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WORKING PAPER OF THE COMMISSION

ON

SECURITY OF SUPPLY,
THE INTERNAL ENERGY MARKET
AND ENERGY POLICY

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Introduction

1. The programme of the Commission for 1990 (point 120) states that "the central objective of Community energy policy is the same as it always has been: to guarantee security of supply under conditions which will enhance competitiveness and prosperity. A new approach will be needed if the internal market in energy is to be achieved".
2. In its working document on the internal energy market (COM(88)238), the Commission acknowledged (in paragraph 16) that it would make a positive contribution to our security of supply. "A more integrated energy market is a significant additional factor as regards the security of supply for all Member States. Greater interconnection of equipment would make it possible to increase both the solidarity between Member States and the flexibility of the industry. It would therefore increase the emergency resources available in the event of a crisis and create the possibility of additional trading".
3. The aims of this document are thus clearly set out within a well-defined discussion framework. It will seek to establish how security of supply has been guaranteed up to now by the individual Member States within their own borders and how their national measures

are to be either replaced by Community measures or structured in such a way as to avoid impeding the free movement of goods or creating distortions of competition within the internal energy market. The next step will be to determine how these measures can contribute to the elaboration of a new common energy policy. The present document provides a first reflection on this subject.

The Community's dependence on external energy supplies

4. The two main dangers in relation to security of supply are a high level of dependence on external sources and/or the preponderance of a single source in the overall energy balance.

Trends in Community energy supply

	<u>1973</u>	<u>1979</u>	<u>1986</u>	<u>1989</u>
Breakdown of gross consumption as a % of total				
Coal	19.8	18.5	18.2	17.5
Lignite	2.7	3.0	3.3	3.1
Oil	62.7	57.0	47.0	45.8
Natural gas	11.3	15.9	17.4	17.9
Nuclear energy	1.9	3.1	12.3	14.2
Renewable energy sources	1.6	2.5	1.8	1.5
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Total in Mtoe	1030.0	1091.2	1074.0	1111.5
Net imports as a % of total	65.0	57.0	44.6	48.7
Percentage of net imports accounted for by oil	62.4	50.0	32.9	35.7
by OPEC oil	59.0	45.0	22.8	24.4

The Community's net dependence on outside sources for its energy supply in 1989 was slightly up on past years, at 49%. This represents a major reversal of the previous trend, since dependence had been steadily dropping since 1973. An examination of the Community's energy balance shows also that oil is still the main source of supply, covering 40% of energy needs in 1989. Two-thirds of the Community's oil imports came from the OPEC countries. Given that the Community currently depends on external sources for nearly 50% of its energy supply, this is an area which is by no means without risk for the future. For certain Member States the situation is even more problematic. A table in annex 1 shows the situation for each country, with levels of dependence ranging from almost 100% in the case of Luxembourg to almost self-sufficiency for the United Kingdom.

Reasons for remaining vigilant

5. This new upward trend in the Community's dependence on imported energy, fits in with the general trend observed in all industrialised countries, where oil consumption and imports have risen steadily in recent years. The strong economic growth which is forecast for the OECD countries in the years ahead will further accentuate the growth in demand for oil. At a time when oil production by non-OPEC countries - especially the USA - is declining, future increase in demand will have to be met by an increase in imports from OPEC.
6. This trend is likely to continue in the medium term; at the same time the share of OPEC's production capacity accounted for by the Gulf States will grow.

OPEC's actual oil production in 1989 was approximately 85% of its capacity. This high capacity utilization rate calls to mind the situation during the second oil crisis in 1979.

7. Apart from the risk involved in increase dependence on OPEC, the possible effects of instability in the Middle East and elsewhere should be considered. Following the Iran-Iraq war, continued tension in the Middle East, arising, for example, from the persistent conflict between

Israel and a number of Arab states and from the war in Lebanon, gives grounds for concern. Political instability in the Middle East may have an adverse effect on markets and prices, even without an interruption in supplies.

8. Even if these conflict can be contained, there may be renewed pressures from other sources on the supply of hydrocarbons. If the developing countries and the countries of central and eastern Europe succeed in achieving higher growth rates, pressure on the international oil and natural gas market will increase. Demand for natural gas will also increase as a result of concern about environmental protection.

From the beginning of 1991, the countries of central and eastern Europe will be required to pay world prices in convertible currency for energy imports from the Soviet Union. For its part, the USSR, which is already experiencing supply bottlenecks, may not be able or willing to maintain deliveries to customers in central and eastern Europe. It may seek to reorient exports towards the convertible currency area in order to generate funds needed for increased imports of sophisticated products from industrialised countries. These shifts in the energy market should be taken into account in assessing the supply situation facing the Community in the coming years and will be an element in the analysis of possible forms of assistance to the Soviet Union which the Commission is making, further to the request of the European Council at its meeting of 25 and 26 June in Dublin. Added to these factors is the prevailing uncertainty as to the future of nuclear energy and the future use of coal because of very different environmental constraints.

The new situation created by the internal energy market

9. The realisation of the internal energy market will lead to the progressive removal of obstacles to the free circulation of energy products in the Community. By removing these obstacles it will allow more efficient exploitation of the Community's energy resources. This will help to reduce the Community's reliance on external resources of energy. The removal of internal barriers to trade and of the distortions caused by individual aid regimes and the granting of

exclusive rights will increase the integration of the energy market and make it easier for every Member State to benefit from the Community's collective resources. Those Member States with little or no energy resources of their own will be able to place greater reliance on access to Community resources when necessary.

10. Just as the internal market is essential for improving Community security of supply, energy is also essential for the completion of a successful internal market. The gains have been estimated as high as 0.5% of Community GNP. The efficient allocation of energy supplies is not only necessary for the competitiveness of Community industry as a whole. It is a key requirement if industries are to be able to compete fairly within an internal market with access to energy resources on the same basis as their competitors. This also implies that production and transport/distribution infrastructures are sufficiently developed and that they are interconnected in the whole of the Community, particularly taking account of the delay in developing and equipping the least favoured areas of the Community (REGEN).
11. The liberalisation of the Community energy market will improve security of supply but decisions based on commercial criteria alone may need to be supplemented for strategic reasons to obtain an acceptable security of supply at Community level.

In the context of the creation of an internal market for energy public intervention, through state aids, long term supply agreements etc, must be compatible with Community objectives since policies designed to suit a national context will often produce contradictory effects at Community level e.g. the level of protection of a national source can be so high as to effectively eliminate any possibility of trade in energy products between Member States. This situation occurs with regard to certain forms of energy in several Member States. The internal market in energy will be brought about progressively, moving from the present situation of national policy making according to national objectives through Community co-ordination and control of national policy to the operation of a common energy policy.

The concept of security of supply

12. Security of supply means the ability to ensure that future essential energy needs can be met, both by means of adequate domestic resources worked under economically acceptable conditions or maintained as strategic reserves, and by calling on accessible and stable external sources supplemented, where appropriate, by strategic stocks.

13. In cases where market forces alone cannot guarantee adequate security of supply, the public authorities tend to intervene in the form of State aid, fiscal or parafiscal measures or supplementary administrative provisions. As a result, achieving security of supply can lead to the adoption of measures which, in certain circumstances, may cause distortion of competition, or restrictions to the free movement of goods. It is moreover on this last aspect that the Court made its decision in the judgement "Campus Oil Limited" on 10.07.84.

In this case 72/83, examining the question whether a national regulation requiring all importers to cover a certain proportion of their oil product needs from a refinery situated in its territory constituted a measure equivalent to a quantitative restriction, the Court specified the extent of exceptions foreseen in Article 36 of the Treaty, having evaluated the proportionality of the measures taken in relation to maintaining the supply of oil products.

14. The differing energy situations in the various Member States, the specific sensitivities of national public opinion and the different situations affecting public sector budgets lie at the root of the many different measures that can give rise to distortions of competition. These measures are currently being analysed in detail.

15. The framing and implementation of vigorous national policies designed to ensure more rational and efficient use of energy is also a key factor in reducing the pressures liable to affect Community supplies.

Action taken by the Community

16. The successive oil crises we have experienced, from Egypt's nationalization of the Suez canal in 1956 up to the Iranian crisis of 1979, have gradually led the Community to take a series of measures aimed at guaranteeing its security of supply more effectively. These measures are essentially of two types: those designed to coordinate action taken at national level and those which have led to the definition of new common approaches, especially in the context of foreign trade policy or in research and technological development.
17. As regards the coordination of measures taken at national level, the Community has implemented a policy requiring the maintenance of emergency stocks of oil and petroleum products equivalent to three months' consumption. It has also drawn up rules providing for the coordination of national policies in the event of a crisis: reduction of demand, drawing on stocks, export licences, Community solidarity, etc. Power stations are also required to hold stocks of coal and petroleum products equivalent to 30 days' consumption.
18. As regards the new common approaches, the Community has encouraged the diversification of supply, a lessening of dependence on imported oil, more efficient use of energy and the development of domestic resources that can be exploited economically. The Community has also developed a specific R&TD programme devoted to energy (Joule) and a demonstration and technological innovation programme (Thermie). Furthermore, the Commission has initiated a systematic policy of technical contacts with OPEC and OAPEC. The improvement in mutual understanding brought about by these contacts has paved the way for the signing of a cooperation agreement between the GOC and the EEC. New negotiations currently under way will doubtless lead to the conclusion of a free trade agreement between the two areas.

Developments due to market trends

19. It was the movement of the market during the successive oil crises of 1973 and 1979 that created the conditions for change. First, the energy industry was obliged to improve its own efficiency. As a result, the development of new fields in the North Sea now costs between 20 and 25% less than in the 1970s. The oil-producing countries decided to promote once again the vertical integration of the oil sector through joint ventures, resuming again the granting of licences to Western oil companies or setting up distribution networks in the industrialized countries. This development further enhances the geopolitical importance of the hydrocarbons sector.

20. The planned development of the Sleipner and Troll gas fields and the piping of the gas produced to the Community between now and the end of the century will further improve its supply situation. The gas pipeline link between Algeria and Italy is a stabilizing factor with regard to Europe's natural gas supply. The probable addition of a further pipeline in the not too distant future is also likely to have a favourable impact on our security of supply. That impact would be even greater if, at the same time, the Algeria-Morocco-Spain western link which is currently in the planning stage were to be built. Naturally, the investment decision will be taken on the basis of economic criteria in the light of the likely return on investment. The development of the European gas pipeline network represents an essential element in the Community's future security of supply, because it provides equally for the possibility of being used in the future for the transport of gas derived from solid fuels or other non-fossil substitutes such as hydrogen, when the necessary technical changes have been introduced.

21. It is clear that as international market prices of hydrocarbons stand at present there is little incentive to go ahead with certain planned investments which would undeniably improve security of supply. The question of energy pricing and the tax component of energy prices is currently being reviewed in the light of energy policy and environmental policy considerations. A working party of experts from

the Member States has been meeting since March 1990. It is due to report within a month or two. On the basis of its report, concrete proposals can be put forward as a basis for the adoption of "target rates" which the Commission has undertaken to submit by the end of this year as part of the harmonization of indirect taxation on petroleum products.

Measures in force in the Member States

22. In all, three types of measures designed to improve the supply situation in the Member States have been considered. On the supply side, the development of national resources has been encouraged. Efforts have also been made to achieve the broadest possible diversification of the sources of energy and also of the geographical origins of imported energy sources. On the demand side, emphasis has been placed on more efficient use of energy. An adequate degree of flexibility based on substitute capacity has also been developed. Operational procedures for crisis management have been instituted to ensure market equilibrium in the event of difficulties.

The purpose of all these measures is to ensure that a sufficient amount of energy is available to consumers. The decisions by individual Member States to concentrate on particular courses of action have been influenced by their accessible natural resources or available technological know-how. A non-exhaustive list of the measures taken at national level to ensure security of supply is given in annex II.

The cost of security of supply

23. All Member States have implemented national aid schemes or tax and administrative measures having equivalent effect in order to safeguard their own security of supply. The necessary measures and resources deployed to achieve the desired result all entail a cost. That cost is the "insurance premium" which the country in question - i.e. the consumer or taxpayer - is seen as being prepared to pay in order to

cover the risk of a break in supply. Nevertheless there remains the question of establishing what is the maximum acceptable level for such a premium. This should be fixed as a function of the level of stability of the world market and the supply of primary energy on which the Community is dependent.

24. All of these measures - whether they relate to aid for the non-economic production of domestic resources, storage, regulation of supply networks, multi-fired power stations or reserve capacity - involve an additional cost. Long-term supply contracts are based on pricing structures which normally lead to delivery prices that are higher than those on the spot market. Furthermore, they often contain requirements to take out capital holdings or "take or pay" clauses. All these factors which increase the cost of supplies can be regarded as the insurance premium that has to be paid for our security of supply.
25. In order to be eligible in security of supply terms and according to the competition rules, it is necessary to establish whether this "extra price" is acceptable in economic terms, for how long and on what conditions. We must also establish to what extent the measures designed to achieve security of supply, which differ considerably from one country to another, are compatible with the proper functioning of the internal energy market.
26. In the context of an energy market bounded by national frontiers, differences in the additional cost accepted in order to ensure security of supply are not too troublesome, since the Member State itself bears the risk of its firms being less competitive internationally. In the context of the internal market these differences can not only alter the conditions of economic competitiveness but also affect the conditions of competition between different sources of energy and the conditions of consumer access to those sources.

It is therefore necessary to establish at Community level the conditions to be met in order to guarantee security of supply under acceptable conditions of competition.

Taking the Community's interests into account

27. Even assuming that the gradual integration of the Community energy market will improve security of supply, further measures may continue to be necessary for strategic reasons in order to reach an acceptable level of security for the Community. Measures of this kind should be adopted and coordinated at Community level, although they will most often be implemented at national level, where firms are currently operating. This applies in relation to official measures such as State aid, long-term supply agreements, import quotas, the fixing of market shares, accounting rules and price formation.
28. National measures of this kind must remain compatible with the Community's objectives. The benefits anticipated can not be gauged only at national level, as the measures taken or planned may have adverse effects on the Community as a whole. It will therefore be necessary to draw up rules at Community level governing the implementation of national measures to ensure security of supply. This is necessary in order to take due account of the Community's overall interests, but also to ensure that the conditions governing access by operators to resources - both in normal times and in periods of crisis - do not give rise to unacceptable distortion of competition. Effective allocation of the Community's energy resources is necessary to overall economic competitiveness. It is also essential that the industries competing within the Community's internal market should have access to energy resources under comparable conditions.
29. The Community's political and legal resources (the Commission's own powers, existing financial instruments and legislative measures being adopted by the Council) are sufficient to lay down operating rules which will enable measures to ensure security of supply to be implemented nationally within a Community framework. This framework must:
- ensure compliance with the provisions of the Treaties and secondary legislation as regards State aid, exclusive rights and competition;

- not hamper the completion of the internal market for energy;
- meet the essential requirements of the energy sector, chief among which is security of supply.

This framework will thus contribute to the gradual implementation of a common energy policy for the Twelve.

A Community framework for measures to ensure security of supply

30. An overall framework should therefore be created for national aid measures and to examine, in terms of their compatibility with Community law, other supporting measures designed to strengthen energy security of supply during the transitorial phase leading to completion of the internal energy market.

This framework will develop in line with the degree of advancement of the internal energy market to arrive at the definition of Community security of supply.

31. Creating a framework for national aid will presuppose the search for a balance between the benefits that the Community draws from security of supply and the negative effects of the measures in question on competition and intracommunity exchanges. Within the more global context of the totality of restrictions on intracommunity exchanges or on competition which the Commission might envisage accepting to ensure security of supply, this framework would indicate the types of aid which were acceptable, the modalities etc. in a general way. But the exact level of aids which the Commission could accept per Member State would be for examination in the light of other restrictive measures in force or which will be proposed. Such a framework would bring clarification to Member States in the pursuit of their energy policies and would bring greater transparency between economic operators.

In parallel with the establishment of the framework, the Commission will examine the quantitative restrictions on imports and measures having equivalent effect (Art. 30 EEC) implemented by the Member

States. The Commission will prepare an explanatory communication which would specify the extent to which these restrictions would be justified for reasons of public security in the context of Article 36 EEC (of judgement 72/83 *Campus Oil*, Rec. 1984, p. 2727) and it will pursue by the appropriate legal means the measures which cannot benefit from the derogation in Article 36. To the extent that other restrictions exist, for example exclusive agreements etc., they will be scrutinised for compatibility with Articles 85 and 86 of the EEC Treaty.

The solutions adopted within this framework should be consistent between the Member States.

32. This being so, the Commission's departments have undertaken an analysis of the situation as it exists in the Member States, based on the results of surveys already carried out in connection with the competition rules laid down by the EEC Treaty. This analysis will also be able to be eventually amended in the light of the results of a study in progress designed to compile an inventory of State aid to the energy sector in the various Member States. Discussions have been held on the applicability of the relevant provisions of the EEC Treaty to aid in the nuclear research and production sector. A mid-term report will be drawn up before the end of this year on the application of the present system governing State aid to the coal industry under the ECSC Treaty.
33. In order to supplement the material already available or being compiled, the Commission will call on the Member States to notify it, within three months, of the measures which they have taken or intend to take to ensure the security of energy supply within their national territory. The list of existing or projected State aid or equivalent measures, including fiscal and parafiscal measures, whether of a legislative or administrative nature, will be accompanied by an assessment of the amounts involved, the sectors concerned and the implications for the authorities, the consumer and the taxpayer in terms of budgets, taxation and prices.
34. The circumstances in which national aid measures or measures with equivalent effect are acceptable as contributing to security of supply, in the context of the internal market for energy, will be defined in

terms of the sectors and the share of the market involved and the maximum extra costs to be authorized. The Commission will also make recommendations to the Member States in order to bring about a greater degree of convergence in policies which up to now have been decided at national level, with a view to bringing them within an integrated Community approach. If necessary, early next year, the Commission will come forward with appropriate proposals to the Council for those areas which lie within the Council competence without prejudice to the Commission's own prerogatives.

Security of supply and the common energy policy

35. Security of supply is the prime objective of any energy policy. It is essential to ensure an adequate and steady supply in order to avoid compromising the sustained economic growth necessary to the development and cohesion of the Community.
36. The Community will have to devise a new approach to its energy policy. This will be based on the internal energy market which is in the process of being completed, technological development and innovation, the proposed system for ensuring security of supply, the protection of the environment, notably by energy savings and the development of new and renewable energies, the trade and cooperation agreements already existing or in the process of negotiation, and the extension of the common trade policy to the energy sector. The combination of these factors should make it possible to define a new Community energy policy to the year 2000.
37. The policy will have to be developed in successive stages in close liaison with the progress of the Internal Energy Market. The first stage, coinciding with the creation of a framework governing national aid and equivalent measures, would consist in harmonizing existing practices and promoting the convergence of national measures in accordance with the interests of the Community. The aim of the second stage would be to make optimum use of the interdependent and complementary relationships that exist in the Community. The preconditions for achieving this aim would need to be the subject of

detailed analysis and studies to evaluate the costs and benefits for the Community of closer integration of national energy policies. The implementation of this stage-by-stage approach, with objectives set for each stage, could be timed to coincide with the periodic review (every five years) of the Community's long-term energy objectives.

Operational Measures

38. In accordance with the general framework developed in this document for managing the transition from national security of supply systems to the Community energy system in the Internal Market, the Commission has to take decisions concerning operational measures. To start the transition phase, it is clear that these decisions must take into account the actual situation in all the Member States.

The first stage would be to use existing legal instruments, to bring the diversity of national situations into a common framework from which a common energy policy could be put into place. The electricity sector is based on a variety of primary energy sources according to the natural potential of each Member State. It is in this sector that one finds most restrictions between intra-Community exchanges and competition, restrictions which aim to protect national energy resources (annex III). As a consequence, currently there are relatively few intra-Community electricity exchanges. Whilst there are restrictions in transfrontier exchanges for other energy products, their impact is less widespread than in the electricity sector. The Commission already has detailed knowledge of the situation of each national electricity market and has dealt with individual cases involving the reorganisation of national electricity markets and complaints regarding barriers to exchanges.

As a first stage, having recourse to existing legislative instruments, the Commission intends to ensure that this reserved part of the national electricity market, protected by special measures such as long term supply agreements or aids, does not exceed the levels already attained. At the time of the introduction of the operational measures

referred to above, the Commission will fix a maximum level of national protection for this sector applicable throughout the Community.

That stage should ensure the operation of an Internal Market for the major part of the electricity market. During a transition period ensuring the movement from national security of supply measures to Community measures, this percentage must continue to decline progressively to the end of the century. The situation after 2000 will be reviewed.

The Commission will put this approach into operation by individual proposals to each Member State, proposals designed to allow them to orientate their policies according to this new approach.

Summary and conclusions

39. Recent technical, economic and political developments show that we must take measures to safeguard the security of our energy supplies. Every available means must therefore be deployed to safeguard supplies, bearing in mind the situation created by the completion of the internal market. During the transitorial phase, allowing movement from a national to a Community concept of security of supply, the Commission will establish a general framework of national aids and will examine, in terms of their compatibility with Community law, supporting measures designed to ensure security of supply.
40. This new approach by the Commission during the transitorial phase leading to completion of the internal energy market will be one of the factors to be taken into account in defining a new approach to energy policy. A programme will be drawn up in cooperation with the Member States, proposing the implementation of a common energy policy for the European Community. This new common policy could thus be incorporated within a new institutional framework so that it can benefit from a decision-making process in which the European Parliament is closely involved and which authorizes the Council to take decisions by a qualified majority.

EUR - 12 Energy consumption structure and percentage of net imports

1989 (EUROSTAT monthly bulletin n° 4/90)

	DE	FR	IT	NL	BE	LU	UK	IR	DK	HE	ES	PO
Gross consumption as a % of total												
* Coal	20,0 %	8,6 %	9,2 %	10,8 %	18,5 %	3,9 %	30,4 %	22,2 %	32,6 %	3,5 %	18,6 %	15,2 %
* Lignite	8,4 %	0,4 %	0,2 %	-	0,0 %	0,3 %	-	17,6 %	-	30,0 %	3,4 %	-
* Oil	39,6 %	41,7 %	60,6 %	45,7 %	45,1 %	42,4 %	39,2 %	39,6 %	54,3 %	64,3 %	54,2 %	30,0 %
* Natural gas	17,3 %	11,7 %	24,9 %	41,8 %	15,9 %	12,0 %	21,3 %	19,9 %	8,3 %	0,6 %	5,3 %	-
* Nuclear	13,9 %	36,9 %	-	1,3 %	20,5 %	-	8,3 %	-	-	-	16,6 %	-
* Others	0,8 %	0,7 %	5,1 %	0,4 %	0,0 %	41,4 %	0,8 %	0,7 %	5,0 %	1,1 %	1,9 %	4,7 %
Total in MTOE	263,8	208,5	145,7	74,4	50,5	3,3	212,2	9,4	17,8	22,2	87,6	15,6
Net imports as a % of total	51,3 %	54,1 %	86,1 %	21,2 %	75,7 %	100 %	-	60,1 %	58,5 %	61,3 %	65,0 %	98,8 %
Percentage of net imports accounted for by oil	38,5 %	40,1 %	58,5 %	40,9 %	45,0 %	42,5 %	-	39,4 %	21,4 %	74,4 %	53,9 %	84,0 %

EXAMPLES OF MEASURES TAKEN BY
MEMBER STATES TO ENSURE SECURITY OF SUPPLY

1. In Belgium the emphasis has been placed on the development of a nuclear energy programme. Contracts for the supply of hydrocarbons have been concluded with other governments at price terms which are sometimes above the market price levels.
2. In Denmark efforts have been mainly directed towards encouraging energy savings by very high levels of taxation. This has helped, among other things, to create the conditions conducive to the use of energy systems based on renewable energy sources. A government decision now being repeated has made it compulsory to use indigenous energy sources in preference to imported energy.
3. In Germany subsidies are granted to the coal industry in order to maintain a high level of coal production. Sales of this coal to the steel industry and to power stations are also subsidized.
4. In Greece the public authorities have encouraged the working of lignite deposits under barely competitive conditions. This lignite is mainly used in power stations. The price at which the electricity generated is supplied to the consumer has not been revised for several years and therefore does not necessarily cover costs. Furthermore, the State refineries supply some 54% of the Greek petroleum product market.
5. In Spain the situation as regards the operation of the coal industry and contracts concluded with the electricity generating industry is similar to that in Germany. Although adjustments are being made to the oil monopoly, the State distributor still enjoys a dominant position.
6. In France the main thrust of the national effort has been directed towards the development of a very large-scale nuclear programme covering the whole fuel cycle. This programme has been accompanied by efforts to encourage the use of electricity in all areas.

7. Ireland harvests peat as an indigenous contribution to energy supply. Virtually all output is used in Ireland and cost exceeds price from time to time. The State-owned electricity industry is required by law to break even and does not make profits in the conventional sense. There is a legal requirement, founded on considerations of Article 36 of the Rome Treaty and the subject of a European Court Ruling, on oil distributors to take a proportion (not more than 35%) of some oil products from the only refinery, which is State owned.
8. In Italy mining of the uneconomic coal deposits at Sulcis has recently been resumed. The economic case for using geothermal power stations is also not proven. High consumption taxes are levied on petroleum products.
9. In Luxembourg coke supplies to the steel industry are covered by the aid arrangements implemented in Germany. The price paid by the State-owned company for its electricity supplies on the basis of a long-term contract with a German producer is higher than the average on the French and Belgian markets.
10. In the Netherlands efforts have focused on the development of national hydrocarbon resources. Under existing rules production from the Groningen deposits is being deferred to encourage the working of less economic reserves, in particular those offshore. In some cases the price of natural gas helps its penetration on the national market.
11. In Portugal the entire oil sector is still under monopoly control now being reviewed. The prices of petroleum products to the consumer are heavily subsidized. There is also a question mark over the competitiveness of some Portuguese refineries.
12. In the United Kingdom a supply agreement has been concluded between British Coal and the electricity generating boards. The price of electricity per KWh has been increased in order to enable existing nuclear power stations to continue operation.

EXAMPLES OF MEASURES TAKEN BY THE MEMBER STATES
IN THE ELECTRICITY SECTOR

The Member States regard optimizing the use of indigenous resources as a means of reducing dependence on imported energy and, secondly, of guaranteeing security of supply. In cases where their indigenous resources are not competitive they have therefore introduced protective arrangements to maintain or develop the exploitation of these resources either by providing guaranteed outlets or by granting aid.

This note gives a brief description of these arrangements.

1. FEDERAL REPUBLIC OF GERMANY

The German hard coal industry is not competitive at the present time, and the situation is unlikely to change in the future. To ensure continued coal production, the German Government has adopted a strategy which is essentially based on:

- quantitative restrictions on imports from non-Community countries;

- direct subsidies to coking coal;
- a contract between the coal industry and the electricity industry (Jahrhundertvertrag) guaranteeing supplies of coal for electricity production. The resulting additional costs are covered by a public fund (Verstromungsfonds) financed by a levy (Kohlepfennig) on electricity prices to the consumer.

Forty-one million tonnes of the national coal output of 78 million tonnes are used for power generation. In other words, 27% of Germany's electricity consumption is currently generated by coal covered by protective arrangements.

Lignite is used to generate some 80% of the electricity consumed in the G.D.R. There are plans to replace part of this share in future with oil, natural gas or hard coal. This is likely to mean an increase in coal imports from non-Community countries.

2. SPAIN

Coal can continue to be produced in Spain because of the guaranteed outlet provided by power stations.

In 1989, Spain produced 19.7 million tonnes of hard coal, but domestic consumption was 29 million tonnes, of which 21.9 million tonnes was accounted for by power stations.

In 1986 a framework agreement was concluded between the association of electricity producers (UNESA) and the national federation of coal producers (Carbunion). The national grid is administered by REDESA, a public limited liability company with a majority public sector shareholding. Its main role is to operate the high voltage grid and it organizes the marketing of the electricity via the national grid in such a way as to maintain national coal production. Although responsibility for power generation is in the hands of a number of independent companies, it is REDESA which actually owns and operates the high-voltage transmission system. The higher cost

resulting from the use of indigenous coal is passed onto the end-user in electricity prices. Overall some 29% of Spain's electricity is generated from nationally produced coal.

3. FRANCE

In 1989, 75% of France's electricity production was nuclear-based. As conditions stand at present, nuclear energy appears to be a competitive form of power generation; this is borne out by the level of prices to major industrial users and for export. However, there is also a problem of transparency in relation to the cost of nuclear power (see "General comments" on page 8).

In addition, there is a contract between EdF and CdF (Charbonnages de France), which covers the supply of coal and electricity by CdF to EdF. However, the quantities of coal involved are very small and represent only around 3% of France's electricity production.

4. UNITED KINGDOM

As a major net exporter of oil and an important producer of gas and coal for its own use, the United Kingdom is uniquely placed in the Community. It also has a large installed nuclear power capacity providing some 18% of the electricity consumed. However, despite the relative abundance of indigenous resources, the United Kingdom has introduced policies for protecting national resources that are similar to those applied in the other Member States.

It became clear during the privatization of the electricity industry that the cost of decommissioning nuclear power stations would be such as to dissuade the private sector from playing an active role in the privatization process. Consequently, nuclear power stations were excluded from the privatization programme and arrangements have been introduced to guarantee the sale of nuclear power. The twelve regional electricity companies are contractually required to guarantee an annual average nuclear

capacity of 8 GW over an eight-year period. The resulting extra cost is covered by revenue from a levy on electricity prices (non-fossil fuel levy).

As regards the use of coal for electricity generation, a contract has been concluded between two main electricity producers and British Coal guaranteeing the latter a market for its products at prices higher than those on the world market for a period of three years. Around 63% of the electricity produced in the United Kingdom is generated from nationally produced coal covered by these protective arrangements.

However, when the current contract expires the supply of coal to power stations is to be freely negotiated on a purely commercial basis.

5. ITALY

Italy has no indigenous energy resources and is therefore obliged to import either primary energy (chiefly oil and natural gas), to generate electricity¹ or primary electricity. For example, it imports large quantities from France.

Furthermore the referendum on the use of nuclear energy in Italy led to the halting of all existing nuclear power programmes, and even a number of small power stations which were already capable of operation were shut down. There is no immediate prospect of a review of this policy.

As far as we are aware Italy has not introduced any measures to protect certain types of primary energy used to generate a substantial proportion of national electricity.

¹ See the Commission's conclusions in Annex on the energy situation in Italy. (COM(88)174 final: Main findings of the study of the Commission's review of Member States' energy policies. The 1995 Community energy objectives).

6. BELGIUM

Nuclear energy accounts for the bulk (approximately 70%) of Belgium's electricity consumption. Although coal-fired power stations provide some 20% of total electricity production, most of the coal is imported. It should be noted in this connection that Belgium's coal production is down to 3 million tonnes per year and that it plans to stop coal production altogether in two years time. The gas used for power generation is all imported. Consequently there do not appear to be any national measures in Belgium to protect indigenous primary energy sources.

7. DENMARK

95% of Denmark's electricity comes from coal. As Denmark has no national coal industry it imports all the coal used, from non-Community countries.¹

8. GREECE

The bulk of electricity in Greece is produced from lignite. Petroleum products account for around 22% of electricity production and hydro for around 20%.

The only indigenous resource that can be used to generate electricity is lignite and this is mined by PPC (Public Power Corporation), which is also responsible for electricity production. Virtually all of the lignite produced is used for electricity production (in 1988: 47.9 million of the 48.3 million tonnes produced, i.e. 99%).

¹ Denmark may apply national protective measures in areas other than electricity production, as demonstrated by a circular recommending the use of national resources for heating systems. This circular is being studied by the Commission in the light of Article 4 of the ECSC Treaty and Article 30 of the EEC Treaty.

Because of the high cost of transporting lignite and its poor quality, it is uneconomic for the purposes of international trade. Moreover, given that Greece is not connected up to the electricity grids of any other Community country, any measures to protect the lignite industry are not affecting intra-Community trade at present.

If this situation were to change, it would be necessary to examine the level of protection afforded to the lignite industry in the light of the guaranteed outlet provided by the electricity sector. Such a study would have to take account of the fact that both mining operations and electricity generation are in the hands of a single undertaking.

9. IRELAND

The Irish electricity sector is run by the ESB (Electricity Supply Board) which applies preferential terms for the uptake of peat and indigenous natural gas.

Peat in Ireland is produced by the Bord na Mona whose sales to the ESB provide the bulk of its revenue. As the Commission has already pointed out¹ "to a large extent the price paid by the ESB determines the profitability or otherwise of Bord na Mona". In 1988 the electricity sector consumed 3.3 million tonnes, or 48%, of the total peat production of 6.84 million tonnes; peat thus accounted for 17% of Ireland's electricity production.

At present the electricity sector takes up 48% of the natural gas produced. This outlet can be regarded as being covered by preferential arrangements inasmuch as the national network is not sufficiently developed to allow large-scale sales of gas to other end-users. Overall, natural gas accounted for 27% of electricity production in 1988.

¹ COM(88)174 final.

Main findings of the Commission's review of Member States' energy policies.

The 1995 Community energy objectives.

It would appear from the above figures that some 51% of the electricity consumed in Ireland is produced from indigenous primary resources.

This is because, at the moment, Irish energy markets are still isolated from the rest of the Community. They are not linked up to the transmission grids of any other country and there is no international or intra-Community trade in peat, lignite or natural gas (no pipeline) between Ireland and the European continent or the United Kingdom.

Consequently, the existence of guaranteed outlets for peat and natural gas does not seem to affect intra-Community trade. Furthermore, Ireland's isolation accounts for its particular preoccupation with national security of supply (in this context see the judgment of the Court in the *Campus Oil* case). If this situation were to change in the future (for example with the building of an electricity link or a gas pipeline between Ireland and the United Kingdom or Ireland and mainland Europe), it would be necessary to review the level and methods of protection implemented by Ireland with regard to its indigenous energy resources.

10. LUXEMBOURG

Luxembourg produces only 25% of the electricity consumed on its national market. In 1988 62% of electricity production was based on hydro and 28% on derived gas. Of all the Member States, Luxembourg's electricity market is the most open to imports and it does not appear to have implemented any national measures to protect this indigenous primary energy source.

11. NETHERLANDS

Despite attempts to diversify into other fuels for electricity generation, natural gas still accounted for 52% of electricity production, with most

of the remainder being based on coal imported from non-Community countries (32%) and petroleum products (5%).

This means that 45% of the indigenous natural gas produced was used to generate electricity. However, because of the competitiveness of this fuel there is no need for any national protective measures.

12. PORTUGAL

The main sources of Portuguese electricity production are hydro (58%), coal imported from non-Community countries (25%) and petroleum products (15.2%). Indigenous fuel resources account for less than 3% of electricity production and there do not appear to be any specific measures to protect them.

GENERAL COMMENTS

The Commission would point out that, since the costs of producing nuclear energy are not fully transparent, it is difficult for it to determine whether full allowance has been made in the price calculations for all of these costs, particularly those relating to research and decommissioning.

CONCLUSION

In view of the foregoing it is intended to fix the authorized level of protection at 20% and to seek gradually to reduce this to 15% by the year 2000. The Commission intends to take account of these considerations in implementing the Treaty rules in this sector.