COMMISSION OF THE EUROPEAN COMMUNITIES

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COM(89) 336 final

COMMUNICATION FROM THE COMMISSION

Increased intra-Community electricity exchanges: a fundamental step towards completing the internal energy market

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COM(89) 336 final - SYN 207

Proposal for a

COUNCIL DIRECTIVE

on the transit of electricity through transmission grids

(presented by the Commission)

SUMMARY

Energy must play a key part in the broader programme to complete the single market by 1 January 1993. Because of its unique features, electricity must be given priority. This communication discusses ways of boosting transfrontier electricity transfers.

The heavy cost of non-Europe in the electricity sector demands specific measures forming a resolute, progressive, pragmatic approach.

To this end the Commission has retained the following lines of action:

(a) The liberalisation and boosting of electricity transfers by the introduction of modalities for applying the right of transit between integrated electricity grids, whether or not in the territorial competence of the same Member State, by means of a Directive based on Article 100a of the EEC Treaty;

(b) The installation by the Commission of a concertation procedure (two consultative committees with the Member States and interested parties) to examine in depth whether access to the grid systems by third parties should be organised and, if so, under which conditions.

(c) An improvement of the prior notification and consultation procedure relating to future investment in electricity generation and transmission in the Community (see separate communication on investments in the energy sector COM(89)335 final).

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Increased intra-Community electricity exchanges: a fundamental step towards completing the internal energy market

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INTRODUCTION

1. Completion of the internal market by 1 January 1993 is the Community's top priority. Energy is an integral part of this programme, as the Ministers of Energy made clear in November 1988 in response to the analysis submitted by the Commission.[1] Then in Rhodes in December 1988 the Heads of State and Government emphasized that more needed to be done in this strategic sector, where the pace of progress was too slow.

2. By virtue of its different features, the electricity industry must itself play a pivotal role in the progressive achievement of the internal energy market.

(I) The Commission undertook in 1988, first in its communication on a Community regime for procurement in the excluded sectors,[2] and then at the Council meeting in November 1988, to take action during 1989 to remove the barriers to transfrontier electricity transfers by the end of 1992.

(II) More recently, on 8 March 1989 the Commission decided on further action to open up the internal electricity market.[3] To achieve this, it gave priority to a step-by-step, negotiated approach leading to a balanced solution. In particular, the Commission decided

1 COM(88)238 final: "The Internal Energy Market".
2 COM(88)376, paragraph 408.
3 IP(89)141.

"to continue its study on application of the "common carrier" principle to the electricity market, so that the electricity transmission grids currently reserved for the national or regional monopolies can be opened up to other electricity generators prepared to pay to use them".

3. Greater integration of the electricity market should allow greater economic efficiency and substantial savings - the raison d'être of the philosophy of the internal market. But is this objective compatible with providing the same if not greater security of supply in the electricty sector? This communication will try to answer this dilemma.

4. This communication sets out the Commission's proposals to increase electricity transfers and to achieve a Community-wide internal market in electricity.

It starts with a brief description of the unique features of the electricity industry before moving on to discuss electricity transfers and the factors curbing their growth. This is followed by an assessment of the economic cost of non-Europe in the electricity sector.

Together these considerations lead the Commission to propose a three part approach, intended to boost electricity transfers, to forge a more integrated Community electricity grid in order to improve competition in this sector and to allow a progressive optimisation of investments on the Community scale.

The Communication is accompanied by a proposal for a Council Directive concerning the means of implementing the obligation to transit electricity between integrated high-voltage grids;

and in a separate communication proposal for a Council Regulation on notifying the Commission of investment projects of interest to the Community in the electricity sector [the Commission would give its opinion on such projects] with a view to encouraging an optimisation of electricity generation and transmission at Community level .

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Part One: Key factors in the electricity industry

5. Any ideas about ways of speeding up completion of the internal electricity market must take account of the unique features of the industry and of a few more general points.

* * *

A. The electricity sector

(a) Unique features

6. Electricity is different from other forms of energy in several ways. It is transmitted via the grid almost as soon as it is generated and cannot be stored. Enough must be generated to cover demand, which varies from one moment to the next depending on the customers' requirements. If the supply falls short or, in other words, if not enough generation and transmission capacity is available, the lights go out.

7. To complicate operation of the industry, electricity flowing through the grid or transmission system obeys the laws of physics and spreads through every channel open in the grid. Consequently, fluctuations or power cuts in any circuit on the grid affect the flow in many other circuits too. It is impossible to identify any specific flow of electricity from one particular power station to any given customer.

8. Two basic conditions must be satisfied to provide a secure supply of electricity throughout the grid:

(i) integrated planning of electricity generation, transmission and local distribution facilities (though this does not necessarily imply that the ownership of all these sectors must be in the same hands);

(ii) efficient control to ensure that enough electricity is generated to cover demand at all times. Naturally, this must be exercised by the operator of the central transmission system.

9. To obtain the most efficient results, the transmission grid operator always draws on the combination of generation capacity capable of covering the demand at any particular time at the lowest average cost. This is why total generating costs vary from one time of the year or day to another, depending on the generation plant in service, on its operating costs and on demand. Heavy demand means that more expensive generating capacity has to be brought on stream. Consequently, generating costs and, hence, electricity prices depend on the precise conditions of supply to the consumer.

(b) Structure of the industry

10. Small and medium sized consumers are supplied (at low voltage) by the electricity distributors. Large consumers too are sometimes supplied by the distributors, but they can be connected direct to the high-voltage transmission grid, from which the distributors themselves draw their supplies. Most generating capacity (hydroelectric power stations, conventional fossil-fuel plant and nuclear power stations) feed the high-voltage transmission grid. Some power stations, however, are connected direct to the low-voltage distribution grid.

11. The structure and ownership of the parts of the industry varies considerably from one Member State to another, reflecting their historic, social and cultural heritage. In France, Italy, Greece and Ireland, for example, a single, vertically-integrated, nationalized electricity utility is responsible for all electricity generation, transmission and distribution. In other Member States the same functions are performed by a number of independent undertakings, some privately-owned others controlled directly by the public authorities. In the United Kingdom, the generation and transmission sides of the industry are now being split up and the nationalized electricity supply industry is being privatized at the same time.

12. Most power stations are owned and operated by the leading electricity utilities. However, some big industrial undertakings generate their own electricity requirements (private generation). They sell any surplus to the public grid or if they cannot generate enough electricity they top up their supplies by buying from the public grid.

B. Other points

(a) Transfrontier electricity transfers

13. Transfrontier interconnection of electricity grids started as a logical extension of interconnection of the local and regional grids. The biggest incentive lay in the economic and technical advantages of making fuller use of the most efficient generating capacity and in greater security of supply. Every Member State except Greece and Ireland is linked directly to its neighbouring Member States' grids. Similarly, some Member States are connected with their non-Community neighbours, such as Norway, Sweden, Austria, Switzerland and Yugoslavia. Ireland, on the other hand, has no link-up with any other country. Greece is connected with Yugoslavia, Albania and Bulgaria.

14. Transfrontier electricity transfers are based on cooperation agreements between the electricity utilities concerned. They take three main forms:

(i) hour-by-hour transfers to exploit the time lag between demand peaks in different countries and allow more efficient grid management;

(ii) short- or medium-term net transfer contracts;

(iii) transfers from jointly-owned generating plant in neighbouring states.

15. Annex 1 sets out the figures for transfrontier electricity transfers in 1987. With certain exceptions, reciprocal exchanges with equal amounts of electricity moving in each direction seem to be on a par with net electricity transfers. These net transfers, however, would undeniably be higher if the industry were free to take maximum economic advantage of them, irrespective of individual undertakings' or national interests. It must be remembered that the factors behind the decision to make such transfers vary (e.g. type of generating plant available, generating costs, relative cost of various primary energy sources, demand levels and daily or seasonal variations in demand). Consequently, the amount of electricity transferred varies too, depending on the circumstances.

16. Today's electricity transfers are based on inter-utility agreements. Each transmission grid is free to control its transactions autonomously. Local distribution undertakings or individual consumers cannot usually buy electricity from other countries.

(b) Electricity transfers, electricity costs and the Member States' policies

17. The electricity markets in the Community are obviously fragmented. The unacceptable thing is that this fragmentation is based on obstacles to trade, whereas under normal conditions the differences in electricity costs should stimulate trade and, in the process, narrow the gap between costs from one country to another.

18. At the moment the opposite is the case since there are blatant restrictions on competition in the electricity sector, only some of which are due to the very nature of the industry.

Generally local distribution undertakings are forced to buy electricity from the integrated generating and transmission utilities in their region.

Individual consumers face similar constraints. Small consumers in every country have to buy their electricity from the national or local distributor holding the concession for their region. Big consumers too are tied either to a single distributor or to a high-voltage electricity transmission utility.

19. In most Community countries the electricity industry holds a monopoly which, by nature, restricts trade and competition.

Two logistical considerations lie behind this special position:

(I) the need to avoid the construction of superfluous, redundant transmission and distribution capacity;

(II) the need for a comprehensive plan to safeguard security of supply.

The first of these considerations gave rise to the transmission and distribution monopolies which now exist in every Member State at national, regional or local level.

The second in turn gave birth to the vertically-integrated electricity generation, transmission and distribution utilities in many Community countries.

20. Vertically integrated utilities of this type often supply the whole country or region and usually prefer to generate the electricity which they transmit and distribute for themselves.

Clearly, they have nothing to gain from opening up access to their transmission and distribution grids to their rivals. Their sole reasons for purchasing electricity from other utilities are to balance their books or to cover temporary shortfalls in supply from their own generating capacity.

21. The same practices are followed in countries which have never had such fully vertically-integrated utilities or will be doing away with them soon.

In these countries government policies and long standing practice in the industry have been to plan investment and management decisions concerning electricity generation, transmission and distribution without taking proper account of alternative potential sources of supply in other countries.

Furthermore, it is also noticeable in these countries that there is a national sensitivity concerning the financial control of electricity companies.

22. Another important factor behind the current fragmentation are the Member States' other policies (e.g. on restriction of the choice of fuels, environmental protection or taxation) which stop market forces working normally.

23. One effective way of achieving the requisite approximation and harmonisation of the provisions laid down by law regulation or administrative action consits in creating the conditions which allow the increase of trans-frontier exchanges of electricity and injecting into the industry a dose of competition compatible with security of supply and the quality of service needed to make the electricity market work properly.

(c) Long-term planning

24. Together the foregoing practices go a long way to explaining why the electricity grids in the Community today were planned on a strictly national or, in some cases, even regional or local basis.

The siting of the generating plant and the configuration of the transmission grid would have been very different had they been designed with the Community as a whole in mind.

As part of the preparations for the internal market of 1992 the Commission must therefore propose a new approach to optimize operations and investment in the electricity sector.

This will be a long, arduous process and will probably take several years whilst the obstacles to electricity transfers are being removed and genuine Community-wide competition is being introduced to the industry.

(d) Conditions of competition

25. In addition to the abovementioned constraints on competition in the electricity industry, other factors can also distort competition on the electricity market.

For instance, differences in the pricing rules imposed by the governments can distort competition between electricity undertakings.

The rates charged must reflect the actual costs and should no longer allow cross-subsidization between the home and export markets, nor between small and large consumers.

A sufficient transparency of prices (and their base elements) will be necessary for the intra-Community transactions, in order to allow the establishment of a healthy, non-discriminatory Community market in electricity.

26. At the same time electricity prices must reflect the terms on which the operations are funded.

Circumstances such as special tax arrangements, the financial structure of the undertakings, their conditions of access to capital and even accounting practices can all distort competition.

Financial arrangements with the government, including any direct or indirect aid granted, are also vitally important in some countries.

27. Electricity undertakings' prospects of operating throughout the Community will depend as well on the costs incurred as a result of the different national rules and standards on, say, environmental protection, plant safety, operating conditions, siting, etc.

28. All these constraints on competition must be dealt with gradually, as the electricity market is opened up.

Their solution would allow an opening in this market, going beyond the present step of transit. In any event whenever unfair conditions of competition arise it will always be possible and necessary to invoke the relevant Articles of the EEC Treaty to restore conditions compatible with the Community rules.

Account will be taken of the social and regional aspects of any measures taken in this context.

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PART ONE: The cost of non-Europe in the electricity sector

29. The Cecchini report highlighted the economic disadvantages suffered by the Community because of the excessive fragmentation of the individual Member States' markets.

Initial estimates put the cost for the energy sector in general (excluding public contracts) at approximately 0.5% of the Community's GDP (cf. paragraph 19 of working document COM(88)238).

30. Since then Commission staff have been analysing a series of studies, some conducted by the Commission departments concerned, others by outside experts, in an attempt to produce more accurate estimates for the electricity sector alone.

The full results and the method used are outlined in Annex 2.

However, a brief summary of the work will give an idea of the figures.

31. The analysis studied the potential for greater integration of the electricity industry in the Community, in the light of the programme to complete the internal market and of future electricity supply and demand trends.

A number of alternative scenarios were examined to assess the advantages and disadvantages of persisting with the status quo or of proceeding with greater integration.

Even a cautious assessment suggested that the greater integration and more efficient planning and operation of the systems in prospect would bring economic benefits to the Community and enhance the overall reliability of the system.

The results suggest that the potential annual savings between 1992 and 2010 could add up to ECU 55 billion at today's prices.

(bn ecus)

	1992	2000	2010
Annual savings from optimization of the system	1.3	2.3-5.3	6.13

32. More efficient utilization of the grid would save one-third of the investment otherwise needed before the turn of the century.

33. It must be stressed that this is a carefully realistic and reasonable estimate and is probably overcautious. Studies in one Member State put the potential savings from greater transfers of electricity at close to ECU 3 billion a year, coupled with even larger savings on financial charges by pooling the plant needed as a precaution against technical problems.

34. The potential savings from greater integration of the electricity industry in the Community are so great that measures must be proposed to attain them to the benefit, above all, of the consumer, who will reap the advantages of the single internal market. This is the aim of the rest of this document.

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Part Three

An increased transit of electricity across the Community: an essential means of increasing trade and a necessary evolution

35. The unique features of the electricity industry (cf. Part One, Section A) and its strategic importance go a long way to explaining the general strategies pursued by the electricity industry, which are the same on every grid despite their widely diverging structures. Undoubtedly the most important feature is the widespread existance of integrated grids.

    Thanks to these grids, electricity is already exchanged but the level of exchanges (less than 4% of consumption) could be significantly increased.

36. An effective implementation of the Community right of transit is the simple means of re-inforcing and developing the co-operation which already exists between electricity companies. The arrangements concerning electricity transit will thus apply only to electricity exchanges across one or more large integrated high-voltage grids, whether these grids fall within the territorial competence of the same Member State or not.

37. This is the aim of the proposal for a Directive set out in Annex 3, which covers the following:

    (I) The right of transit, established in principle by the EEC Treaty, must be effectively implemented by the Member States.

    (II) The transit contract is a private-law contract.

38. In order to avoid during this limited period of the implementation of the right to transit any distortion and discrimination and because of differing strategies - past and present - followed by Member States as concerns structures of production, commercialisation and distribution, the methods of financing, investment and production the Commission will establish before 1 July 1990 transparency concerning the following points:

- financing of investments

- structures, such as finance, of production, commercialisation and distribution of electricity in the Member States.

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[illegible]: Generalised third-party access to the transmission grid?: a possible development

39. The effective implementation of this Community right should substantially increase electricity transfers, reduce average electricity costs and increase security of supply in the Community.

The philosophy of the internal Market dictates that the end user, whether an industrial consumer or a private household, must reap the benefit.

40. This entails doing more than applying the right of transit to large networks. Adequate competition must be ensured so that all consumers can reap the benefit of the savings offered by closer integration. However, the quality of service or the security of supply must not be impaired (e.g. by an insufficient level of investment).

The practices introduced by the electricity utilities, under the supervision of the government authorities since they operate as a public-service monopoly, are in themselves ample guarantee that consumers will reap the benefits as intended.

The Commission will be equally attentive to the appropriate repercussions on all consumer prices of the increase in intra-Community electricity exchanges.

41. Over and above the effective transit between high-voltage grids, access to the grid may also be authorised, under certain conditions to be defined, to, for example, large industrial consumers and to electricity distributors. This is certainly the trend in some Member States. Two in particular, the Netherlands and the United Kingdom, foresee allowing third parties access to the high-voltage grid of major industrial consumers (and, in the United Kingdom, of the public distributors).

42. However, Community regulations granting third parties access to the electricity grid and allowing consumers (whether public distributors or industrial undertakings) the benefits of full competition could cause certain problems. This is illustrated by the diverging views held on the subject by the electricity undertakings (cf. the recent opinions of the UCPTE or UNIPEDE) and consumers (cf. the recent opinion of the CEFIC).

43. Under these circumstances, particularly remembering that at its meeting on 8 March 1989 the Commission said that it wanted to encourage application of the common carrier principle, the Commission plans to proceed cautiously with a dialogue aiming at finding a compromise reconciling the concerns of the electricity industry with those of consumers, the short term with the long term, lower costs with the same quality of service and competition with security of supply.

44. To this end, the Commission has drawn up the following guidelines:

1. It has to be examined in depth whether the access of third-parties to the electricity grid has to be organised and, if so, under what conditions, in order to allow the implementation whilst guaranteeing the maintenance of security of supply and the quality of service to consumers.

2. Before taking a decision, the Commission intends to consult with all the interested parties during a period not exceeding one year. According, drawing on the experience of the procedure followed in the mater of public purchasing (excluded sectors), the Commission will create two consultative Committees, to advise the Commission on the possible means of application of the principle of the opening of the grids to third parties;

   a) A consultative Committee composed of representatives of the Member States

   b) A Consultative Committee composed of representatives of interested parties (producers, transporters and distributors of electricity on the one hand and electricity consumers, including domestic consumers, on the other).

Part Five: A Community optimisation of investment in electricity generation and transmission: from national self sufficiency to a Community approach

45. Despite the transfers which take place already and those which should follow from the recourse to the transit rights discussed in Part Three and the fiercer competition discussed in Part Four, the electricity market in the Community is almost invariably dominated by the drive for national self-sufficiency.

    There is a simple historical explanation for this go-it-alone approach, given the strategic importance of the energy market in general and of electricity in particular. This state of affairs is largely due to the direct intervention by the Member States' governments.

46. The situation should change as the single market is gradually completed. After all, the thinking and rationale behind the internal energy market demands that the Community's security of supply should gradually be put on an equal footing with individual Member State's security of supply. After discussing the subject at their informal meeting in Athens in September 1988 the Ministers of Energy clearly endorsed this view in their conclusions on the internal energy market at their meeting in November 1988. Overall this change should benefit both the Community and the Member States.

47. It should provide greater security of supply and flexibility. Less investment would be needed since a smaller safety margin would suffice. Finally, there would be less risk of overcapacity. And this optimum use of investment would help the Community's electricity generating capacity to take fuller account of the legitimate concern to defend and protect the environment.

48. These changes must be made step by step. The measures proposed in Parts Four and Five will make the process easier. Equally, this concept of self-sufficiency in electricity for the Community as a whole must take into consideration the constraints inherent in the electricity grids themselves.

49. For instance, quite apart from the constraints and technical restrictions imposed by transmission losses and the fact that electricity cannot be stored, it would also be acceptable to allow every Member State to reserve the right to generate a reasonable proportion of its electricity supplies at its own national generating plant.

50. To promote this idea of optimization of major investments in electricity generation and transmission in the Community, the Commission will propose in a separate Communication (COM(89)335 final) a draft reglementation on the optimisation of investments in the energy field which are of Community-wide interest. This establishes, for every major investment project an obligation to provide information, and a possibility of concertation between Member States concerned.

51. This process of making investment in the electricity industry more efficient and putting it on a Community basis is vital considering that by the year 2010 approximately 250 GWe of capacity (the equivalent of 60% of the Community's current capacity) will have to be built to satisfy the forecast increase in consumption and to replace obsolete power stations.

CONCLUSIONS

52. Not all the possible implications of completion of an integrated electricity market have been covered in this communication: for instance, legal issues such as the need to abolish import or export monopolies, pricing, costs and electricity tariffs, the terms offered to private generators and the differences in the structure of the electricity industry from one part of the Community to another (could a more uniform arrangement be devised for the entire Community?) will have to be discussed separately and decided upon to produce specific proposals at a later stage.

53. Nevertheless the general approach set out above marks a considerable step forward. It demonstrates the Commission's determination to build an internal electricity market and its concern to proceed pragmatically and progressively in this complex field, after consulting all circles concerned.

54. The stakes are high enough for the Community to make better use of its individual Member States' complementary assets. Apart from providing the same if not greater security of supply, this would allow more efficient use of existing power stations and considerable potential savings of the renewal of conventional power stations. The Consumer must reap most of the benefit from this change, without impairing security of supply.

55. To this end the Commission has retained the following lines of action:

a) The liberalisation and boosting of electricity transfers by the introduction of modalities for applying the right of transit between integrated electricity grids, whether or not in the territorial competence of the same Member State, by means of a Directive based on Article 100a of the EEC Treaty;

b) The installation by the Commission of a concertation procedure (two consultative committees with the Member States and interested parties) to examine in depth whether acces to the grid systems by third parties should be organised and, if so, under which conditions.

c) An improvement of the prior notification and consultation procedure relating to future investment in electricity generation and transmission in the Community (see separate communication on investments in the energy sector COM(89)335 final).

CROSS-FRONTIER ELECTRICITY TRADE IN EUROPE

YEAR 1987 - GWh

Importing countries

Exporting countries	B	D	F	IT	L	NL	A	CH	ES	PT	YU	GR	UK	DK	T(1)	TOTAL EXPORTS
B	X	-	4863	-	876	2040	-	-	-	-	-	-	-	-	-	7779
D	-	x	576	-	3062	5968	2193	3850	-	-	-	-	-	146	-	15795
F	1269	3009	x	11856	-	-	-	6876	12488	-	-	-	11672	-	-	37170
IT	-	-	432	x	-	-	5	412	-	-	821	-	-	-	-	1670
L	0	439	-	-	x	-	-	-	-	-	-	-	-	-	-	439
NL	4316	91	-	-	-	x	-	-	-	-	-	-	-	-	-	4407
A	-	5874	-	1121	-	-	x	44	-	-	525	-	-	-	1824	9388
CH	-	8093	1550	10507	-	-	128	x	-	-	-	-	-	-	-	20278
ES	-	-	901	-	-	-	-	-	x	3701	-	-	-	-	100	4702
PT	-	-	-	-	-	-	-	-	675	x	-	-	-	-	-	675
YU	-	-	-	1305	-	-	325	-	-	-	x	284	-	-	414	2328
GR	-	-	-	-	-	-	-	-	-	-	197	x	-	-	167	364
UK	-	-	37	-	-	-	-	-	-	-	-	-	x	-	-	37
DK	-	1421	-	-	-	-	-	-	-	-	-	-	-	x	332	1753
T(1)	-	62	-	-	-	-	1348	-	5	-	1152	664	-	4026	x	7257
TOTAL IMPORTS	5585	18989	8359	24789	3938	8008	3999	11182	3168	3701	2695	948	11672	4172	2837	114042
BALANCES (- Import, + Export)	+2194	-3194	+28811	-23119	-3499	-3601	+5389	+9096	+1534	-3026	-367	-584	-11635	-2419	+4420	
BALANCES AS % OF INTERNAL CONSUMP.(2)	3,9%	0,8%	8,8%	11,0%	89,1%	5,2%			1,2%	13,5%		2,0%	4,0%	8,0%		

(1) T = Third countries: Albania, Bulgaria, Norway, Sweden, Hungary, German Democratic Republic, Rumania and Tchecoslovakia

(2) These are shown for Community countries only. Ireland is excluded from this presentation as no international interconnections exist.

Annex 2

ECONOMICS OF ELECTRICITY INTEGRATION

1. Issue

1.1 The analysis undertaken addressed the issue:

(a) Did the potential exist for greater integration of the electricity sector to provide a reliable and secure supply meeting demand at lower costs to consumers than under present practices; and

(b) If so, what were the order of magnitude of the resulting benefits to the Community?

1.2 As future developments in electricity integration would take place within the framework of the internal market the assumption was made that input costs would converge - an assumption which by definition diminishes the incentive to trade - where this trade is driven by the differences in comparative cost advantages.

2. Analytical Approach

2.1 Two contrasting policy scenarios were examined:

(a) continuation of current trading patterns; and

(b) greater integration in planning and operating the networks at unity level.

2.2 The essential difference between the integration approach and that of developing current practices is the benefits to be gained from achieving the same level of output and system reliability through a coordinated approach to the planning and operation of the electricity system at the Community level. Benefits include:

- Improved short term exchange possibilities (time of day, seasonal fluctuation etc. i.e. spot market)

- lower overall investment costs in new and replacement capacity

- Improved systems reliability.

2.3 Would the latent benefits from such an approach not be substantially reduced because of achievement of the other parts of the single market? yes in principle it effects both scenarios; the greater the harmonization of input costs the lower the incentive to trade but this does not remove the interest for such trade.

2.4 The benefits of an integrated approach arise from lower investment requirements to meet a given level of demand and from increased system reliability. Examining the potential of these benefits requires a dynamic approach to electricity demand and supply and three time horizons were studied to understand better the potential gains: the short-term (1992/3), the medium term (2000) and the longer term (2010).

2.5 using the scenarios adopted and applying these to the network comprising the Netherlands, the Federal Republic, France, Belgium, Spain, Portugal, Italy and the United Kingdom, provisional results suggest the benefit of greater integration to be in the order of;

Table 1

Estimated annual savings from greater integration

	Short term (1992)	Medium term (2000)	Long term (2010)
Billion ecus	1.3	2.3 to5.3[1)]	6.13
capacity "saved" (GW)	6%	7% - 16%	12%

2.6 These net monetary benefits include savings from both fuel and investment costs, yielding an accumulated 70 BECU over the period (taking the mid point in 2000 and 2010).

1) depending on the hypothesis of the renewing of installations

2.7 In terms of investment saving the benefits under the present practices are estimated at 13 GW to 2000. With greater integration thee is an additional benefit of 12 to 15 GW.

2.8 Taking into account the continuation of current practices and reinforcing these by greater integration the Community's electricity park can meet growing electricity demand to 2000 (averaging over 2%0 with an increase in physical capacity of under 1% p.a.

2.9 In addition to the economic benefit in 2.5 above there is also an "external" benefit of the reduced emissions because of lower consumption of fossil fuels.

Annex 3

PROPOSAL FOR A COUNCIL DIRECTIVE

ON THE TRANSIT OF ELECTRICITY THROUGH TRANSMISSION GRIDS

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100a thereof,

Having regard to the proposal from the Commission,

In cooperation with the European Parliament,

Having regard to the opinion of the Economic and Social Committee,

Whereas it is necessary to adopt the measures required to complete the internal market during the period ending 31 December 1992; whereas successive European Councils have recognized the need for a single internal market, and, in particular in Rhodes, the need for a single energy market;

Whereas the achievement of the single internal market implies that the European energy market must be better integrated; Whereas electricity is an essential component of the Community's energy balance;

Whereas the completion of the internal market for energy and more particularly in the electricity sector will take into account the objective of economic and social cohesion;

Whereas the objective of the single electricity market is to ensure greater profitability and security of supply by freer trade without unacceptable restrictions on competition; whereas the special nature of the electricity sector must be taken into account in the pursuit of this objective;

Whereas there is increasing trade in electricity each year between high-voltage electricity grids in Europe; whereas the Community's security of electricity supply would be improved and costs would be reduced by coordinating the building and operation of the interconnections required for such trade;

Whereas the exchange of electricity between high-voltage electricity grids which are based on contracts with a minimum duration of one year can have implications as far as the necessary investments are concerned; such proposed transactions should therefore be systematically known to the Commission;

Whereas it is possible and desirable to increase electricity transfers between grids and also take account of the imperatives of security and quality of electricity supply; whereas studies show that greater electricity transfers between grids can minimize the cost of investment and fuels involved in electricity generation and transmission and ensure optimum use of the means of production;

Whereas increased electricity transfers between grids may also encourage cooperation between electricity generation and transmission companies to find ways of improving production and transmission equipment; whereas such improvements will also cut costs;

Whereas there are still obstacles to greater trade in electricity between grids; whereas, provided they are not due to the nature of technology used or the nature of the grids themselves, such obstacles can be reduced by making the transit of electricity through grids compulsory and introducing an appropriate system of monitoring compliance with this obligation; whereas compliance with this obligation is a first step towards an internal energy market;

Whereas this obligation and monitoring system must be confined, at least at this stage, to the transit of electricity involved in trade which is in the Community interest, i.e. transit through high-voltage grids.

Whereas the financial, technical and legal conditions of such transit must, as a general rule, be worked out directly between the networks concerned;

Whereas the conditions of transit should be equitable and should not bring about, directly or indirectly, conditions contrary to Community competition rules;

Whereas it is necessary, in order to realise this first stage of the internal energy market in satisfactory competitive conditions, to approximate legislative, regulatory or administrative provisions introduced by Member States, to frame procedurally the formulation of these agreements in the most transparent manner;

Whereas it could prove necessary that the Council decide, without prejudice to the Commission's own powers, complementary conditions governing the modalities of intra-Community transit;

Whereas the establishment of an internal electricity market will stimulate gradual integration of national electricity grids, and whereas special infrastructure measures would help to speed up the linking-up of outlying areas and islands in the Community to the interconnected grid;

Whereas the territory covered by interconnected European grids over which trade must be coordinated extends beyond the Community's frontiers; whereas there must hence be concertation with third countries involved in the interconnected European network,

HAS ADOPTED THIS DIRECTIVE:

Article 1

Member States shall take the measures necessary to ensure compliance, on their territory, with the obligation of transit of electricity between high-voltage grids in accordance with the conditions laid down in this Directive.

Article 2

1. Every transaction for the transport of electricity under the following conditions, shall constitute transit of electricity between grids, within the meaning of this Directive:

   (a) transmission through a high-voltage electricity grid in a Member State's territory (which contributes to the efficient operation of European high-voltage interconnections);

   (b) transmission from one grid to another within the meaning of this Article.

2. Transactions involving transmission as well as contributing to the security and quality of electricity supply shall be considered to form part of transit.

   Transit shall, as a general rule, be through one or more intermdiary grids irrespective of whether these grids fall within the territorial jurisdiction of the same Member State or not.

3. The high-voltage electricity transmission grids and the entities responsible for them, which are listed in the Annex, shall be covered by the provisions of this Directive. This list shall be revised whenever necessary by decision of the Commission.

Article 3

1. The conditions for transit of electricity through grids shall be freely negotiated and agreed by the bodies responsible for the grids concerned and for the quality of service provided.

2. Member States shall take the necessary measures to ensure that the entities referred to in the Annex and under their jurisdiction shall proceed to examine requests for transit under the following conditions:

   - every request for transit corresponding to a sales contract of electricity with a duration of one year will be communicated, within a maximum of eight days, to the Commission and to the national authorities by the requesting entity or entities;

   - the responsible entities shall be obliged, within a maximum of one month , to open negotiations on the conditions of the electricity transit requested;

   - the transit conditions must be equitable for all the parties concerned and should not include unfair clauses or unjustified restrictions; in particular, payment for transit must take account of the responsibilities of the entity responsible for transit for ensuring security of supply and contractual quality of service;

   - the Commission and the competant national authorities shall be informed within a maximum of eight days of the conclusion of a transit agreement;

   - if, after twelve months following the communication of the request, negotiations have not achieved an agreement, the Commission and the competent national authorities shall be informed without delay by the interested parties who shall indicate their reasons.

Article 4

If the absence of agreement is not duly motivated, or if the motivation appears unjustified or insufficient, the Commission, acting on a complaint from the requesting body or on its own initiative, shall put in hand the procedures provided for by the Treaty or other applicable Community legal provisions.

Article 5

Before 1st January 1993, without prejudice to the Commission's own powers, the Council will decide - as far as necessary and in conformity with Article 100a of the Treaty - principles and complementary conditions governing the modalities of transit.

Article 6

Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive not later than 1 July 1990 and shall forthwith inform the Commission thereof.

The provisions adopted pursuant to the first paragraph shall make express reference to this Directive.

Article 7

This Directive is addressed to the Member States.

Done at Brussels,

For the Council

The President

ANNEX

List of entities and grids in the Community covered by the Directive*

Member State	Entity	Grid
Belgium	CPTE - Société pour la coordination de la production et du Transport de l'Electricité	(Coordinating body for public supply grid)
Denmark	ELSAM	Public supply grid (Jutland)
	ELKRAFT	Public supply grid (Seeland)
France	Electricité de France	Public supply grid
Federal Republic of Germany	Badenwerk AG Bayernwerk AG Berliner Kraft und Licht AG (Bewag) Energie-Versorgung Schwaben AG (EVS) Hamburgische Elektrizitäts-Werke (HEW) Preussen-Elektra AG Rheinisch-Westfälisches Elektrizitätswerk AG (RWE) Vereinigte elektrizitäts-werke Westfalen AG (WEW)	(Regional public supply grids (((((((((
Italy	ENEL	Public supply grid
Luxembourg	CEGEDEL	Public supply grid
Netherlands	SEP	Public supply grid
Portugal	EDP	Public supply grid
Spain	Red Electrica de Espana (Redesa)	Public supply grid
United Kingdom	Gridco Transco	Public supply grid

* Greece and Ireland are not yet linked up to the interconnected Community grid.