believes that, at present, there is no case for revising the existing energy objectives. However, from past developments, it is already obvious that, at least in two sectors, efforts need to be strengthened.
8. The latest available projections submitted by Member States for the review exercise indicate the following outlook for 1995 in terms of the Community objectives:
- Efficiency of final energy demand is unlikely to improve to such an extent that a minimum 20% improvement can be realized;
 - The share of oil in gross energy consumption should fall to about 43% and the Community's net oil imports should represent about a third of total energy consumption;
 - The share of natural gas in the Community's energy balance should be more or less maintained
 - The share of solid fuels in gross energy consumption could increase slightly;
 - The proportion of electricity generated from hydrocarbons should be below 15% and that of solid fuels and nuclear could amount to 44% and 38% respectively;
 - Renewable energies should represent about 2% of the Community's total energy balance.
9. The Commission's own latest estimates confirm in general the prospects as indicated by Member States for the market shares of the various fuels. But on solid fuels the Commission's own projections show a higher degree of uncertainty with regard to the possible increase of market share. On the basis of 1986 and 1987 data and taking into consideration errors in past projections, it seems likely that future solid fuel consumption may be overestimated by Member States. Even a decreasing market share cannot be excluded by 1995.

10. From the available projections up to 1995 it becomes clear that a comfortable degree of certainty only exists with regard to the attainment of the objectives for natural gas and hydrocarbons input for electricity generation. Although work is still continuing on the detailed medium-term implications of lower energy prices and the Chernobyl accident, the analysis undertaken during this exercise does indicate various areas of concern for the Community.

AREAS OF CONCERN

11. Although progress to date in Member States is relatively satisfactory in some areas, others are not and call for urgent attention.
- (i) ENERGY EFFICIENCY: If no new policy measures are introduced at Community and/or national level it now seems to be clear that the achievement of a minimum 20% energy efficiency improvement by 1995 will not be realized. At a time of low energy prices there are no longer the strong market signals needed to encourage energy efficiency measures and the easily achievable efficiency gains have already been realised. Final demand in all consumption sectors, but specifically in transport, could grow faster than previously anticipated. If present trends continue final energy consumption in the Community would be approximately 70-110 mtoe higher in 1995 than that required by the objective. This additional 70-110 mtoe not only corresponds to approximately 8-13 billion ECU at current oil prices, but would be a serious setback making the Community much more vulnerable to supply shortages or price rises or both.

A failure to meet the Community's energy efficiency objective would have negative effects on all the other sectoral objectives which are expressed in market shares. Even the realization of these market shares in percentage terms would mean that they were met at higher consumption levels than previously anticipated. A setback in this area of energy efficiency would also worsen the Community's international economic competitiveness, jeopardize security of supply by increasing energy import needs and hinder environmental progress.

Energy Efficiency is probably the main area where actions taken now can still significantly influence the energy situation by 1995. In the past, it has been concluded by the Council at various occasions that a considerable potential for improved efficiency of energy use remains to be exploited. As the Community is unlikely to achieve its agreed objective of improving the efficiency of final energy demand by at least 20% by 1995, more of this potential needs to be exploited by Member States and the Community as a whole.

Those Member States where improvements up to 1982 have been reversed or slowed down substantially should consider additional efforts to change these negative trends along the lines already proposed by the Commission in its Communication on a continuing Policy for energy efficiency in the European Community (COM (87) 223 final).

- (ii) OIL: The volatility of oil markets is such that reliable forecasts on medium-term developments are hardly possible. Continued close monitoring is therefore necessary. The review analysis concludes that, if the prices of other fuels remain competitive, the Community should be in a position more or less to achieve its oil consumption and oil import objectives. However a danger to the security of oil supplies continues to exist, especially if higher consumption than anticipated needs to be satisfied by growing imports from politically unstable regions. Since parts of the abovementioned possible additional energy consumption of 70-110 mtoe in 1995 would need to be covered by oil, and if comparable slow downs in energy efficiency coupled with higher oil consumption than previously expected occur in other industrialized countries outside the EEC, impacts on oil prices and oil supply could again create the danger of another oil crisis. An increase in inter-fuel flexibility would be important to reduce this vulnerability to supply interruptions.

Continuing relatively low oil prices pose two major risks for the future. From the demand side the strongest consumption increases occurred in the transport sector, where at present 40% of inland oil is consumed. Despite technological car engine improvement, the ever growing consumption trend continues. This sector is thus critical for the Community's future oil consumption and should remain a subject of special attention. From the supply side the Community's future indigenous oil production, depending to a large degree on today's exploration and development investments, is also a subject of concern. Lower oil prices have already slowed down upstream investments.

In the oil sector the already established permanent monitoring process should continue to clarify whether additional policy measures are necessary. Especially the transport sector will be a subject of intensive review and a seminar on the efficient use of energy in transport will be held in summer 1988.

- (iii) SOLID FUELS: Community solid fuels consumption is below its 1973 and 1982 levels. In the time horizon to 1995 it cannot be excluded that the market share will decrease or stagnate. Outside the power station sector the prospects for increasing solid fuels consumption are rather bad. And even in electricity generation it is highly uncertain whether solid fuels can expand sufficiently to achieve the overall 1995 objective. Nuclear continues to be a strong competitor in base load and the application of environmentally accepted technologies will increase generating costs for thermal power plants. However new technologies for solid fuels combustion and flue gas treatment will also drastically reduce emissions and, in the long run, safeguard the supply contribution from solid fuels in an environmentally acceptable manner. Past Community and Member States' efforts to stimulate consumption have (even in times of large price advantages over other fuels) not been very successful. With current low oil prices, these price advantages have already faded away to a large extent.

A coherent and balanced Community solid fuels policy still does not exist. As an increase of the market share for solid fuels up to 1995 remains very uncertain, existing instruments, like the two Community 1983 recommendations on the encouragement of investments for the utilisation of solid fuels in industry, public buildings and district heating (COM (83) 250 and COM (83) 251), should be applied more forcefully by Member States and the need for new measures to stimulate demand for solid fuels should be studied.

Member States concerned should consider to make additional efforts in order to implement fully the two 1983 recommendations. The Commission will closely monitor the progress made and make specific proposals in due course.

On the supply side, substantial restructuring of the Community coal industry continues. However falling world energy prices and a weaker US \$ have continued to worsen the competitive position of indigenous coal and have resulted in increasing State aids and other financial measures for this industry. In the future external factors like world coal prices and the development of exchange rates will continue to influence the competitive position of indigenous coal perhaps more strongly than internal restructuring. On the world coal market, production overcapacities continue to exist and abundant supplies depress prices. Indigenous production capacity in the Community is in a process of being scaled down.

The possible consequences of this for the future of the industry and for international coal prices will be analysed and discussed with Member States.

- (iv) Electricity: Due to the long lead times for investments in the electricity sector, the size and structure of electricity capacity by 1995 is to a very large extent already determined today. If electricity demand does not grow faster than foreseen by Member States, there should be no supply shortfalls in the Community before 1995. However, at that time, present surplus production capacities will most likely have been absorbed.

From the analysis of Member States' energy policies it has become obvious that decisions on new generating capacity are needed long before 1995 to avoid longer term capacity shortfalls. In this context, due regard must be given to such fundamental issues as economy, security, diversification of supply and environmental impacts. If large scale use of hydrocarbons in the electricity sector is to be avoided, nuclear energy and solid fuels are the only two options available that can respond, in the dimension required, to the expected Community electricity growth. Member States have therefore to clarify the future role of nuclear energy.

For the period up to 2010 the Commission's services will present a study on different electricity generation scenarios to identify future possible problems for fuel use, electricity costs and for the environment. It will be in the context of this study that the future capacity structure of the electric sector will be discussed in detail with Member States.

- (v) RENEWABLES: The competitive position of renewable energies has worsened vis a vis traditional energies with falling energy prices. It is now more doubtful whether these forms of energy can make a significant contribution to the Community's energy balance in 1995. Increases will probably be more modest than thought, unless steps are taken to facilitate recourse to those renewables which are already economically viable.

In October 1988 the Commission will host an international conference to discuss the situation of renewable energies (aspects of commercialisation included) and to evaluate whether additional measures need to be proposed.

- (vi) ENERGY AND ENVIRONMENT: In the past the interaction between energy and environment has received increasing attention with a substantially growing concern for environmental issues. Actions to reduce negative environmental impacts from energy production, transport and use have been undertaken by the Community and its Member States. However there is still further room for improvements.

From the energy side improvements in energy efficiency and the introduction of renewable energies have been important contributions to reduce emissions. Furthermore the Community promotes new technologies for the clean use of fossil fuels. However apart from well known issues concerning energy and environment, like clean use of solid fuels and motor vehicle emissions, new environmental challenges, like the green house effect, are facing the energy sector and further actions need to be undertaken in a coherent and comprehensive way to find balanced solutions as regards energy and environment.

The Commission will examine the case for a more comprehensive program on energy and environment.

- (vii) COMMUNITY SOLIDARITY: To put the concept of Community solidarity into practice Member States should make efforts of comparable intensity in order to achieve the Community energy objectives, so that the adequate and secure availability of energy on a satisfactory economic basis remains guaranteed. In this context the specific possibilities and constraints of each Member State need to be taken into account. The energy situation and vulnerability as well as restructuring progress made in the past by Member States differ widely.

In 1986 six Member States (IRL, DK, ESP, I, HE, P) still depend on oil for more than 50% of gross energy consumption. However it should be remembered that these Member States started with a very high level of oil dependence in 1973 ranging from 74% of oil dependence in the case of Spain to 89% in the case of Denmark. Two Member States (P, HE) are only introducing natural gas to the energy economy in the nineties and three (I, NL, P) had in 1986 a very limited share of coal consumption of about 10%. However in the case of Portugal the market share of solid fuels increased significantly between 1982 and 1986. This did not happen in the case of the Netherlands and Italy where solid fuels hardly expanded their market shares. Deteriorations in energy efficiency between 1982 and 1986 were recorded in D, NL, B and IRL. Such wide differences in the energy structure and especially in oil dependence could create problems for Community cohesion in times of supply crises.

CONCLUSION

12. The Council is invited:

- to endorse the Commission's analysis of the past and present developments in the energy sector as well the prospects for structural change up to 1995, including the areas of concern identified in para 11 above.
- to urge Member States to take immediate action on energy efficiency and the promotion of the use of coal as identified in para 11 (i) and 11 (iii).
- to agree on the areas for policy attention and future work identified in para 11 (ii) - 11 (vii).

IN MILLION TOE	1973 A	1982 A	1985 A	1986 A	1990 B	1995 B
GROSS ENERGY CONSUMPTION	1029.22	990.37	1056.29	1073.53	1121.4	1160.6
-BUNKERS	40.27	26.66	26.72	30.81	32.6	32.7
-INLAND CONSUMPTION	988.95	963.71	1029.57	1042.72	1088.8	1127.9
INLAND ENERGY CONSUMPTION	988.95	963.71	1029.57	1042.72	1088.6	1127.8
-SOLID FUELS	232.22	234.53	238.97	231.69	245.4	266.4
-OIL	606.55	482.43	462.81	474.26	473.3	468.0
-GAS	116.79	160.33	184.69	186.85	202.0	211.0
-PRIMARY ELECTRICITY ETC	33.39	86.42	143.10	149.92	168.0	182.4
INDIGENOUS PRODUCTION (1)	363.31	516.80	592.63	603.31	598.7	588.0
-HARD COAL	176.43	159.90	136.95	142.56	136.2	135.7
-LIGNITE & PEAT	28.50	36.24	35.64	33.87	41.0	41.8
-OIL	13.31	119.90	151.00	153.48	128.8	107.2
-NATURAL GAS	112.19	115.98	127.13	124.64	125.4	121.0
-NUCLEAR ENERGY	19.18	66.15	123.62	132.29	145.5	158.5
-HYDRO & GEOTHERMAL (2)	12.45	17.06	16.64	14.81	17.4	18.0
-OTHERS & RENEWABLES	1.25	1.57	1.65	1.66	4.5	5.7
NET IMPORTS (3)	669.50	476.38	456.75	479.88	522.0	572.7
-SOLID FUELS	21.45	51.22	62.36	60.52	68.3	89.0
-OIL	642.56	377.18	333.87	354.34	377.1	393.5
-NATURAL GAS	4.97	46.34	59.33	63.87	76.0	90.0
-ELECTRICITY (2)	0.52	1.64	1.19	1.15	0.6	0.2
STOCK CHANGES (4)	3.61	2.81	- 6.90	9.66	- 0.5	0.1
-SOLID FUELS	- 5.85	12.83	- 4.01	5.26	0.1	0.1
-OIL	9.08	- 12.01	- 4.66	2.74	- 0.6	
-GAS	0.38	1.99	1.77	1.66		
ELECTR. GENERATION INPUT	248.80	308.07	349.86	355.45	382.0	420.9
-SOLID FUELS (5)	111.67	147.81	145.82	148.96	160.0	185.9
-OIL	80.61	54.67	39.45	35.82	34.5	33.7
-NATURAL GAS	23.64	20.74	22.68	21.91	24.4	24.4
-NUCLEAR ENERGY	19.18	66.15	123.62	132.29	145.5	158.5
-HYDRO & GEOTHERMAL (2)	12.45	17.06	16.64	14.81	17.4	18.0
-OTHERS & RENEWABLES	1.25	1.64	1.65	1.66	0.2	0.3

MAIN INDICATORS (RELATED TO LONG TERM OBJECTIVES)

	1973 - 1963	1982 - 1973	1986 - 1982	1990 - 1986	1995 - 1990	
INLAND ENERGY ANNUAL GROWTH RATE	4.8%	- 0.3%	2.0%	1.1%	0.7%	
GDP ANNUAL GROWTH RATE	4.9%	1.8%	2.2%	2.3%	2.4%	
IMPROVEMENT IN ENERGY INTENSITY		20.0%	2.4%	4%	9%	
	1973	1982	1985	1986	1990	1995
SHARE OF OIL IN GROSS ENERGY CONSUMPTION	62.8%	51.4%	46.3%	47.0%	45.1%	43.1%
SHARE OF HYDROCARBONS IN ELECTRICITY PRODUCTION	41.9%	24.5%	17.8%	16.2%	15.4%	13.8%
SUPPLY DEPENDANCE ON IMPORTS	65.0%	48.1%	43.2%	44.7%	46.5%	49.3%

A. STATISTICAL OFFICE OF THE EUROPEAN COMMUNITIES
 B. SUBMISSIONS FROM MEMBER STATES AND BEST ESTIMATES FROM EXTERNAL SOURCES

- NOTES
1. PRODUCTION OF PRIMARY SOURCES INCLUDING RECOVERED PRODUCTS
 2. THE CONVERSION OF ELECTRICITY, INCLUDING HYDRO AND GEOTHERMAL, IS BASED ON ITS ACTUAL ENERGY CONTENT : 3600 KJ/KWH OR 860 KCAL/KWH
 3. THE (-) SIGN MEANS NET EXPORTS
 4. THE (-) SIGN MEANS A STOCK DECREASE
 5. INCLUDING COKE OVEN GAS AND BLAST FURNACE GAS (DERIVED FROM COAL)

GENERAL NOTES :
 FIGURES SUBMITTED BY MEMBER STATES HAVE BEEN ADAPTED WHERE NECESSARY TO ENSURE CONSISTENCY WITH SOEC STATISTICAL DEFINITIONS OR CONVERSION FACTORS