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COMMUNICATION FROM THE COMMISSION TO THE COUNCIL

ON CLEAN AND EFFICIENT ENERGY FOR DEVELOPMENT

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SUMMARY

The United Nations Conference on Environment and Development in Rio (June 1992) is expected to adopt a plan of action, called "Agenda 21", comprising a number of priority actions that both developed and developing countries agree upon in order to promote, in a coordinated way, sustainable development strategies worldwide.

On 12 December 1991 the Environment Council, on the basis of the recommendations of the High Level Working Group for the Community preparation for UNCED, invited the Commission to put forward action proposals for action for Community technology cooperation with developing countries in the field of energy. At the fourth session of the UNCED Preparatory Committee (New York, 2/3/92-3/4/92) the Community reaffirmed its commitment to strengthen this specific area of cooperation.

In adopting the programme of actions described in this Communication the Community will define a second area of priority actions (Tropical Forests have already been defined as a priority area), which will assist developing countries in implementing Agenda 21. This Communication examines existing Community cooperation instruments in the field of energy as well as energy policy instruments with an external component, and suggests how their overall impact and efficiency might be improved. The approach adopted is based on the assumption that cooperation with developing countries in the field of energy can be made more effective through the strengthening and better coordination of existing cooperation and energy policy instruments, rather than on the possible creation of new instruments.

An information collection and dissemination network is also proposed in order to promote awareness in third countries on sound energy technologies developed in the Community. Further, the relevant activities of the Community and of Member States would be better coordinated through the establishment of a Task Force which will maximize the efficiency and make best use of the available financial resources.

It should be noted that Community cooperation in the field of energy is not limited only to developing countries. European countries in transition have defined their priorities and the Community has already started cooperation activities with them. Such cooperation is taking place in a different institutional and financial framework (Energy Charter, PHARE, Technical assistance for the Commonwealth of Independent States). Therefore, it is not the subject of this Communication. However, some of the actions proposed, such as the establishment of a clearing house mechanism and the broadening of the geographical scope of THERMIE, would not exclude European countries in transition.

Introduction

On 12 December 1991 the Environment Council in its conclusions for the preparation of the United Nations Conference on Environment and Development reviewed technological cooperation in the field of energy and invited the Commission to put forward proposals for action on non-renewable and renewable energy sources and the rational use of energy.

This Communication examines the existing Community cooperation instruments in the field of energy and suggests how their overall impact and efficiency might be improved.

This initiative defines an area of priority actions where the Community can assist developing countries to implement Agenda 21 without prejudice to the results of the negotiations on global issues such as climate change and biodiversity.

For the Rio Conference in particular, this initiative could be a part of a package of activities that the Community and its Member States may prepare for discussion with developing countries.

The approach adopted is based on the assumption that cooperation with developing countries in the field of energy can be made much more effective through the strengthening and better coordination of existing energy and cooperation instruments, and by ensuring that these instruments are used in a way that contributes to the protection of the environment and sustainable development.

The challenges of sustainable development

Among the major global environmental problems, the greenhouse effect has received particular attention. It is principally caused by emissions of CO₂, methane, CFC's and Nitrous oxides. Of these gases CO₂, which is emitted when fossil fuels are burned, makes the most important contribution to the greenhouse effect.

Analysis suggests that industrial countries' overall emissions of greenhouse gases in the past are largely responsible for the current stock of retained emissions, but that developing countries, including China, now account for a considerable share of overall current emissions and by implication for the present build-up of greenhouse gases in the atmosphere. The share of the overall greenhouse gases emissions coming from developing countries is expected to rise significantly in the near future.

Increased energy consumption by the developing countries will be a major factor accounting for this trend. Although at present high income countries are still the major energy users, by the middle of the next century the developing countries as defined today will account for the largest share of the world's commercial energy use.

Increasing population and faster economic growth rates in the developing world and a relatively limited capacity to improve energy efficiency (which is very low with the existing equipment and technology) are likely, in the absence of a major technological breakthrough, to be the main factors responsible for this development.

Continued inefficient and indiscriminate use of fossil fuels would make it difficult, if not impossible, for the world community to achieve sustainable development. Indeed, CO₂ accumulation is proceeding at such a pace that there must be a radical change in the way in which all societies use energy, in all its forms, if the situation is to be brought back under control, and if sustainable development is to remain an attainable objective.

Such changes cannot be made overnight but much can be done to slow down the global warming process by improving energy efficiency and seeking other energy sources. However, actions directed towards this end, whilst having important multiplier effects, for example on investment and trade, are of a short term effect, and do not remove the need for more comprehensive action over the longer term.

The importance of technical cooperation in the field of energy is underlined by the fact that many developing countries possess abundant fossil fuel resources which they need to use in an efficient way. Sustainable energy production and consumption can make a major contribution to the trade performances of developing countries, in particular by improving competitiveness, and ensuring thereby a viable external position.

A Balance of Obligations

There are principally two reasons for international co-operation in the energy/environment field. Firstly, given the dimension and scale of the environmental challenge which is truly global and transboundary in nature, the involvement of all major countries, industrial and developing countries alike, is essential. Secondly, international co-operation will reduce the total cost of achieving certain global environmental objectives.

For such co-operation between the industrial and developing countries to be effective, it needs to be firmly embedded in a policy framework conducive to sustainable development. This requires developing countries to examine in detail, and adjust if necessary, the impact of their policies on the level and pattern of energy consumption, both of a commercial and non-commercial nature. This concerns not only pricing policies, but also trade policy (for example abolishing tariff and non-tariff barriers preventing the dissemination of environmentally friendly technologies), the legal framework defining (intellectual) property rights etc.

Creating such a policy framework represents for many developing countries a major effort, which industrial countries and the multilateral institutions should be prepared to support, if possible, in conjunction with other structural adjustment support. This must be done

in a way that ensures that, in addressing energy and environment issues, macro- and micro-economic considerations and requirements are not ignored, and also that, in reaching macro economic stability, environmental considerations are taken into account.

Existing Community activities

1. In the area of policy planning and technical assistance

The Community has developed several instruments of economic, technical and financial cooperation mainly oriented towards policy design, planning, energy development and so towards institution building in the broad sense.

There are two categories of Community instruments in this area:

- a) those with rather broad geographical scope (horizontal instruments), and
- b) those operating with specific geographical areas (geographical instruments).

A. Horizontal instruments

i. The International Energy Cooperation Programme

This Programme (budget line 4.1041) covers Asia, Latin America, the Mediterranean and Eastern European countries with the main focus on the high-energy consuming countries and those in the vicinity of the Community, and concentrates on:

- planning support at the strategic level through institution building, technical assistance and training;
- regional integration of energy markets (eg. OLADE, ASEAN, etc.)
- institutional support to an international network of energy research institutes (COPED); and
- joint ventures promotion measures in the field of energy technologies, similar to those of the EC-IIP Programme.

Its total financial endowment is 8,0 Mio ECU/annually.

ii. The LIFE Programme

The objective of this instrument is to contribute to the application of Community policy and legislation in the field of environment. It is mainly oriented towards Member States; only 5% of its resources can be devoted to the provision of technical assistance to third countries (Mediterranean and Baltic Sea). In exceptional cases, it can intervene also in other countries. Its actions outside the Community are oriented, inter alia, towards

the establishment of environmental administrative structures and the transfer of environmentally friendly technologies. This Instrument has a preliminary budget for 1992 of 72.5 million ECUs.

B. Geographical Instruments

Asia and Latin America

A) Financial and technical cooperation with ALA Countries

In addition to specific actions identified hereafter, environment-related activities can first be financed under financial and technical assistance operations within the framework of the EC cooperation with ALA countries.

The respective guidelines and legal framework provide that a minimum 10 % of the total financial envelope of the EC cooperation with these countries should be devoted to environment. For the period 1992-1996 this amount is estimated to exceed 290 Mio ECU. These resources could be used in order to strengthen the institutional capacity of ALA countries to work out horizontal environmental policies including their energy dimension.

B) More specifically, the Programme of Cooperation for Energy Development is concentrated on the improvement of energy use at a national, subregional and regional level in Latin America and Asia.

There are five main lines of action:

- identification, evaluation and utilisation of local energy resources, in response to the priority needs of the countries and regions involved;
- technological cooperation on developing, testing, producing and installing energy equipment able to utilise local energy resources;
- development and dissemination of techniques permitting efficient utilisation of energy in industry, transport, housing, production, transport and distribution of electricity, etc.
- strengthening institutions in the energy sector, particularly through technical assistance, and implementing training activities;
- disseminating information, particularly through training, organising seminars and publishing literature on energy.

Its concentration on the five lines of action above is a result of resource limitations and also reflects the energy policy priorities of beneficiary countries in this field.

Increasingly, over the years, the energy projects have been developed with a mutually beneficial approach in mind, aiming at:

- the strengthening of the technological and industrial capabilities in the energy sector of the partner countries, geared particularly to private sector participation,

- the creation of favourable conditions for an increasingly large technological and industrial European presence in the partner countries through, for example, joint cooperation between private enterprises.

Its present endowment is about 13 million ECUs, subdivided between Asia (8 million ECUs) and Latin America (5 million ECUs). However, financial allocations in the energy sector are greater than this amount if one takes into account the energy component of broader Development Aid activities. For 1992, for example, a 21 Mio Ecu is expected to be devoted to energy in Asia countries.

Mediterranean Countries

The Community can finance any project (e.g. energy production and transmission) from its initial to its final stage (both by the Commission and the EIB). However, as in the case of ACP countries, the institutional framework (financial Protocols) entrusts the final decision to the third countries themselves. In the past, the majority of projects in this field were financed mainly by EIB's own resources in the form of loans with subsidised interest payments. Horizontal actions were limited to seminars or data collecting.

One of the pillars of the new Mediterranean cooperation strategy of the EC are the regional cooperation programmes which may cover also energy schemes at the regional level. Another pillar is the environment, where the Commission provides interest subsidies on loans contracted by Mediterranean countries with the EIB.

At present, attention is particularly focused on providing assistance to Mediterranean countries for the inter-connection of electric power distribution grids.

The Lomé Convention

Energy development has been specifically mentioned in the LOME IV Convention as one of the priority areas of ACP-EEC cooperation. All phases of an energy project can be financed by Lomé Convention funds (from the provision of technical assistance to the realisation of an investment either by the European Development Fund or by and the European Investment Bank).

However, according to the institutional framework, it is up to partner states to define their existing priorities within the geographical allocations. In Lome III the energy sector absorbed 5,8% of the total budget (about 500 million ECUs).

Within this institutional framework the Community can only encourage ACP governments to attach higher priority to appropriate energy projects. It can also ensure a more systematic appraisal from the energy/environment point of view of all projects.

The Community strongly supports the ACP countries efforts within regional cooperation and integration.

2. In the area of Research

The Life Sciences and Technologies for Developing Countries Programme (STD), and the International Scientific Cooperation Programme (ISC) have as a key objective the promotion of scientific and technological cooperation with developing countries, in the context of aid to development (mainly for lower-income countries) and economic cooperation (mainly with middle income countries). All developing countries are able to participate in STD. ISC is more oriented towards S&T cooperation with middle-income countries and focusses on the ALA-MED. STD is a specific programme of the Community's Framework Programme for Science. ISC is carried in the context of bilateral agreements (EC/ALA-MED).

The bulk of STD and ISC activities consists of support for joint research projects involving European and developing country scientists and institutions. Moreover, STD and ISC support the implementation of thematic scientific workshops aimed at the coordination and/or stimulation of scientific activities focussed upon DC problems. This action also provides advanced training. In relation to the scientific domains covered, STD focusses on Agriculture, Health and related Environmental problems whereas ISC is demand driven, the identification of its priority areas being undertaken annually and bilaterally.

New R&D and training programmes offer an opportunity, under the umbrella of Scientific and Technological Cooperation with Developing Countries (STD and ISC), to bring together researchers from DC's and the Community to study jointly matters of relevance to development and of common interest.

STD has a budget of 111 million ECUs for the period 1991-1994 all of which is already earmarked for use in its current activities and is not available for research on energy with the exception of the agricultural related bioenergies.

ISC has a variable annual budget. Its last allocation (1992) was approximately 30 million ECUs all of which have already been absorbed.

Both programmes may make use of relevant research and promote the results achieved in other Community research programmes such as JOULE which is also a specific Research Programme and is relative to the field of non nuclear energy (with special emphasis on Renewable Energy Sources). The general objective of JOULE is to contribute to the development of new energy technologies that are economically viable, more efficient and cleaner.

3. In the area of promotion of new technologies

THERMIE is a Community programme for the promotion of new energy technologies and is currently focussed on the EC and other European countries: it covers the period 1990/94.

THERMIE includes three types of actions :

- a) Financial support for projects (almost exclusively for EC) for commercial implementation and greater market penetration of innovative energy technology.
- b) Market assessment, dissemination of information and training measures (10-15% of the total budget; open to third countries) through a network of Organizations for the Promotion of Energy Technology (OPET)
- c) Coordination of EC and MS activities in these areas.

For 1992 the THERMIE budget is 161 million ECUs all of which is expected to be used.

THERMIE has access to the results of over 8000 projects for new efficient European energy technologies financed by the EC and its Member States and has strong links with European industry in this area. The commercial implementation of these technologies could be effectively promoted in developing countries, with a particular focus on industrialising countries, which can more effectively use such technologies and which are likely to have the largest global environmental impact in the years to come. This programme currently contributes to the decrease of CO₂ emissions by about 30 million t/year. It opened its scope last year to third countries, in particular to Central and Eastern Europe and CIS, to promote clean and efficient energy technologies.

Through this programme a good coordination with similar activities of the Member States is ensured (THERMIE Committee).

4. In the area of investment

In general terms, energy-related investment in the developing countries should have a beneficial impact on Community industry via the demand for energy saving and renewable technologies, in which the Community is well advanced.

As regards institutional investors, the Commission and the European Investment Bank are important sources of finance for investment in energy enhancement projects. The Bank's resources are available to countries of the Lomé Convention and to those of the Mediterranean. Over the period of the first to third Lomé Conventions, the Commission provided a total of 625 million ECUs and the Bank provided a total of 575 million ECUs for such projects and related studies in the countries of Africa, the Caribbean and Pacific.

EIB finance is not at present used to support projects in Asia and Latin America although this matter is now under discussion.

As regards private companies, these can benefit from the funds available to EC International Investment Partners (ECIP). ECIP aims to support joint ventures by providing incentives which reduce the high capital risks and promote the export of clean technologies. Currently the programme has 40 million ECU per year available for all its activities, in Latin America, Asia and the Mediterranean.

Inter alia, enterprises from developing countries are encouraged by this programme to introduce clean technologies. New European patents can also be made available to developing countries enterprises through licence agreements. The programme is already involved in energy-related projects and energy conservation programmes are being given priority.

Within the framework of the Lomé Convention, the Centre for the Development of Industry (CDI) helps to establish and strengthen enterprises in the ACP countries, notably by encouraging joint initiatives by economic operators of the EEC and the ACP countries. Development, transfer and adaptation of technologies as well as development of energy resources are among CDI's priority areas. 60 million ECUs are allocated to CDI during 1991-1995.

Such an investment can moreover help to catalyse Build, Operator and Transfer (BOT) projects in developing countries. These can be a particularly effective way of mobilising private capital to contribute to the development of the energy sector.

Finally, technical assistance also has a role to play in guiding and helping private initiatives in the energy sector including privatisation projects upon which many developing countries have embarked.

PROPOSALS FOR EC ACTION

A) OBJECTIVES AND INSTRUMENTS

The main objective of cooperation with developing countries in the field of energy is to contribute towards the promotion of sustainable energy production and consumption through:

- the implementation of effective energy policies and the introduction of more efficient technologies in energy production, transmission and consumption;
- the substitution of high carbon intensity fossil fuels with low or zero CO₂ emission fuels;
- the development of renewable energy resources.

To achieve these objectives, the existing Community instruments and programmes described above would have to :

- a) broaden their geographic scope and/or their field of activities
- b) reconsider their objectives and priorities
- c) introduce a systematic environmental evaluation of their activities
- d) be coordinated in a more efficient way.

The main priority will be to improve the capacity of the developing countries to manage energy in a sustainable way.

Developing indigenous energy capacity and managing energy policy in a way consistent with sustainable development is only possible if the appropriate institutions are in place - political, administrative, financial, managerial, scientific, technical, training, etc. EC cooperation must, first of all, make an important contribution towards general institution building.

In addition the Community should pursue the achievement of the synergy of its activities with those of its Member States.

The coordination of the Community with its Member States activities, even at the project level, will promote their effectiveness and reduce their cost, thus making much better use of tax payers money than any isolated Member State action. The principle of subsidiarity would call for such an approach.

A major EC contribution in this regard, which responds to the Community's concerns as regarding the global environment, would also reflect other Community advantages and interests thus;

- the substantial body of expertise, know-how and technology already developed within the Community;
- the potential markets for Community technologies;
- the increased effectiveness of a combined Community activity, in full collaboration with Member States, in comparison with individual country actions;
- the need for a tangible EC presence in this field, at a time when non-EC governments (e.g. USA, Japan) and other international bodies are demonstrating an increasing interest.

B) ACTIVITIES

The Community may consider the following actions:

In the area of policy planning and technical assistance

- 1) Strengthen existing regional and horizontal cooperation instruments with emphasis on capacity building. Policy planning, establishment of legal framework, management and private initiatives will be given priority. Regional integration would also be promoted through cooperation with regional organisations.
- 2) Introduce a more systematic appraisal from the energy/environment point of view for all cooperation projects.
- 3) Encourage partner country governments to attach higher priority to appropriate energy projects.

In the area of investment

- 1) Recommend the EIB to support investment in the field of energy in Latin America and Asia, which are compatible with the objectives of this Programme.
- 2) Give priority through the EC International Investment Partners to joint ventures which introduce clean and efficient technologies. Encourage also Build-Operate-Transfer- and private initiatives projects in the energy field.

In the area of research

- 1) Include scientific cooperation programmes on clean and efficient energy, within the framework of SDT and ISC, in order to allow these two research programmes to focus on joint research and advanced training.
- 2) Strengthen the activity of the JOULE programme in the field of R&D on clean and efficient energy with special emphasis on Renewable Energies and Modelling for energy and environment in developing countries.

In the area of new technologies promotion

- 1) Broaden the geographical scope of THERMIE in order to cover third countries for all its project activities in addition to an extension of the OPET's network.

In the area of dissemination of information

- 1) Create a clearing house mechanism to collect, develop and disseminate objective information on clean and efficient energy technologies as well as on renewable energies. Such a facility should make use of the existing network of associated institutes and centers in the Community and in third countries. It will also be associated with relevant multilateral initiatives such as existing UNEP Centres and the new initiative under development in the International Energy Agency.

Coordination with Member States

- 1) Create a Task Force, chaired by the Commission, in order to ensure the systematic coordination of the relevant project activities of the Community and its Member States, so as to enhance their efficiency, optimize their effect and make the very best use of the available financial resources.

C) COORDINATION WITH MULTILATERAL INSTRUMENTS

Apart from improving, strengthening and coordinating their own instruments, the Community and its Member States should review their cooperation with the relevant multilateral institutions both in relation to financing as well as to the dissemination of technology and information for the sake of coordination and efficiency. Emphasis should be given to the International Energy Agency, the World Bank (ESMAP Programme), the Global Environment Facility as well as major regional organisations. Particular points of importance are:

1. The Community has established coordination systems for energy technology promotion and transfer through its THERMIE regulation (art. 11) as well as for dissemination of information including into third countries (article 5 OPET-network). These systems ensure information exchange among Member States and make information available on successful energy technologies through its energy Centres and its data base SESAME.

The International Energy Agency is in the process of setting up of a Technology Information Exchange System which provides this information on a more general basis but will include probably information from the OECD countries.

2. The Global Environment Facility, established in a tripartite arrangement between the World Bank, the United Nations Development Programme (UNDP) and the United Nations Environment Programme is expected to play a major role, at the multilateral level, in assisting developing countries to meet their obligations under the Climate Change Convention through the provision of financial resources mainly to energy-related projects.

An EC participation in the GEF would maximise the effectiveness of its own programmes.

3. Further cooperation with major regional and sub-regional organisations such as OLADE, ASEAN, etc, as well as other regional cooperation instruments, should be promoted and integrated into a comprehensive plan of action for their respective regions and enable them to promote regional integration in this field.

D) WAYS AND MEANS OF IMPLEMENTATION

A substantial increase in the financial allocations to the relevant instruments would appear necessary to integrate the new objectives and enlarge their activities to developing countries. To this purpose, budgetary credits could be re-allocated or additional budgetary allocations could be made, in full respect of the multi-annual budgetary framework and to be decided upon under the annual budgetary procedure.

Some activities can be financed under existing budget lines, within the scope of the next 4 years (1993-1996). More specifically: The regional instruments (PVDALA, MED) can make use of the financial resources reserved for the environment within the existing regional cooperation Regulations (eg. part of the 10 % of the PVDALA). This provision, however, should be reviewed after 1996. The ECIIP will make available part of existing allocations to the objectives of this Programme. LIFE would also be based on existing resources.

Additional financial resources could be considered for STD, ISC and JOULE to enable these scientific and technological cooperation instruments to fulfil their roles.

The International Energy Cooperation Programme and THERMIE would have to be allocated additional resources in particular if they are to be involved in the establishment of the clearing house mechanism.

RECOMMENDATIONS

The Commission requests the Council to:

- a) Take note of the Commission's intention to reinforce existing instruments for cooperation with developing countries in the field of energy
- b) Endorse the objectives, and where appropriate, the proposed activities as well as the ways and means of implementation of this programme without prejudice to the conclusions of the Rio Conference.
- c) Invite Member States to review, revise and/or prepare their own national programmes, and to submit them to a Task Force to be established in order to prepare a short term package of coordinated and concrete project activities.

The Commission, where necessary, will submit to the Council the proposals for the implementation of the specific activities of this programme.

FICHE FINANCIERE1. TITLE OF THE ACTION

Clean and Efficient Energy for Development

2. BUDGETLINES CONCERNED

The budgetlines of the chapters
B7-30 and B7-40,
B4-1000, 1041,
B6-6224, 6231, 8200,

3. LEGAL BASIS

4. DESCRIPTION OF THE ACTION

Cooperation with developing countries in order to promote capacity building, research, new technologies and investment in the field of clean and efficient energy production, transmission and consumption.

Duration

4 years

Population affected

The population of all developing countries with which the Community cooperates in their development.

5. FINANCIAL IMPLICATIONS

This framework programme builds upon existing Community programmes and activities by improving their efficiency and their environmental impact and therefore has no financial implications.

For the new policy orientations proposed, financial implications, if applicable, will be specified when the Commission puts forward specific proposals for actions.