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COMMUNICATION FROM THE COMMISSION

AN OVERALL VIEW OF ENERGY POLICY AND ACTIONS

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INTRODUCTION

Energy is the lifeblood of economic activity and social welfare. It is essential for achieving growth, competitiveness and employment. Its production and use have a great impact on the environment.

This central role of energy is however generally only experienced and acknowledged by the European citizen in crisis situations (e.g. oil shocks, Chernobyl, Gulf war). Nonetheless, the European Union will have to face strategic energy challenges in the years to come which will have a direct impact on European citizens and consumers. It is necessary, therefore, to respond with a suitable strategy.

The Community already possesses a wide range of instruments in various policy contexts from which energy actions are developed. As a follow-up to the White Paper "An Energy Policy for the European Union" and in response to a request expressly made by the Council², this Communication presents an overall view of energy policy and the instruments available for its implementation. It represents a first step which could open the way to a new and more coherent presentation of energy actions. The main components of energy policy are listed in the table at Annex 1. The financial instruments available at Community level are indicated in the table at Annex 2.

A. THE STRATEGIC ENERGY CHALLENGES

Following an intensive debate on the 1995 Green Paper on the future shape of a Community energy policy ³, the Commission adopted the White Paper "An Energy Policy for the European Union". The broad policy orientations have been largely endorsed by the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions. It will be necessary to adapt energy policy to the strategic challenges the European Union will have to face, taking account of the rapid development of markets and the international situation.

The table in Annex I shows that in order to meet the challenges listed below, it is necessary to deploy a panoply of actions, which can be undertaken in the context of the different programmes.

1. Managing external dependency to secure energy supply

The external energy dependency of the European Union currently stands at approximately 50%. It could well by 2020 increase to as much as 70%, 80% and 90% for natural gas, coal and oil respectively if appropriate measures are not taken. This growing external energy dependency of the Union should be taken account of and analysed in the light of the political risks in some supplier or transit countries and growing world energy consumption. Forecasts predict a tightening of energy supplies and an upward trend for energy prices.

White Paper "An Energy Policy for the European Union", COM(95) 682 of 13.12.1995.

Council Resolution of 08.07.1996 on the White Paper "An Energy Policy for the European Union", OJ N° C 224 of 01.08.1996, p.1, and Council Regulation N° ...of 14.04.1997 adopting a programme to promote international cooperation in the energy sector - SYNERGY programme - (Art. 3).

Green Paper "For a European Union Energy Policy", COM(94) 659 of 11.01.1995.

⁴ "European Energy to 2020. A Scenario approach", European Commission, Spring 1996.

A major challenge for energy policy is therefore to ensure security of supply. Diversification and flexibility of domestic and imported supplies should be encouraged in particular by promoting the development of renewable energy resources and by achieving closer integration of the energy markets.

There is also scope for strengthening security of supply by closer cooperation with third countries and by developing a system which can respond quickly and flexibly to sudden energy supply breakdowns, in particular as regards oil and gas. The European Union is evolving in a world that is becoming more and more interlinked and interdependent. This raises issues such as the conditions of access of energy products to the European market and the access of European energy companies to third countries' markets. In its external relations the Community needs to give even more attention to energy policy if it is to find appropriate responses to its large and growing external energy dependency, particularly since many energy issues have an international dimension.

A coordinated approach to external energy relations is thus necessary in order to ensure free and open trade and a secure framework for energy investments. Dialogue, assistance and cooperation with non-member countries are realistic solutions for the simultaneous enhancing of energy security, achievement of environmental goals and stimulation of the development of appropriate energy technologies and their dissemination to third countries.

2. Integration of the European energy markets to increase competitiveness

One of the critical factors for the international competitiveness of European businesses is the cost of energy, in particular in the context of the growing globalisation of markets.

Compared to the USA, European industry pays far more for energy. For instance, it is estimated that in the chemicals sector European companies pay up to 45% more than their US competitors⁵. Apart from differences in tax treatment, the lack of competition is a key factor in explaining the cost differential. For instance, it is expected that full liberalization of the European internal electricity market will provide substantial benefits which would amount to 10-12 billion ECU per annum, or twice as much as gains anticipated from the opening already agreed. The introduction of third party access in gas would also lead to a cost reduction of 900 million ECU per annum and substantial additional gains could result from gas-to-gas competition.

A key challenge for Energy Policy is therefore to ensure further integration of the Community energy market, based on the principle of open and competitive markets. This is crucial for European competitiveness. It is also essential for achieving flexibility, efficiency and long-term security in the energy sector and for enhancing economic and social cohesion. The increased competitivity aimed at by the integration of the energy markets must not develop against the legitimate expectations of non-industrial consumers in favour of energy equipment and services guaranteeing increased safety, quality, and durability, available at affordable prices. This process of integration is not incompatible with public service obligations undertaken on the basis of clearly defined criteria, transparently applied in the general interest.

3. The compatibility of energy and environmental objectives for sustainable development

Environmental considerations have emerged at the top of the political agenda in response to the increasing concern of the European citizen. Energy, which is a key factor in the achievement of sustainable development, must be given political priority if all the environmental objectives are to be met. For instance, in view of the global issue of climate change, the Community's political commitment to limit greenhouse gas emissions cannot realistically be achieved without energy policy measures.

One major challenge for energy policy is thus to render energy and environmental objectives more compatible. The more rational use of energy and of non-fossil resources such as renewables should make a significant contribution to this goal. Wherever possible, the full cost of energy production and consumption, including external costs, should be established in a transparent manner and reflected in the price.

Consumers, and indeed industry, should also play their part in taking up the challenge, by realising that their individual choices have direct consequences on the quality of their environment. It is thus important for Union and Member States to raise the awareness and develop the interest of the European citizen, mainly by means of actions at local level.

4. Developing energy technology and research

The development of new, cleaner and more efficient energy technologies and their introduction on the energy markets is a strategic challenge insofar as this should allow the priority objectives of energy policy to be achieved more easily.

The objective of actions in this area is to develop new technologies, for new energy sources to strengthen security of supply and diversification, for energy saving and for more productive access to fossil fuels. Subsequent exploitation of these technologies must serve the priority interests of energy policy.

In order to achieve this, closer links between the different stages of R&TD and the mechanisms of the energy market will have to be ensured by, inter alia, improved cooperation between Member States and between the main actors in the different phases of this process.

This also implies that the needs of the consumer and the respect of the environment must be integrated at each step of energy technology research, and that the different stages of technology development need to be coordinated with measures taken to improve their market application.

B. THE NEED FOR AN OVERALL ENERGY POLICY RESPONSE

A range of policy measures is available in the field of energy, at regional, national and Community level. The reasons for a more overall approach are fivefold:

1. The need for a clear and specific legal base

The lack of such a base in the Treaty establishing the European Community compels the use of Article 235 or else moving, depending on the measures, from an Article concerning "Industry" to another concerning "the Environment" or the "Internal Market".

The Commission recalls in this connection the position it took in its report to the Council of 3 April 1996, in which it stressed that the continuity of coherence of Community action in the energy field could be facilitated by the introduction into the Treaty of provisions which would make such actions more efficient and more visible.

2. The need for greater transparency in Community Energy Policy actions

Community actions in the field of energy are currently developed under a series of Community policies (Energy Policy, External Relations, Environment, R&TD, Competition, Internal Market, Regional Policy, Agriculture, etc.) This sometimes results in a lack of transparency in existing actions, both for industry and for political decision-makers.

An overall Energy Policy framework would optimise the effectiveness of the actions and help to implement a more transparent energy policy.

3. The need for better targeting

The scattering of energy actions over a great number of Community policies also points to the need for better targeting of these actions to optimise the use of resources. The table at Annex 2 shows the volume and the range of the means deployed from the various policies.

The primary concern should be to identify any policy gaps, encourage synergies and avoid duplication between these Community measures so as to ensure their maximum effectiveness. An overall energy policy framework would facilitate better targeted actions around the priority Community energy objectives.

4. The need for closer co-operation between the Community and Member States

Many energy policy measures are taken by Member States, be it at national, regional or local level. If the priority Community energy objectives are to be met, it is essential to establish an energy co-operation framework between the Community and the Member States. The objective is not to impose choices on national energy policies. On the contrary, the aim is to enable Member States to ensure that their energy choices are compatible with the priority Community objectives and to help them to achieve this.

Report from the Commission to the Council on Civil Protection, Tourism and Energy (SEC(96)496 final of 3 April 1996).

This co-operative approach with Member States will also promote exchanges of information and experience, help identify issues of Community interest, and facilitate the transfer of best practice.

5. The need for fuller involvement of all interested parties

The transparency and the effectiveness of the Community's energy policy could also be improved by fuller involvement of all interested parties. More dialogue and partnership between these parties and the Community can facilitate the identification of needs, the definition of appropriate policy actions and their implementation.

C. OBJECTIVES AND RANGE OF THE ANALYSIS

1. Objectives

The aim is to bring together all Community actions for energy into a coherent and comprehensive framework with two objectives:

- to ensure greater transparency of the Community's energy policy;
- to examine ways of increasing the effectiveness of the Community's energy policy, in particular by helping to identify areas where Community actions need to be simplified, better co-ordinated or strengthened.

2. Range

The analysis covers all Community actions in the field of energy. Two types of actions are identified:

- actions to promote energy co-operation between Member States;
- Community actions developed both under the Community's specific Energy Policy and under other relevant Community policies (e.g. Structural Funds, R&TD, External Relations, Competition, Environmental and Agricultural policies) and other instruments (e.g. the European Investment Bank, European Investment Fund, European Development Fund).

All Community measures in the field of energy are classified on the basis of the contribution they can make to the four following priority objectives:

- Securing supply and strengthening international energy co-operation,
- Integration of European energy markets;
- Promotion of sustainable development,
- Developing energy technology and research.

The table at Annex 1 sets out the main components of energy policy. It is followed by a table showing the main sources of finance for Community energy actions (Annex 2).

I. ENERGY CO-OPERATION

A. CO-OPERATION WITH MEMBER STATES

Member States and Community share common energy objectives. A list of these objectives is set out in the recent draft Decision concerning the organisation of cooperation around agreed Community energy objectives.⁷ This list of objectives sets out policy guidelines - covering, inter alia, security of supply, competitiveness, environmental protection, external energy relations and the promotion of energy efficiency and renewables - which have been periodically endorsed by Member States.⁸

In order to facilitate the achievement of these common energy objectives, it is thus essential to strengthen co-operation and co-ordination between Member States within an organised framework so as to ensure that national and Community energy policies are compatible with those objectives As a response to the Council's request, the draft Decision concerning the organisation of co-operation around agreed Community energy objectives sets out a framework for closer co-operation between Member States and the Community.

It also provides that representatives of the Member States will meet regularly, and will assist the Commission to assess the extent to which Member States' energy policies and Community actions contribute to the agreed energy objectives. These meetings will constitute a forum for facilitating the exchange of information, the identification of issues of Community concern and the transfer of best practice.

The draft Decision requires the Commission to take initiatives to facilitate closer cooperation and co-ordination between Member States. This includes in particular the monitoring, evaluation and exchange of information on energy policy matters. On the basis of the information obtained from Member States, the Commission would be required to present a periodic report on the compatibility of energy policies in the Member States and the Community with the agreed common energy objectives. This report will provide the basis for an examination of energy developments in the Council and will enable the identification of the need for new energy policy measures.

In order to facilitate this co-operation process, a framework should be defined for energy analyses and forecasts, to be shared by Member States and the Community. The European Energy Observatory, based on a network of national centres, could play an important supportive role in analysing priority issues. This analytical work - covering both energy market and policy developments - should target the priority energy objectives. For instance, security of supply needs to be kept under permanent review, in particular by regular examination of the energy situation and global energy market developments.

Proposal for a Council Decision Concerning the Organisation of Cooperation Around Agreed Community Energy Objectives, OJ N° C 27 of 28.01.1997, p.9.

Most recently, in the Council Resolution of 08.07.1996 on the White Paper "An Energy Policy for the European Union", OJ N° C 224 of 01.08.1996, p.1.

This action would take account of the similar work carried out for the new energy technologies in the framework of the activities of the JOULE-THERMIE Programme and of the co-ordination of R&TD policy provided for in the 4th Framework Programme.

B. CO-OPERATION WITH INTERESTED PARTIES

In the framework of preparing the Green and White Papers on European Energy Policy, the comments of industrial and consumer bodies as well as other organisations on the future shape of Community Energy Policy have been very useful. These organisations have also emphasised the importance they attach to this dialogue and to transparency, and they have expressed their wish that this process should be continued and deepened. The Council has endorsed this request by calling upon the Commission to pursue this consultation process in a Community energy framework⁹.

The main purpose of closer co-operation with interested parties is to provide the basis for an open and transparent dialogue whereby the Commission can take into account the views of all parties concerned when preparing proposals for energy policy decisions of interest to them.

An Energy Consultative Committee is being set up, under Commission auspices, consisting of representatives of the principal economic and social actors in the energy sector. ¹⁰ The principal tasks of this Committee consist of (a) identifying areas in which Community action is needed, (b) delivering opinions on Commission proposals before they are officially adopted, and (c) formulating recommendations on how to implement energy policy actions.

Council Resolution of 08.07.1996 on the White Paper "An Energy Policy for the European Union", OJ N° C 224 of 01.08.1996, p. 1.

Commission Decision No 96/642/BC of 8 November 1996 setting up an Energy Consultative Committee, OJ No L292, 15.11.1996, p. 34.

II. COMMUNITY ACTIONS

A. SECURITY OF ENERGY SUPPLY AND INTERNATIONAL ENERGY COOPERATION

The external energy dependency of the European Union, of approximately 50% at present, is likely to continue increasing and reach 70% in 2020. The growth of external dependency requires security of energy supply to be a major priority for Community policy. Measures should include: the diversification of energy supply and sources; action on energy demand; cooperation programmes; the preparation of the accession of new states; cooperation with international institutions and crisis measures.

1. Actions on the diversification of energy supply

The diversification of energy supply requires actions both as regards the variety of partners supplying energy to the Union, and as regards the diversity of energy resources available.

• The development of relations with the supplier countries

The relations of the European Community with its current and potential suppliers require the progressive establishment of a suitable legal framework which covers bilateral and multilateral agreements, together with the strengthening of infrastructures.

The Energy Charter has become the main framework for pan-European energy cooperation ¹¹. The Treaty, which was concluded in December 1994, is the first economic agreement covering all the NIS republics, the countries of Central and Eastern Europe, the European Community, its fifteen Member States, and some countries of the OECD. Its main aim is to facilitate and develop trade and to protect and promote investments in the energy sector. The ratification of the Charter Treaty by all its signatories is of major importance for East-West cooperation in the energy sector.

Energy and nuclear safety appear as priority issues in the agreements concluded with the Central and Eastern European countries but also in those concluded with a majority of republics of the NIS and other third countries. The emergence of Central Asia and of the Caspian Sea Basin as gas and oil producers offers a strong potential for exports to the European Union. The bilateral agreements with Asia and Latin America give an important role to cooperation in the field of energy and in particular to the search for greater energy efficiency. Cooperation with the countries of the Gulf is another major component of the security of the energy supply of the European Union. Protocols signed with the Mediterranean third countries envisage actions for energy, and energy is an explicit aspect of the reform of the economic and social structures within the framework of the Euro-Mediterranean partnership. Lastly, the Lomé convention contains, among its other provisions, a section devoted to the development of energy production, both fossil and renewable, in the ACP countries.

Council Decisions 94/998/EC and 94/1067/Euratom of 15.12.1994 on the provisional application of the Energy Charter Treaty by the European Community. OJ N° L 380 of 31.12.1994, p.1.

The increase in the infrastructures for transport of energy to the European Union is a decisive condition of security of energy supply. Within the framework of actions for the promotion of the Trans-European Energy Networks¹², the Commission will support the process of identification of projects of mutual interest with the third countries concerned, as proposed in its new Communication on the external dimension of the Trans-European Energy networks.

Diversification of energy resources

The diversification of energy resources, in particular the use of new and renewable sources, should make it possible, by an increase in supply, to increase the energy security of the European Union. The same is true with regard to the contribution of nuclear energy and energy products of European origin, provided these are economically competitive. Energy saving and cogeneration also contribute to reducing external dependency.

The European Community supports new energy sources and renewables (hydro-electric, solar, wind and geothermal) and encourages biofuels. The ALTENER¹³ and JOULE-THERMIE¹⁴ Programmes play a leading part in promoting this process. The relatively high costs of putting the biomass products to energy use should not obscure the advantages of these technologies, not only for Community energy policy but also as regards job creation, environment and future developments in agriculture. The Common Agricultural Policy supports the production of raw materials for purposes other than human or animal consumption, most of this non-food production is for biofuels.

The nuclear sector represents more than 30% of the electricity production of the European Union, and consequently contributes to lower external energy dependency. Use of nuclear energy must take into account the imperatives of non-proliferation, of nuclear safety, of health and of waste treatment. Under the EURATOM Treaty, the Community institutions have a role in the development of nuclear energy, in particular by the publication of the PINC¹⁵ (Illustrative Nuclear Programmes which give guidance to investors in this field), by the implementation of provisions concerning the supply of nuclear materials and safeguard provisions, by the protection of workers and the population against risks due to ionising radiation, and by the conclusion with third countries of agreements on nuclear trade. In this connection, mention should be made of the measures taken to combat illegal traffic in nuclear materials (essentially, those diverted from military uses), including their customs and judicial co-operation aspects.

Decision 1254/96/CE of the European Parliament and of the Council of 5 June 1996 laying down a series of guidelines for Trans-European Energy networks, OJ N° L 161, 29.06.1996, p. 147.

Council Decision 93/500/EEC of 13 September 1993 concerning the promotion of renewable energies in the Community (ALTENER), OJ N° L 235 of 18.09.1993, p.14.

Draft Council Decision concerning a multiannual programme for the promotion of renewable energy sources in the Community. ALTENER II, COM(97) of 12.03.1997.

The presentation of JOULE-THERMIE in its legal context of the 4th RDT framework programme is in Chapter D.1.

Based on Article 40 of the EURATOM Treaty, the publication of the last PINC took place in 1996, COM(96) 0339 final of 25.09.1996.

2. Actions on energy demand

The decreasing of dependency on imported energy necessitates additional action to reduce energy demand.

Through SAVE¹⁶, JOULE-THERMIE and the local energy agencies, the European Union aims to promote energy saving and develop a culture of energy-saving behaviour and rational energy consumption.

Techniques offering a high technological output have also fully to be exploited. In this connection, the contribution of JOULE and THERMIE to technological development and demonstration projects concerning energy efficiency should be highlighted.

3. <u>International aid and cooperation programmes</u>

International cooperation is a vital aspect of a coherent energy policy. Energy dependency, as well as the planetary character of climatic change, have in fact made any geographically limited attempts to grapple with energy questions out of date.

• Technical assistance programmes

The most important programmes in this domain (PHARE, TACIS¹⁷ and MEDA¹⁸) allow, in particular, the undertaking of technical assistance programmes but also co-financing in the energy sector. The development of an effective energy policy is a preliminary, for the countries involved, to their economic development. In line with the policy priorities towards the regions concerned, every effort is made to strengthen the contribution of their programmes towards the setting-up in these countries of effective energy structures, and to carry out the necessary reforms.

In its relations with the developing countries of Latin America and of Asia (DC-ALA), the Community has defined a precise framework¹⁹ for this cooperation which has resulted, in the field of energy, in a cooperation strategy between Europe and Asia on the one hand²⁰ and, as regards Latin America, in the recent launching of the ALURE Programme, aimed at encouraging the optimum use of energy resources in this region.

Council Decision 96/737/EC of 16 December 1996 concerning a pluriannual programme for the promotion of energy efficiency in the Community (SAVE II), OJ N° L 335 of 24.12.1996, p.50.

The closure of Chernobyl should be partly financed by a EURATOM loan and TACIS subsidies.

Council Regulation N° 1488/96/EC of 23 July 1996 on financial and technical measures to accompany (MEDA) the reform of economic and social structures in the framework of the Euro-Mediterranean partnership, OJ N° L189, 30.07.1996, p.1.

Council Regulation N° 443/92/EEC of 25 February 1992 on financial and technical assistance to, and economic cooperation with, the developing countries in Asia and Latin America, OJ N° L 52, 27.02.1992, p.1.

Council Regulation N° 213/96/EC of 29 January 1996 on the implementation of the European Communities investment partners financial instrument for the countries of Latin America, Asia, the Mediterranean region and South Africa. OJ N° L 28, 06.02.1996, p.2.

Communication from the Commission on an Europe-Asia Cooperation strategy for energy, COM(96)308 final of 18.07.1996.

Relations with the ACP countries are organised within the framework of the funds provided under the Lome agreements, in particular the European Development Fund (EDF). Actions in the field of energy could receive new impetus, in particular with regard to renewables, so as to tackle problems of water supply and of desertification, to favour economic takeoff, to limit external constraints on imports of energy and to improve the quality of life of the rural populations of these countries.

• Taking European priorities into account

SYNERGY is the tool for international cooperation which is specific to the energy sector and which takes full account of the needs of the European energy industry in their external aspect. The implementation of the SYNERGY Programme is responding to an obvious specific need for international cooperation in the energy sector. This programme covers cooperation with third countries for the definition of energy policy and its implementation.

The programme concerns the countries of Central and Eastern Europe, the republics of the NIS and the Mediterranean countries, Asia, Latin America and Africa. A key feature of this programme is that it takes account as a priority of the specific needs of European energy policy development.

Among cooperative efforts initiated by SYNERGY, the creation of the Euro-Mediterranean Forum²¹, the setting up of the Balkans Task Force, similar actions for the Baltic States and the new China-European Community Group represent major activities.

• External aspect of R&TD and environmental policies

International cooperation in the energy field is also based on a specific external aspect deriving partly from R&TD policy (the INCO Programme and the specific JOULE-THERMIE Programme) and partly from energy actions carried out in the framework of environmental policy. In the framework of the INCO Programme, synergy is ensured with the JOULE-THERMIE Programme so as best to exploit partnership and cooperation possibilities with third countries as regards energy technology. Joint energy research projects are also undertaken with the developing countries.

• Links between the different programmes

Emphasis is placed on seeking complementarities between programmes. The imperative of complementarity was particularly evident when redefining the role of SYNERGY. This programme, as now defined, will place priority on European energy interests at international level, complementing the actions of the energy industry. This approach differs from that of PHARE/TACIS and the Lomé Convention, under which actions to be financed are defined by the Commission on the basis of requests linked to the needs expressed by third countries.

Communication from the Commission to the European Parliament and the Council concerning the Euro-Mediterranean partnership in the energy sector, COM(96)149 final of 03.04.1996.

4. Preparing for the accession of new States

At the European Council of Essen of December 1994, the pre-accession strategy²² was adopted which contains policy initiatives to prepare the associated CEECs for their accession to the European Community. In this context, a structured political dialogue between the European Community and the applicant countries makes it possible to discuss questions of mutual interest including energy. This strategy of pre-accession results, in the field of energy, in harmonization of energy policies, reform of legislation in line with the "acquis communautaire" and restructuring of the energy sectors.

5. Cooperation with international organizations

Energy questions are also treated within specialized organizations such as the International Energy Agency (IEA) - in particular for crisis measures -, the International Atomic Energy Agency (IAEA) - as regards all the applications of nuclear energy and in particular the monitoring of nuclear materials use (safeguards) and assistance to CEECs and to the NIS - and the Agency of the OECD for nuclear energy. Energy also represents an important aspect of the activities of the European Bank for Reconstruction and Development (EBRD) and of the World Bank, in particular for the technical and financial assistance aspects and for the encouragement of the rational use of energy.

The Commission attaches a great deal of importance to its collaboration and coordination with these international organizations, in view of the increased convergence of energy objectives and in view of the complementarity of the means to be employed.

6. Crisis measures

In order to alleviate potential difficulties in the supply of energy resources, an obligation for Member States to maintain a minimum crude oil and/or petroleum product stock level was established in 1968²³. Complementary crisis measures (levies on stocks, reduction of consumption, distribution between Member States) have been taken since 1973²⁴. In connection with the initiatives developed on this point within the I.E.A., the current framework of stocks and crisis measures has to be adapted to integrate all the components of the internal energy market as it takes shape, together with the development of the world market.

White Paper - Preparation of the associated countries of central and Eastern Europe for integration into the internal market of the Union. COM(95)163 final of 03.05.1995.

Council Directive 68/414/EEC of 20 December 1968 (OJ N° L308 of 23.12.1968, p.14) fixed this level at a quantity corresponding to 65 days of average consumption; Directive 72/425/EEC of 19.12.1972 (OJ N° L 291 of 28.12.1972, p.154) carried this level to 90 days of consumf consumption.

Council Directive 73/238/EEC of 24 July 1973 on measures to mitigate the effects of difficulties in the supply of crude oil supply and petroleum products, OJ N° L 228, 16.08.1973, p.1.

Council Decision 77/706/EEC of 7 November 1977 on the setting of a Community target for a reduction in the consumption of primary sources of energy in the event of difficulties in the supply of crude oil and petroleum products, OJ N° L 292 of 16.11.1977, p.9.

B. INTEGRATING ENERGY MARKETS

The internal energy market represents an essential priority for energy policy and for the European Union in general; it opens up prospects for increases in competitiveness for companies and for the reduction of prices to the European citizen.

1. The achievement of the Internal Energy Market

The internal energy market requires the adoption of a number of operating rules and means for its development.

The structures of the electricity sector are changing in numerous countries of the world and in several countries of the European Union; this involves primarily a process of modernization, of liberalization and of the introduction of competition

The directive on the *internal market in electricity*, adopted by the co-decision procedure at the end of 1996 ²⁵, aims at establishing real competition among the energy producers and at giving consumers a choice for their electricity supply. It represents a decisive step in the achievement of the internal market. This Directive also recognises the public service obligations specific to the electricity sector and is fully in keeping with the Commission's Communication on services of general economic interest ²⁶. The discussion of the rules concerning the internal market in gas ²⁷ are now entering a decisive phase in a favourable negotiating climate.

The directive on the internal market in electricity, which entered into force early in 1997, will open up as a minimum a third of the market in six years, which corresponds to a volume of 45 billion ECU turnover. It represents a significant opening-up to competition. The full implementation of the internal market and a rigorous application of the competition rules will create a level playing field for the development of energy sources. State aid to the companies and other organizations in the energy sector has to follow the general provisions on state aid except in the case of the coal industry where special provisions²⁸ have been adopted, taking into account the decline of the sector and the need for environmental protection.

The networks for transport of energy constitute an essential infrastructure element for the internal market. The interconnection of these networks is largely operational at national and regional levels. It is being achieved at Trans-European level. There nevertheless still exist, at all levels, missing connections and insufficient capacities. Moreover, it has been necessary to build new pipelines from the gasfields to meet the increasing demand for natural gas. Decisions²⁹ taken in 1996 as regards Trans-European Networks provide the

Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity, OJ N° L 27 of 30.01.1997, p. 20.

Communication from the Commission on services of general interest in Europe, COM(96)443 final of 11.09.1996.

Amended proposal for a European Parliament and Council Directive concerning common rules for the internal market in natural gas, OJ N° C123, 04.05.1994, p.26.

Commission Decision N° 3632/93/ECSC of 28 December 1993 establishing Community rules for State aid to the coal industry, OJ N° L329, 30.12.1993, p. 12.

Council Decision N° 96/391/EC of 28 March 1996 laying down a series of measures aimed at creating a more favourable context for the development of Trans-European Networks in the energy sector. OJ N° L161, 29.06.1996, p. 154. Decision N° 1254/96/EC of the European Parliament and of the Council of 5 June 1996 laying down a series of guidelines for Trans-European Energy Networks, OJ N° L 161, 29.06.1996, p.147.

framework, guidelines and means for securing a sound basis for trade and for the operation of the internal energy market.

Taxation of energy products is an important factor in the achievement of the internal market. The Directives relating to excise duties on mineral oils ³⁰ together with that relating to the free circulation of these products ³¹ have allowed the creation, by a process of harmonization, of a true internal market in mineral oils. The Commission sent the Council, on 12 March 1997, a draft Directive aimed at completing the first of these provisions and at thus strengthening the internal market in energy products ³². This proposal widens the application of the Community system of minimum rates to cover all energy products. It will allow the ending of distorsions of competition which today affect the energy markets, while promoting the principle of fiscal neutrality. This proposal also takes account of the need to encourage, by fiscal incentives, the development of renewable energies, and the internalization of environmental costs.

Transparency is a very important condition for the smooth operation of the internal energy market and is likely to create a climate favourable to investment. This transparency should extend to the energy policies pursued, to the rules applied, to the quantities ³³ and prices of energy products, and to investments. It was significant, for example, that the transparency of prices to the industrial final gas and electricity consumer was achieved in this context.³⁴

Standardization contributes to the integration of the energy sector. Standardization work covers the energy products themselves, their production, their transport, their distribution and also appliances or equipment which are energy-consuming. It is in particular with the support of SAVE and ALTENER that standardization directives are drawn up in the fields of energy efficiency and the labelling of energy-consuming appliances³⁵.

Council Directive 92/81/EEC of 19 October 1992 on the harmonization of the structures of excise duties on mineral oils, OJ No L 316 of 31.10.1992, p. 12. Council Directive 92/82/EEC of 19 October 1992 on the approximation of the rates of excise duties on mineral oils, OJ No L 316 of 31.10.1992, p. 19, modified by Council Directive 94/74/EC of 22 December 1994, OJ No L 365 of 31.12.1994, p. 46.

Council Directive 92/12/EEC of 25 February 1992 on the general arrangements for products subject to excise duty and on the holding, movement and monitoring of such products, OJ N° L 76 of 23.03.1992, p.1.

Draft Directive restructuring the Community framework for the taxation of energy products, COM (97) 30.

Council Regulation 95/2964/CE of 20 December 1995 introducing registration for crude oil imports and deliveries in the Community, OJ N° L 310, 22.12.1995, p.5.

Council Directive 90/377/EEC of 29 June 1990 concerning a Community procedure to improve the transparency of gas and electricity prices charged to industrial end-users, OJ N° L 185, 17.07.1990, p.16.

Council Directive 92/42/EEC of 21 May 1992 on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels, OJ N° L 167 of 22.06.1992, p. 17. Directive 96/57/EC of the European Parliament and of the Council of 3 September 1996 on energy efficiency requirements for household electric refrigerators, freezers and combinations thereof, OJ N° L 236, 18.09.1996, p. 36.

2. Energy and economic and social cohesion

Energy policy is also concerned with Community action in the field of economic and social cohesion³⁶. The possibility of having sufficient energy available at affordable prices is an important condition for the competitiveness of underdeveloped regions. A good energy balance, rational energy use and emphasis on the development of renewable energies are also important considerations for European regional planning The energy programmes include this aim of cohesion, it is thus for example that a third of the actions under THERMIE and nearly half of the local and regional energy centres are located in the regions of Objective 1 (support to the less developed regions) and more than 20 % in the regions of Objective 2 (regions in industrial decline) and 5b (rural areas).

As regards the Structural Funds, the Community Support Frameworks almost all envisage an "energy component". In the Objective 1 budget, the amount for projects concerning energy represents 2.5 billion ECU. Some of the Community initiative programmes concern energy directly, in particular INTERREG II/REGEN (cross-border cooperation and energy networks) and REGIS II (integration of the more remote regions).

The Cohesion Fund, for its part, finances environmental projects and projects for transport infrastructure which are indirectly connected with energy.

3. The financing of energy investments

In addition to the financing provided by the Structural Funds or within the framework of the Trans-European Networks, the energy sector enjoys the financial support of the EIB, the EIF and ECSC and EURATOM aid and loans. The table entitled "main sources of finance for Community energy actions" (see Annex 2) provides an overview of all the financing granted to the energy actions.

Loans from the European Investment Bank (EIB) to the energy sector account for approximately 20% of the financing granted by the EIB. The objectives of the energy policy of the European Community constitute eligibility criteria for the EIB. The achievement of the internal market also results in emphasis on the interconnection of the gas and electricity networks both within the European Union and outside it.

The Edinburgh mechanism was introduced by the European Council at the end of 1992 to support, inter alia, the financing of investments in Trans-European Energy Networks, equipment in the energy production sector and other investments making it possible to improve the access of the regions concerned to the Trans-European Energy Networks (the amounts granted are included in the data given in Annex 2 concerning EIB loans).

The European Investment Fund (EIF) centres its interventions on the granting of financial guarantees to the banks in support of medium and long term investments of interest to the Trans-European Networks.

Communication from the Commission to the Council, the European Parliament and the Economic and Social Committee on Energy and economic and social cohesion, COM(93)645 final of 14.02,1994.

The ECSC finances actions concerning in particular the retraining of workers and research programmes in the coal and steel sectors; it grants interest rebates on industrial readjustment loans. Moreover, the ECSC makes loans, mainly to the coal industry, to thermal power stations and to Community steel.

C. PROMOTING SUSTAINABLE DEVELOPMENT IN THE ENERGY FIELD

"Sustainable" economic and social progress can be achieved only if all policies and, first and foremost, energy policy, fully integrate environmental concerns

1. The compatibility of energy and environmental objectives

The energy sector plays a major role as regards the environment. Indeed, the production, transport and use of energy have incidences, in most cases, on our environment; these incidences may be local, when they concern air quality in towns, discharge, nuclear storage or noise; they may cover several regions or states and thus have continental dimensions, in the case of emissions which have consequences beyond their place of origin. Emissions of greenhouse gases such as CO₂ constitute a world-wide concern, which was the subject of the United Nations Framework Convention on Climate Change. All actions aimed at reducing emissions and developing safer energy techniques bring with them benefits to health. Since 1991, the reduction of CO₂ emissions has been raised by the Council to the rank of strategic concern³⁷ and will represent the major topic for discussion at the Kyoto Summit in December 1997. On 3 March 1997, Council conclusions indicated the objective of reducing by 15% emissions of the main greenhouse gases before the year 2010. Against this background, the Commission is preparing a Communication on the energy dimension of climate change.

Taxation, voluntary agreements and R&TD are some of the means available, in addition to legislation, for making energy and environmental objectives compatible. This dimension has been taken into account by the Commission in its draft Directive restructuring the Community taxation framework for energy products³⁸, which aims at completing the internal market while allowing Member States to implement environmental policies adapted to their national contexts. Furthermore, the Commission is negotiating with the car industry with the aim of reaching an agreement on significant reductions in the average CO₂ emissions from new cars. In addition, specific programmes can enable the Commission and the energy industry to work together. For example, the Auto-Oil programme involved the petroleum and automobile sectors in seeking the best way of economically attaining air quality objectives, working simultaneously on the aspects relating to fuels and to engines³⁹.

At its meeting on 29 October 1990, the Council regarded it as a goal to stabilize total CO 2 emissions between now and the year 2000 at the 1990 level throughout the Community. Also see the amended proposal for a Council Directive introducing a tax on carbon dioxide emissions and energy, COM(95)172 final of 10.05.1995.

Draft Directive restructuring the Community framework for the taxation of energy products (COM (97) 30).

The Communication from the Commission to the European Parliament and the Council on a future strategy for the control of atmospheric emissions from road transport takes into account the results from the Auto/Oil Programme, COM(96)248 final of 18.06.1996.

2. The rational and efficient use of energy resources

The achievement of the Community's environmental objectives and the reduction of energy dependency necessitate rational and efficient use of energy resources. The SAVE Programme provides an overall framework for the European Community for stimulating measures on energy efficiency, for encouraging investment by industry and consumers in energy conservation, and for creating the conditions for the improvement of the energy-intensiveness of final consumption. Complementing this, the JOULE-THERMIE Programmes provide financial support for the development of clean and efficient technologies in this field.

Energy saving at the local and urban levels is increased by the improvement of demand management, by the promotion of energy efficiency and by better use of regional resources. Following pilot projects for the regions, for the cities and for the islands, the Commission has concentrated its action on the local or regional agencies for energy saving, the creation of which is supported by SAVE. The value added by setting good examples and by successful cooperation in this field across national boundaries are especially noteworthy. The potential number of local or regional agencies which could usefully operate is estimated at 1600 in the European Union.

3. The promotion of new and renewable energy sources

Renewable energy sources are clean, contribute relatively little to climate change, and are indigenous and generally easily available. Increasing their share in the Community energy balance would contribute to environmental protection and to security of supply, as well as having other advantages. These energy sources will be more intensely developed in the future, given the progress being made in the technology and the costs. The Commission has just submitted a Green Paper on renewable energy sources, which will be the subject of a wide-ranging debate associating all the interested parties⁴⁰. A White Paper, accompanied by an action plan, will be adopted before the end of 1997.

The ALTENER Programme is a particularly important tool for promoting renewable energies. By encouraging market penetration, it aims at increasing the share of renewable energies in total energy supply as well as at increasing the use of biofuels by motor vehicles. The support of the technological development of renewables is provided by JOULE-THERMIE but also by FAIR ⁴¹.

4. <u>Links between the different programmes</u>

The various energy programmes have different purposes. In drawing up programmes which have been recently adopted (SAVE II) or are in the process of being adopted (ALTENER II), the Commission has made sure that overlappings are avoided. A number of steps have also been, or will be taken to avoid duplications at the operational level. An example is the cross-participation by the managers of the different programmes - at the level of the preparation of measures, as well as in the evaluation and selection committees - which allows potential duplications in practice to be detected. These are first steps which

Communication from the Commission on "Energy for the future : renewable energy sources : Green Paper for a Community strategy", COM (96)576 of 20.11.1996.

Council Decision 94/805/EC of 23 November 1994 adopting a specific programme of research, technological development and demonstration in the field of agriculture and fisheries, including agro-industry, food technologies, forestry, aquaculture and rural development (1994 to 1998).

may need to be further extended. The tables annexed to this Communication provide a tool for further analysis as to potential overlaps, and will enable the necessary steps to be taken.

D. PROMOTING RESEARCH AND TECHNOLOGICAL DEVELOPMENT

Research and technological development, including demonstration projects, play an essential role in the development of methods which yield high energy efficiency and of new technologies for the exploitation of fossil fuels, nuclear energy or renewable energy sources. The R&TD Framework programme has a Research and Development component (JOULE) and a Demonstration component (THERMIE). These allow substantial efforts to be undertaken on new energy technologies by industry, research centres and Universities in the Member States. An R&TD programme in the area of nuclear safety and controlled nuclear fusion based on the EURATOM Treaty is also undertaken. The Joint Research Centre is associated with these efforts.

1. Non-nuclear energy

In addition to the general objectives of technological development, the JOULE-THERMIE⁴² Programmes have as a focus objectives of energy security (in the large sense, i.e. including the concept of economic competitivity and sustainable growth), environmental protection (in particular Climate Change), and coherence between R&TD and the energy markets.

The programme has three priorities: the rational use of energy, the development and use of renewable energies and the improved use of fossil fuels. It is completed by a component supporting R&TD strategy which also covers research into modelling.

As regards the improvement of energy use and the conversion of fossil fuels, the aim is primarily to reduce polluting emissions and to increase energy efficiency with a positive impact on the competitiveness of enterprises. In addition, the Community finances research activities in the solid fuels field (coal, lignite and peat). The Commission will present a Communication on the role of solid fuels in energy policy, taking account of the technological aspects and of the clean and efficient use of these fuels, and looking beyond the ECSC Treaty, taking also into account future enlargement.

With regard to renewable energies, the actions financed cover various energy forms (conversion of biomass, photovoltaic electricity, integration of solar energy in buildings, new generations of wind-turbines, etc.) and also deal with the impact on the social, economic and environmental fabric of the new kinds of energy.

Efforts are undertaken to co-ordinate the national and Community R&TD programmes. This coordination is reinforced by joint analyses of the cost and potential of new technologies.

Council Decision 94/806/EC of 23 November 1994 adopting a specific programme for research and technological development, including demonstration, in the field of non-nuclear energy (1994 to 1998), OJ N° L334, 22.12.1994, p.87.

It is important to continue these activities and also to add new innovative projects, in particular that relating to the "city of the future" for which research and demonstration activities centred in particular on energy efficiency in buildings are envisaged.

Other specific programmes of the 4th R&TD Framework Programme indirectly contribute to the improvement of the efficiency of the energy system: information technology (ESPRIT), industrial technologies (IMT), technologies of transport (IMT and "Car of Tomorrow"). Activities linked to the production of biomass (FAIR) complement horizontally the energy-specific activities of JOULE-THERMIE.

The proposal for the 5th Framework Programme covering the period 1998-2002 has been adopted by the Commission. One of its key actions, "advanced energy systems and services", is intended to have as an objective a contribution towards satisfying the Community's energy needs, while reducing CO₂ emissions and strengthening competitivity by promoting, through targeted projects, the development of efficient energy systems both as regards production and consumption.

2. Nuclear energy

In the context of the Fourth R&TD Framework Programme, research and technological development activities as regards nuclear fission are undertaken on reactor safety, the safety and security of the whole combustion cycle (including waste-management), the dismantling of nuclear facilities, the monitoring of nuclear materials, non-proliferation, and the radiological effect on human health and the environment. The study of the effects of ionizing radiation also results in developments in medical applications.

The second aspect of research in the field of nuclear energy concerns controlled thermonuclear fusion, which constitutes an option that merits serious consideration, as it has practically inexhaustible potential as an energy source.⁴³

Following JET (Joint European Torus), the experimental ITER (International Thermonuclear Experimental Reactor) reactor has entered its detailed project phase, its objective is to show the scientific and technological feasibility of fusion energy for peaceful uses.

CONCLUSIONS

- 1. This Communication aims to improve the **transparency** of Community energy policy. It presents, for the first time, a complete picture, giving an overall view of the actions of the European Community in the energy field, including both cooperation with Member States and the Community's own actions.
 - It represents a first step towards a complete analysis of the different components of energy policy. With regard to the links between the specific energy policy actions and other Community policies, further analysis will have to be undertaken, based on the specific nature of each programme, methods of implementation and the level at which Member States, their regions or third countries are involved. These factors are essential to a correct understanding of the Structural Funds or of programmes such as PHARE/TACIS/MEDA.
- 2. Apart from increased transparency, this Communication allows two operational conclusions to be drawn as regards the policy which could be followed in future:
 - Energy actions should be **strengthened** so as better to respond to the expected significant increase in external dependency, to the objective of competitiveness, and to the need to respect the environment. The aim will be to encourage greater cooperation between Member States around common energy objectives. There will also be a need to improve the targeting of Community actions whether developed in the framework of Energy Policy or that of other Community policies on the basis of these priority objectives. The measures undertaken should aim to increase the **efficiency** of Community action and to optimise the use of financial resources by the encouraging of synergies and the identification of the areas in which energy policy actions should be strengthened;
 - With a view to increased efficiency, and without prejudice to the question of
 inserting a specific legal base for energy in the new Treaty, efforts should be
 made at clarification and streamlining. Community Energy Policy needs a
 coherent framework to allow it to fulfil its priority purposes with adequate
 means.

In fact, the major challenges of security of supply, competitiveness which respects the rights and legitimate expectations of consumers, and of sustainable development represent major issues for the citizens of Europe, both as regards the way they live and their standard of living. It is therefore a matter of urgency to prepare to meet them by facing up to the changes taking place both within and outside the Union.

ANNEX 1 AN OVERALL VIEW OF ENERGY POLICY AND INSTRUMENTS

L ENERGY COOPE	RATION
Objectives and Actions	Implementation/ Financing
 cooperation with Member States cooperation with interested parties 	cooperation framework consultative committee

IL COMMUNITY ACTIONS				
Objectives and Actions	Implementation/Financing			
1. Security of supply and international energy cooperation				
diversification of energy supply relations with supplier countries	European Energy Charter bilateral agreements			
- energy sources	• renewables, biofuels, nuclear			
actions on demand side management	SAVE/THERMIE			
aid and cooperation programmes technical assistance programmes	 PHARE, TACIS, MEDA Asia, Latin America (ALURE), EDF 			
- taking account of European priorities in international energy cooperation	SYNERGY, including Euromediterranean Forum + Balkans Task Force, China-EU Group			
preparing the accession of new States	energy policy convergence international development of networks			
cooperation with international institutions	IEA, IAEA, EBRD, WB			
crisis measures	adaptation of existing framework			
2. Integrating energy markets				
 creating the internal energy market contributing to social and economic cohesion financing energy investments 	 internal markets for gas and electricity Trans-European Energy Networks competition policy energy taxation transparency of the energy market standardisation Structural Funds / Cohesion Fund EIB/EIF, ECSC 			
3. Promoting sustainable development in the energy field				
 encouraging rational and efficient use of energy resources promoting new and renewable energy sources compatibility between energy and environment objectives 	 SAVE, including regional and local agencies Renewables strategy, ALTENER climate change / auto-oil proposals / cooperation with industry for CO2 reduction 			
4. Promoting energy research and technological development				
 promoting energy research and the demonstration, dissemination of energy technology nuclear research 	JOULE/THERMIE/INCO EURATOM			

ANNEX 2 MAIN SOURCES OF FINANCE FOR COMMUNITY ENERGY ACTIONS

Programme or action	Period	Amounts for	
		energy actions	
(F) () ()		(in MECU)	
A. Financing of energy policy actions	1005 1000	(-4 C 2 h -1)	
1. THERMIE (management / implementation)	1995 - 1998	(pt. C.2 below)	(a) (b)
2. SAVE II 3. ALTENER	1996 - 2000 1993 - 1997	45 40	(a) (b)
4. SYNERGY	1993 - 1997	7	(a) (c) (e)
5. Observatory	1997	2	(6)
B. Financing of Trans-European Energy Networks	1995 - 1999	112	(h)
C. Energy R&TD	1995 - 1999	112	(11)
1. JOULE	1995 - 1998	464	(a)
2. THERMIE	1995 - 1998	566	(a)
3. Safety of nuclear fission.	1995 - 1998	170.5	(a)
4. Thermo-nuclear fusion	1995 - 1998	846	(a)
5. Joint Research Centre	1995 - 1998	312.5	(a)
6. INCO (External R&TD)	1995 - 1998	30	(a)
D. Structural Funds	1775 - 1776	30	(4)
1. Community Support Frameworks	1994 - 1999	2500	(f)
2. Community initiatives (REGEN, REGIS)	1994 - 1999	534	(a)
E. Financing of international cooperation	1554 - 1555	334	(4)
1. PHARE (Central and Eastern Europe)	1994 - 1996	158.7	(d)
2. TACIS (NIS and Mongolia)	1994 - 1996	415.4	(d)
3. MEDA (Mediterranean)	1995 - 1999	p.m.	(g)
4. Developing countries in Asia	1994 - 1996	20	(d)
5. Developing countries in Latin-America	1994 - 1996	28.5	(d)
(including ALURE)			
6. European Development Fund (ACP)	1995 - 1996	18.2	(d)
7. SYNERGY	1997	(pt. A.4 above)	, ,
8. External aspect of environmental policy	1995 - 1996	4.6	(d)
F. EURATOM safeguards	1997	15.8	, ,
G. ECSC support for coal			
Support for readjustment	1994 - 1996	164.7	(d)
2. Support for research	1994 - 1996	69.6	(d)
3. Coal social measures	1994 - 1996	103.2	(d)
H. European Investment Bank Loans			, , , ,
1. European Union	1996	4.975	
2. Third Countries	1996	702.4	
I. ECSC Loans	1996	97.3	
J. EURATOM Loans	1996	p.m.	
K. European Investment Fund Guarantees			
I. European Union	1996	88	
2. Third Countries	1996	182	

(a) Reference amount provided for in the multiannual programme concerned.

(d) Amounts committed for annual actions over the whole of the period.

(g) No sectoral breakdown; no commitment to date.

⁽b) In 1997, the Council will re-examine the financial reference amount for 1998-2000, on the basis of a Commission proposal.

⁽c) The Commission has adopted a draft programme for ALTENER II (1998-2002) with a budget of 30 MECU for 1998-1999.

⁽e) Council's agreement has been obtained giving SYNERGY a legal base for 1997 and a budget of 6.9 MECU. From 1993 to 1996, a cumulative amount of 38.8 MECU was committed for this type of action.

⁽f) Amount resulting from energy sector actions provided for in the Objective 1 regions.

⁽h) Indicative envelope agreed for the energy TENs within the overall reference amount of 2,345 MECU provided for the TENs as a whole (transport, energy, telecommunications).

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