

# European Communities

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EUROPEAN PARLIAMENT

## Working Documents

1975-1976

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31 August 1975

DOCUMENT 200/75

### Report

drawn up on behalf of the Committee on Energy, Research and Technology

on the Communication from the Commission of the European Communities to the Council (COM(75) 1970 final) on guidelines for the electricity sector in the Community

Rapporteur: Mr J.F. PINTAT

PE 40.950/fin.



# EUROPEAN PARLIAMENT

## C O R R I G E N D U M

to the report by Mr PINTAT  
(Document 200/75)

The title on the cover page should read as follows :

'on the Communication from the Commission of the European Communities  
to the Council on guidelines for the electricity sector in the  
Community'

8.9.1975



By letter of 22 April 1975, the Committee on Energy, Research and Technology requested authorization to draw up a report on the communication from the Commission to the Council on the guidelines for the electricity sector in the Community.

Authorization was given by the President of the European Parliament in his letter of 12 May 1975.

On 12 May 1975 the Committee on Energy, Research and Technology had appointed Mr Pintat rapporteur, subject to authorization to draw up a report from the President of the European Parliament.

It considered the draft report at its meetings of 24 June and 16 July 1975 and unanimously adopted the motion for a resolution and the explanatory statement on 16 July 1975.

Present: Mr Springorum, chairman; Mr Flämig, vice-chairman; Mr Pintat, rapporteur; Mr Bersani (deputizing for Mr Andreotti), Lord Bessborough, Mr Covelli, Mr de Keersmaecker (deputizing for Mr van der Gun), Mr Ellis, Mr Hamilton, Mr Hougardy, Mr Howell (deputizing for Mr Osborn), Mr Marras (deputizing for Mr Hartog), Mr Memmel, Mr Knud Nielsen (deputizing for Mr Lautenschlager), Mr Noè, Mr Normanton, Mr Nyborg (deputizing for Mr Cointat), Mr Premoli (deputizing for Mr Krall), Mr Schwabe (deputizing for Mr Rizzi) and Mr Vandewiele.

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The Committee on Energy, Research and Technology hereby submits to the European Parliament the following motion for a resolution, together with explanatory statement:

MOTION FOR A RESOLUTION

on the communication from the Commission of the European Communities to the Council on the guidelines for the electricity sector in the Community

The European Parliament,

- having regard to the communication from the Commission to the Council (COM(74) 1970 final),
  - having regard to the report of the Committee on Energy, Research and Technology (Doc. 200/75),
  - having regard to its past resolutions on energy policy, and in particular,
    - its resolution of 13 December 1973 on urgent measures to alleviate the energy supply crisis in the Community<sup>1</sup>,
    - its resolution of 14 March 1974 on appropriate medium- and long-term measures for the further alleviation of the energy supply crisis in the Community<sup>2</sup>;
1. Welcomes the Commission's communication, which lays down guidelines for the electricity sector as part of the overall strategy in the energy field;
  2. Notes that the aim of this communication is to reduce, as far as economically possible, the Community's dependence on imported energy;
  3. Emphasizes that, while making maximum use of coal potential to attain the substitution rate, there is no alternative to massive utilization of and recourse to nuclear energy, since electricity production from nuclear sources is definitely cheaper than that from other available sources;
  4. Calls on the Commission to examine whether it might become necessary to take measures to bring about a disproportionate increase in power consumption;

<sup>1</sup> OJ No. C 2, 9.1.1974, p.46

<sup>2</sup> OJ No. C 40, 8.4.1974, p.55

5. Believes that long-term considerations regarding cost and price of electricity require the development of new and large production units, in particular nuclear power stations; hopes in this context that industrial enterprises which produce their own energy can also participate in the construction and running of nuclear power stations, obtaining from them either electricity or steam for their energy needs;
6. Considers that a comprehensive and objective public information programme on nuclear energy is called for and would like to see an initiative of this kind taken at Community level;
7. Considers that nuclear power stations of approximately 1,000-1,500 MWe produce electricity at the lowest cost and that, with a growing annual utilization rate, the profitability of these power stations would increase rapidly;
8. Considers it necessary, moreover, to make use of the possibilities afforded under the Treaties to encourage recourse to nuclear energy, and in particular to promote action on the part of European financial and investment bodies capable of :
  - facilitating the financing of the higher investment levels called for by nuclear plant compared with conventional equipment,
  - facilitating the financing of equipment, particularly in the electricity transmission sector, the availability of which will facilitate the integration of nuclear power stations of extremely high power into the networks,
  - helping, through favourable export credit conditions, which comply with the general guidelines of the Community as far as competition policy is concerned, the European equipment industry to increase its exports;
9. Considers, having regard to the real costs of nuclear power stations, that electricity should be sold at a price which will achieve the margin of self-finance that is indispensable;
10. Considers that, in view of the rising cost of energy, certain power stations should be built to produce, apart from electricity, heat for remote heating systems or process heat for industrial use;
11. Considers that if, as is desirable, the electro-nuclear equipment market is to be opened up, it will be essential to put into effect the proposals made for the electricity sector with a view to eliminating certain obstacles relating mainly to the criteria and norms governing the design, construction and operation of nuclear power stations. Since these



criteria and norms affect safety at work, public health and respect for the environment, they should be similar in all Member States. Believes that, in the best interests of consumers, the Community rules for public tendering should be strictly observed;

12. Considers that, since it is here a question not of forecasts, and even less of directives, but of guidelines, the Community as a whole should adopt a voluntarist code of conduct and arrange for means of substitution in the electricity production sector;
13. Hopes, in view of the importance of the problem, that the Commission of the European Communities intends, in future, to consult the European Parliament regularly;
14. Approves the communication from the Commission to the Council subject to up-dating of the figures given;
15. Instructs its President to forward this resolution and the report of its committee to the Council and Commission of the European Communities.

EXPLANATORY STATEMENTI. INTRODUCTION

1. Annexed to the communication from the Commission to the Council entitled 'Towards a new energy policy strategy for the European Community', are, inter alia, two directives limiting the utilization of natural gas and petroleum products in power stations.

2. One of the proposed directives annexed to the communication lays down, in fact, that the conclusion of new delivery contracts for natural gas to power stations shall be subject to a system of prior authorization by the Member States. The latter will thus be able to ensure that natural gas is put to the best possible use. This authorization may only be given for contracts which are interruptible and (a) if the use of natural gas in power stations is necessary for economic or technical reasons, (b) if it cannot be put to a more profitable use or (c) if special reasons for the protection of the environment require its use.

3. Moreover, under the provisions of the other proposed directive, Member States shall be required to give prior authorization for the construction of new power stations designed to run on liquid fuels.

4. This authorization can only be granted in certain cases: if the power station is a stand-by installation with a small capacity, if the petroleum products serve only to ignite and maintain the combustion of other products, if their total energy output remains small, if the fuel is a residual product that cannot be put to better use elsewhere, or, finally, if the use of other fuels cannot be considered for economic or technical reasons.

5. If they grant an authorization on these grounds, the Member States must check the possibility of equipping the power station for dual-firing with a substitute fuel and could possibly make this a condition for authorization. The Commission shall be regularly informed of authorizations granted and the reasons justifying them.

6. Still within the framework of its new energy policy strategy, the Commission recommends a rapid expansion of nuclear power stations and a limitation of the use of hydrocarbons in traditional power stations.

7. The table below, which gives a breakdown according to type of fuel used by thermal power stations in the Member States, published by the Commission in reply to Written Question No. 473/74 by Mr Hougardy, indicated that the greatest number of power stations which can operate on coal are to be found in Germany, Great Britain and Denmark - particularly the latter two.

8. In its reply to Mr Hougardy, the Commission states that 'at present, 75% of the Community's conventional thermal power stations are fired by one fuel only: coal, lignite, petroleum products or gas'. Other conventional thermal power stations have multi-purpose equipment permitting operation on two or even three fuels.

9. The table below shows the number of power stations generating for public supply which can operate on coal and petroleum products. Since some power stations are dual-fired, the figures for a given country must not be combined.

Conventional thermal power stations generating for public supply

Position at 1 January 1974	Fired by		Output capacity		Share of total thermal capacity	
	Coal	Petroleum products	Coal	Petroleum products	Coal	Petroleum products
			MW		%	
Germany	336	457	17,300	12,663	47	35
France	47	115	7,232	13,191	42	71
Italy	42	283	7,431	15,699	47	99
Netherlands	36	133	2,191	8,179	21	79
Belgium	37	89	1,994	4,479	36	80
Luxembourg	-	-	-	-	-	-
United Kingdom	544	229	47,115	16,172	77	26
Ireland	4	26	101	1,111	7	76
Denmark	53	46	2,526	4,521	48	86
Community	1,099	1,378	85,890	76,015	56	49

10. Replying to a question by Mr Hougardy (No. 499/74) on the price of electricity per kilowatt-hour, the Commission pointed out the great difficulties involved in drawing up a valid comparison of different prices for domestic and industrial consumption.

11. However, 'electricity users are generally paying prices which, even under identical tariffs governing their supply, differ widely according to certain characteristics of their usage (e.g. power demand, utilization factor, off-peak part of demand, tension of supply)'. Comparison of per-unit prices is complicated still further by the fact that each price indication is valid only for one given pattern of consumption.

12. In its resolution of 13 December 1973 on urgent essential measures to alleviate the energy supply crisis in the Community, the European Parliament asked, in paragraph 8(c), that coal-fired thermal stations which, in the European Community, operate at present almost exclusively to meet peak demand, should change over immediately to meet medium or basic demand. In this way, it would be possible to reduce the number of operating hours of power stations fuelled by oil.

13. Similarly, the resolution of 14 March 1974 called for power stations fuelled by natural gas to be converted to enable them to use coal during the winter. In the same resolution, Parliament called for the improvement of the network for energy transport, and a systematic search for locations in the Community suitable, in the light of present price trends, for the construction of hydro-electric power stations. The resolution also called for the generation of electricity by nuclear reactors in as large quantities as possible without harm to the environment, to be used in conjunction with that generated by coal-fired power plants, whose number should be increased as far as possible. Finally, it called for the adaptation of the transport policy to the structural change in the energy sector.

14. Over the past few years, the growth in the demand for electricity has in total surpassed that for all other types of energy. One of the main reasons for this demand is the public's growing confidence in electricity as a relatively secure form of energy. The question is often asked these days whether this development is likely to lead to an 'all-electric' economy which would in the main be based on coal and nuclear energy, i.e. the two energy resources whose main use is electricity production.

15. The rising costs of energy are an incentive to the construction of an increasing number of power stations which combine the production of heat with that of electricity; this heat can be used either for industrial purposes or to provide urban heating in high density residential areas.

16. Finally, it should be noted that the substitution of electricity for petroleum, whether in the industrial sector or in the domestic/commercial sector, would not necessarily result, at the moment, in a net reduction of petroleum imports and could possibly have the opposite result.

17. Any policy aimed at encouraging the growth of demand in a particular energy sector which depends entirely on electricity production (the heating of premises, for example) must take account of the degree of availability in the long term of energy resources, other than petroleum, from which it is possible to produce electricity.

## II. THE ROLE AND CHOICE OF FUELS FOR THE PRODUCTION OF ELECTRICITY

18. In the United States today, electricity accounts for 25% of total energy consumption; in Europe the percentage is slightly lower. In future, and particularly after the year 2000, this share will grow rapidly.

19. All new energy sources planned for the end of the century will mainly produce electricity: thermo-nuclear fusion, solar energy.

20. But these two sources of energy are very different. On the one hand, thermo-nuclear fusion requires, like thermal or nuclear power stations, a non-recyclable, although very abundant, fuel. On the other hand, solar energy, like geothermic or tidal energy, is renewable, permanently available, but difficult to concentrate.

21. No one can say today with any certainty when it will first be possible to put one or other of these sources of energy into use. For twenty years, technicians have been trying to solve the problems of controlled fusion - to bring about the fusion of atoms of matter to produce heat, in contrast to the fission reactor, in which atoms are split. Although so far without success, there does now seem to be some hope.

22. At present, power stations fuelled by geothermic energy play a relatively minor part in the Community countries. However, certain regions possess considerable geothermic potential; but to make use of it would require the setting up of a very large number of small units widely dispersed. Dispersion of this kind would give rise to delicate ecological problems.

23. Despite these difficulties, it is apparent from the forecasts drawn up that, under the pressure of rising petroleum prices, total electric power of geothermic origin could, by 1985, considerably exceed initial estimates.

24. It will certainly be possible to utilize solar energy more rapidly. But it is so dispersed that to collect it requires immense surfaces, and techniques in use today to transform it into electricity give a very low yield, which makes it very expensive. It is thus likely that its main utilization in the future will be above all in tropical or equatorial countries for the production of heat and subsequently perhaps for the production of localized electricity close to each town or village. The utilization of solar energy will certainly remain localized.

25. The use of natural gas to fuel large power stations has given rise to some controversy. Natural gas does, in fact, appear to offer several advantages: in the first place, it is a relatively 'clean' fuel and virtually non-pollutant. In the second place, it lends itself to notably efficient and economic utilization, particularly in power stations equipped with gas turbines, which require only a small capital investment and enable peak consumption to be satisfied.

26. By judiciously programming electricity production from natural gas, it is also possible largely to avoid seasonal peaks in demand in an extended distribution network for natural gas.

27. The contribution of this primary energy source to total electricity production in Europe could reach 10%. These forecasts are based on the hypothesis that market mechanisms would operate freely and that public authorities would not take any measures to restrict the utilization of natural gas for the production of electricity. However, in the new energy situation, it is very possible that measures of this kind will be taken, natural gas being a pure and valuable chemical raw material.

28. Given the constraints which limit the growth of hydro-electric and nuclear energy and the need to keep in check the utilization of natural gas in power stations, coal remains the only primary fuel available which can be counted upon to replace petroleum in the new power stations scheduled to come into operation between now and 1985.

29. The constraints on using coal as a substitute for petroleum in power stations will probably not be connected with any lack of coal. They are more likely to result from the following factors:

- (a) the difficulty in converting existing power stations or those under construction to coal;
- (b) restrictions regarding atmospheric pollution;
- (c) time needed to develop new 'clean' firing techniques;
- (d) the size of additional investments required for the transport and stockpiling of coal.

30. During the last quarter of a century, the trend towards replacing coal furnaces by oil furnaces in the design of power stations has resulted in a tendency to design power stations on the basis of a single fuel, with a view to minimizing investment costs. These economies have clearly been made at the expense of versatility in use and only very few electricity-producing firms have considered it worth the trouble of taking into account the strategic advantages of the possible use of two fuels and consequently being able to benefit from variations in fuel supply and price.

31. In Europe, power stations capable of burning coal still contribute approximately one-third of total thermic production capacity (except in Belgium, where they make a much greater contribution) and their number is unlikely to vary much in the immediate future.

32. However, if coal is to play, in 1980 and 1985, the role planned for it in the production of electricity, it is essential that construction start immediately on new coal-fired power stations.

33. Essential decisions will have to be taken as regards the location of these new power stations in relation to national sources of coal or sources of imported coal; in other words, it will be necessary to know whether priority should be given to the transport of coal and its derivatives or to the transport of the electricity produced.

Net consumption of electricity

in thousands of million KWH

	Europe of the Nine	Germany	France	Italy	Nether- lands
1972	903.3	266.6	157.5	127.9	45.8
1973	973.6	288.2	171.3	137.7	48.9
1974	992.7	297.0	179.7	143.0	91.3
Variations					
1973/72	+ 7.8%	+ 8.1%	+ 8.8%	+ 7.6%	+ 6.8%
1974/73	+ 2 %	+ 3.0%	+ 4.9%	+ 3.9%	+ 5 %
	Belgium	Luxembourg	United Kingdom	Ireland	Denmark
1972	34.6	2.83	244.6	6.5	17.1
1973	37.7	3.05	262.0	7.0	17.8
1974	39.7	3.53	253.6	7.3	17.6
Variations					
1973/72	+ 9.1%	+ 8 %	+ 7.1%	+ 7.8%	+ 4 %
1974/73	+ 5.3%	+15.4%	- 3.2%	+ 2.9%	- 1.3%

34. 1974 witnessed a definite slowing down in the rate of increase of electricity demand. Net consumption (including losses) reached a level of 993 thousand million KWH, an increase of only 2% on the 1973 figure.

35. This is the lowest rate of increase recorded over the last 25 years. This distinct slackening in demand can largely be explained by the effect of the energy crisis which, for the industrial sector taken as a whole, resulted in a stagnation of activity and, towards the end of the year, even a decline.

36. Increase in consumption by private households and the tertiary sector was held back voluntarily, and this effort was helped by favourable climatic conditions.

Total net production

in thousands of million KWH

Europe of the Nine	Total	Production by energy source			
		hydraulic	geothermal	nuclear	conventional thermal
1973	973.0	108.4	2.3	53.4	808.9
1974	991.0	120.4	2.3	61.0	808.2
Variations 1974/1973	+ 1.9%	+ 11.1%	+ 1%	+ 14.1%	- 0.1%
Percentage of the total					
1973	100%	11.1%	0.2%	5.5%	83.2%
1974	100%	12.1%	0.2%	6.2%	81.5%
Europe of the Nine	Output by main countries				
	Germany	France	Italy	United Kingdom	
1973	280.1	174.5	139.1	262.8	
1974	293.5	180.3	142.9	254.4	
Variations 1974/1973	+ 4.8%	+ 3.3%	+ 2.7%	- 3.2%	
Percentage of total					
1973	28.8%	17.9%	14.3%	27.0%	
1974	29.6%	18.2%	14.4%	25.6%	

(Source : Eurostat Note rapide 3-1975)



37. As regards production, 1974 was characterized by fairly normal hydroelectric conditions, these being distinctly better than those experienced over the past few years. Hydraulic production thus showed an increase of more than 11% over 1973.

38. Nuclear energy in the Community showed a satisfactory rate of increase of 14% against only 11% the previous year. Prominent among the new installations entering service was the Biblis power station in Germany, at present the most powerful in the world with an installed output of more than 1,200 MW. However, the level of nuclear production is still relatively low and still accounts for only 6% of total EEC production.

39. Because of the very slow rate of increase in demand for electricity, conventional thermal power stations did not increase their production. As a result the contribution of these stations to Community requirements was less than in 1973, 81.5% for the previous year. Taking account of the improvement in thermal output, a slight fall in total fuel consumption by power stations can be expected for 1974.

### III. RESTRUCTURING OF FUEL UTILIZATION BY POWER STATIONS IN THE COMMUNITY

40. Since the beginning of the oil crisis, the consumption of petroleum products by thermal power stations in the Community has decreased slightly both in relative and in absolute value.

41. This reduction has come about mainly thanks to an increase in the consumption of natural gas, fuel which the governments have undertaken to restrict in future to different uses.

42. In fact, while thermal power stations in 1973 consumed petroleum products totalling 105,606,000 tonnes of coal equivalent (TCE), or 35.9% of total primary energy consumption, this share dropped in 1974 to 33.7% (99,730,000 TCE) and, this year, it is expected that it will not amount to more than 32.5% with, however, a slight increase in absolute value (102,215,000 TCE).

43. The table below shows, in millions of tonnes, fuel consumption of Community thermal stations and the percentage of requirements met by fuel category:

	1973		1974		1975	
	m.TCE	%	m.TCE	%	m.TCE	%
Coal	112.592	38.2	108.526	36.7	117.156	37.3
Lignite	29.868	10.1	32.205	10.9	34.095	10.8
Petroleum products	105.606	35.9	99.730	33.7	102.215	32.5
Natural gas	33.594	11.4	41.835	14.1	46.695	14.8
Other products	12.839	4.4	13.450	4.6	14.360	4.6
Total	294.499	100	295.746	100	314.521	100

44. Coal was also able to increase its share at the expense of petroleum products. But a three year period is too short to be a guide to medium-term development. This is particularly true since 1974 was a particularly unusual year from the point of view of fuel supply and as regards national utilization and the clemency of the weather.

45. In Germany, coal consumption shows a light drop (33.4% in 1975 compared with 36.6% in 1974 and 38.2% in 1973) at a time when greater use is being made of lignite (31% in 1975 compared with 20.3% in 1974 and 29.5% in 1973) and, in particular natural gas, during the three-year period under consideration.

46. In the United Kingdom, the utilization of coal in power stations, which amounted to a total of 66.5 million tonnes of coal equivalent, was 4 million tonnes greater in 1975 than in 1973.

47. Some increase in coal consumption is expected in France and, to a greater extent, in Belgium, where the share of coal in total energy consumption should reach the target of 30%.

48. There is no significant change in coal consumption in the other countries. As regards hydrocarbons (petroleum products and natural gas), the table below shows the development, during the three years 1973-1974-1975, of the share of these two fuels in total primary energy consumption by thermal power stations in the various Member States:

Country	Petroleum products			Natural gas		
	1973	1974	1975	1973	1974	1975
Belgium	51.7%	41.3%	35.5%	23.7%	29.9%	29.9%
Denmark	61.4%	63.6%	63.8%	-	-	-
Germany	14.7%	11.6%	10.9%	11.9%	15.7%	18.9%
France	58.5%	56.9%	57.9%	7.9%	7.7%	5.8%
Ireland	65.5%	66.2%	66.1%	-	-	-
Italy	87.4%	85.9%	85.5%	4.6%	4.5%	6.4%
Luxembourg	25.2%	20.7%	18.0%	9.3%	15.3%	18.0%
Netherlands	13.6%	14.0%	14.4%	79.6%	80.3%	81.5%
United Kingdom	29.3%	27.9%	25.0%	1.5%	4.8%	4.3%
Community	35.9%	33.7%	32.5%	11.4%	14.0%	14.8%

#### IV. NEED TO DEVELOP NUCLEAR ENERGY PRODUCTION

49. Electricity is a particularly 'clean' source of energy and extremely flexible in use. To make the best use of these considerable advantages, it will be necessary, in the development plans to take account of economic factors and effects on the environment.

50. In this respect nuclear energy is a particularly favourable option, in a good position to take over from conventional forms of electricity production.

51. Nuclear energy is destined to expand considerably. The number of nuclear power stations at present under construction or on order indicates that this energy source has come to occupy an increasingly dominant position in the Community energy league.

52. Nuclear energy in the Community failed to get off to the start anticipated for it during the early 60's. This was due primarily to the continuation of relatively low hydrocarbon prices which made electricity producers hesitate in making a decisive commitment to nuclear power.

53. The additional investment costs resulting from the technical and economic characteristics of nuclear equipment constituted a second brake.

54. Finally, the inevitable technical difficulties encountered by any innovation still affect the reliability of nuclear power stations. Their integration within the electricity networks entails, moreover, particular difficulties.

55. However, experience in the United States has shown that, when the cost relationship between nuclear power and conventional thermal electricity warrants it, nuclear plant can be expanded rapidly as long as the industrial infrastructure is available.

56. Nuclear energy will reduce Community dependence on imports of fossil fuels and in particular petroleum. It therefore represents not only an element of diversification capable of improving the security of our energy supplies: it is also in a position to exert pressure on the prices of competing forms of energy thanks to the fact that, now and in the future it will represent the cheapest energy source for producing electricity.

57. Already today nuclear energy makes it possible to produce electricity at lower cost than a conventional thermal power station operating under comparable conditions.

58. But, unlike electricity obtained from fossil fuels, the cost of investment represents a major financial burden. In the longer term, experience gained by European manufacturers should lead to a relative fall in production costs, but this, to be significant, will require greater standardization of the types offered to electricity producers, as well as large orders for each of these models, since the benefits of mass production become more pronounced the larger the market. It is therefore easy to understand why most European countries have chosen the light-water reactor system and enriched uranium.

59. Nuclear energy has definitely become competitive as a primary energy source as a result of the increased cost of fossil fuels.

60. European industry must therefore be able to guarantee the construction, under favourable conditions, of reactors and all stages of the fuel cycle. But at the moment the nuclear industrial sector consists of too many firms with virtually no links between them. Their profitability is at risk and they depend in part on American light-water reactor technology.

61. In view of the anticipated size of the nuclear market, Community industry will have to be made competitive to enable it to meet the demand by building up its own technology and developing advanced reactor families.

62. The electricity producers and, to the extent that they are concerned the governments, are determined to ensure the most rapid development of nuclear energy possible.

63. One of the obstacles to this development is the extra costs of electro-nuclear plant compared with conventional equipment. Public authorities must therefore give temporary financing assistance. This will be gradually reduced with the progressive improvement in the reliability of nuclear power stations and as the effects of a degree of standardization of equipment are felt.

64. It can reasonably be assumed that future increases in the price of nuclear energy will stay below those for other types of energy, since the price of the fuel accounts for only a small part of the total cost price for atomic energy.

65. Moreover, the production of nuclear power offers considerable advantages at the environmental level. The absence of sulphurous smoke, a reduction of the areas occupied by factories and arrangements for transport and fuel storage are some of the advantages which favour nuclear power stations and make them preferable to power stations using fossil fuels.

66. Despite all these advantages, nuclear energy remains subject to a number of uncertainties which underline the need for prudence when estimating the rate at which it will be possible to implement its potential.

67. First, nuclear energy is a sector with high capital requirements and related difficulties.

68. Second, present known deposits of uranium in the lowest price bracket are totally committed until 1980. It will thus be necessary to gradually increase the price of uranium to encourage prospecting with a view to preventing long-term interruptions in supply.

69. Moreover, the effect which factors relating to safety and control will have in the future, as also the weight of public opinion, are further elements which may play an important part in determining the rate of progress of nuclear energy programmes.

70. The construction of nuclear power stations requires sizable financial investment which must be redeemable over long periods of utilization. Decisions to build nuclear power stations are therefore linked to medium- and long-term energy prospects. The options connected with the Community energy policy will therefore have a considerable influence on the future of nuclear energy in the countries of the Community.

71. It is, however, clear that the possibilities afforded by nuclear energy during the years to come must play a decisive role in the establishment of a Community energy policy. It is enough in this connection to point to the decisive influence which the production of cheap electricity by nuclear power stations will have on the development of prices of competing primary energy sources and in particular on the cost of petroleum.

#### V. CONCLUSIONS

72. The Committee on Energy, Research and Technology is in fundamental agreement with the Commission's proposal to produce electricity from indigenous energy and nuclear sources.

73. However, since electricity requirements cannot be provided entirely from indigenous energy, priority must be given to speeding up the development of nuclear energy.

74. The Committee on Energy, Research and Technology warns against the temptation to place temporary restrictions on the consumption of electricity on the grounds that this consumption is based at the moment mainly on products such as fuel oil, which we are at present trying to save.

75. Since energy production develops extremely slowly, it is essential that we adopt long-term positions now, in other words electricity consumption should not be cut back at all but, on the contrary, efforts should be made to increase it: provision must be made today

if we are to be in a position to consume tomorrow. This is particularly true in the case of electric heating, which at present may be considered wasteful of energy. However, when atomic energy starts to become available, we must be ready to use it, and the process of preparation should start now.

76. As regards the profitability of future energy supplies, it is absolutely essential that we make the best use of existing installations with a view to a rational solution in the field of electricity production.

77. In the case of electricity it is absolutely essential, as in other energy sectors, to obtain adequate financial resources and an acceptable share of self-financing - particularly at a time when large sums are being committed to nuclear development. Electricity undertakings should be able to fix tariffs and adopt a price policy to assure them of the revenue necessary for their expansion.

78. It goes without saying that too great a dependence on energy imports constitutes a danger for national security and for monetary stability and balance of payments. Energy supplies are a major problem throughout the world.

79. It is, however, essential not to lose sight of what is at stake, the rewards of success and the penalties of failure never having before been so great. It is therefore up to each country to give the greatest and most urgent priority to the optimal development of its own energy resources, including, above all, nuclear energy.

80. Expansion of electricity will undoubtedly continue at a relatively fast rate despite the emergence of new problems:

- the search for construction sites and cooling facilities suitable for the new power stations,
- problems connected with the protection of public health (safety, waste),
- competition for capital which is being sought also by other energy resource projects (offshore oil and other new forms of energy, the development of which is becoming increasingly expensive).

81. It should be noted that the guidelines for electricity research were brought to the attention of the Council of Ministers on 13 February of this year and accepted in principle. We therefore note with regret that the European Parliament has before it a motion for a resolution which has lost its purpose.

82. We hope furthermore that the Commission, between now and the end of the year, will make alterations, particularly as regards the statistics. In view of present information from producers and consumers, the figures will have to be corrected and adapted to latest developments, because those given by the Commission are no longer valid and require bringing up to date.

83. At present an atmosphere strongly opposed to nuclear energy is gaining ground. Arguments which may be put forward on national level are often suspect and tainted by political prejudice. We would all greatly appreciate the adoption by the Commission, at European level, of a position supporting nuclear energy, which would be seen to bear the stamp of objectivity. A public relations campaign at European level would have greater chances of acceptance in each of our countries than a purely national campaign, which would inevitably be suspect.

84. The goal of realistic prices in the energy field and particularly in the electricity sector must be pursued because without realistic prices there is a risk of distortion and selective usage. It is extremely difficult to talk of an energy policy or the development of electricity consumption so long as prices bear no relation to costs.

85. In conclusion, we would re-emphasize the problem of the importance of realistic prices: it is quite essential that electricity should be sold at cost price, both now and even more so in what promises to be a bright future for this form of energy.

86. Finally, we would emphasize that the aim of these guidelines is to set out targets to be achieved in the framework of a voluntary policy. In our opinion there is no point in adopting the attitude of a bystander making forecasts on the development of this sector.



87. However, this report seems to provide us more with guidelines than with details of coordination and specific targets. It clearly does not go into the aspect of possible binding measures at all.

88. There is, moreover, under these conditions, a risk of fixing over-precise figures both for total electricity consumption and for the contribution made by the various different types of production.

89. The proof of this is that the Commission has already recognized the need to adjust and modify the figures contained in this report.

90. This feeling of uncertainty is underlined by the differences that appear to exist between the overall objectives of the Community as a whole and those put forward in certain national programmes.

91. We must therefore, in these circumstances, consider alternative solutions in case the targets set are not achieved.

92. However, in our opinion the objectives in the electricity sector still need to be more precisely defined and finalized. The Commission has not yet been able to provide us with those details, but we hope to have them when the communication now before us is brought up to date.

93. With this reservation, we approve of the role assigned to electricity in the new energy policy strategy and the guidelines for energy policy in the electricity sector.

