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INTERGOUVERNEMENTAL NEGOTIATING COMMITTEE
FOR A FRAMEWORK CONVENTION ON CLIMATE CHANGE
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Geneva, 19-28 June 1991
Item 2 of the provisional agenda

PREPARATION OF A FRAMEWORK CONVENTION ON CLIMATE CHANGE

Set of informal papers provided by delegations, related to the preparation of a framework convention on climate change

Note by the secretariat

Addendum 2

This addendum contains material received by 10 June 1991.

A/AC.237/Misc.1/Add.2
GE.91-61199

List of informal papers

13. FRANCE: Further submission of France, pertaining to national policies for the prevention of the greenhouse effect (sent with letter of 30 May 1991).

14. NORWAY: Norwegian non-paper (released 10 June 1991).

PAPER NO. 13: FRANCE

Translated from French

NATIONAL STRATEGIES FOR THE PREVENTION OF THE GREENHOUSE EFFECT

1. The draft article submitted by the French delegation (see annex 1) is to be studied in conjunction with the proposals already made by other delegations, such as the British paper of 27 March 1991. The concept of national inventories links up with the paper submitted by the American delegation on 15 March 1991 (see in particular subparagraph (c), General obligations).

The draft article refers in addition to a scientific council to be established under the convention; a draft article on this subject is also attached.

2. The purpose of a report on national strategies is to encourage the parties to draw up a policy to combat the greenhouse effect, analyse possible options and assess the results obtained.

Dialogue with the organs of the convention should make it possible to assist the parties in selecting and implementing such measures, and to draw lessons from experience.

3. The report should principally cover actions to prevent the greenhouse effect. The adoption of measures to limit greenhouse gas emissions or create sinks demands the implementation of complex and long-term economic strategies.

It is essential to be able to evaluate the measures taken by each State to limit its own contribution to the greenhouse effect and comply with its commitments.

This does not rule out the adoption of adaptation strategies, which could be covered in a separate article (see annex 2). Such strategies are a matter for national choice, and will not necessarily be the subject of obligations under the convention. Such adaptation strategies form part of the basis for cooperation between industrialized countries and developing countries.

4. A sèparate article in the convention should include provisions requiring the industrialized countries to report on action taken in pursuance of their commitments in the field of financial and technical cooperation to the benefit of the developing countries.

As with the national reports on the prevention of the greenhouse effect, this report would allow the secretariat to assess the measures adopted in the field of financial and technical cooperation.

These different elements would facilitate the process of checking that measures taken are in keeping with commitments entered into.

May 1991

ARTICLE ...

NATIONAL STRATEGIES FOR THE PREVENTION OF THE GREENHOUSE EFFECT

1. The Parties shall, within ( ) years from the date the Convention enters into force, draw up national strategies to combat the greenhouse effect, taking into consideration all emissions and all sinks of greenhouse gases and precursors, and setting out emission limitation measures designed to fulfil the objectives of the Convention; each strategy may include a section on adaptation measures.

The strategy shall be the subject of a public national report.

2. Parties whose contribution to the anthropogenic greenhouse effect is considered to be lower than [ ] shall be required to prepare such a report only ( ) years after the Convention enters into force, or when their emissions estimated in accordance with article ( ) exceed (x) tonnes of carbon equivalent per capita .

3. Each national strategy shall subsequently be revised every ( ) years. Each revision shall follow the same procedure as for the initial report.

4. At the midway stage, or every ( ) years, each Party shall prepare a brief progress report containing an account of the implementation of the strategy adopted.

5. In the light of the inventory of emissions and sinks known for each gas, each strategy shall include:

- a cost/benefit statement of measures taken to limit the contribution to the greenhouse effect, as well as an evaluation of their impacts in economic terms and in terms of environmental protection;
- an examination of energy policy from the viewpoint of prevention of the greenhouse effect;
- a description of means of implementing these measures (economic, fiscal and regulatory instruments);
- an evaluation of results obtained in the recent period and those expected for the coming period, as measured against the objectives of the Convention.

6. The public report shall be organized in such a way as to contain at least the information listed in the annex.

7. Each Party shall send the report to the secretariat, which shall forward it to the Scientific Committee.

The secretariat shall assist the Scientific Committee with the analysis of the report. It may request the Party concerned to communicate to it any additional document, information or explanation that appears necessary to evaluate the content of the report 1/.

The Scientific Committee shall, within a period of ( ) months, furnish its opinion on the relevance and effectiveness of the measures selected in the light of the objectives of the Convention, and also on the technical and economic options selected under this strategy.

It may address directly to the Party concerned recommendations for the strengthening of the national strategy, which shall be communicated to all the contracting Parties.

The Executive Council shall present to each meeting of the Conference of the Parties a consolidated report on activities in this area (and results obtained). It may propose resolutions designed to foster the application of these provisions.

8. [This paragraph 8 might appear in a common provision in each of the various annexes of the same type.]

The annex referred to in item 6 may be revised at the suggestion of the Scientific Committee, the secretariat or a contracting Party.

Amendments shall be adopted by consensus; when all efforts to that end have been exhausted, an amendment may be adopted by a three-quarters majority of the contracting Parties. It shall enter into force for all the contracting Parties ( ) months after its adoption, except where a Party makes a declaration, notified to the secretariat before the time limit expires, that it cannot accept the amendment, or requires an additional period in order to accept it.

Two amendments agreed by majority vote may not be introduced less than ( ) years apart.

1/ Provisions of this type are predicated on the availability to the secretariat of ample resources and capabilities to discharge this ongoing function.

ANNEX

This annex might elaborate upon the following points, as far as presentation is concerned:

- The national inventory
- Economic options, measures selected and measures studied but not selected
- Energy policy
- For each measure, analysis of the risks that reductions will be offset by other emissions
- Quantified evaluation of past and expected results.

May 1991

ARTICLE ...

SCIENTIFIC COUNCIL

1. A Scientific Council shall be established. It shall be composed of high-level independent qualified experts designated by the Conference of the Parties at its first meeting. 1/

2. The Scientific Council, which shall have a consultative role, shall perform the following functions:

(a) to examine the scientific data assembled by the secretariat and draw up a report and recommendations for presentation to the Executive Committee for information purposes prior to submission to the Conference of the Parties;

(b) to draft opinions and proposals, notably in matters of research and assessment;

(c) to examine reports on national strategies and furnish opinions on measures decided upon by the Parties;

(d) to perform any other function assigned to it by the Conference of the Parties or under any protocol to the Convention.

3. The opinions and proposals of the Scientific Council shall be addressed to the Party concerned and to the secretariat, which shall make them available to any other interested Party.

1/ The mode of designation of experts might be based on the election of judges to the International Court of Justice (Statute, articles 4 ff.).

May 1991

ARTICLE ...

NATIONAL MEASURES FOR ADAPTATION TO THE GREENHOUSE EFFECT

1. Parties which so wish shall draw up a national report on adaptation measures which shall be subject to the same review procedure as national prevention strategies.

2. Any Party having experience or special knowledge as regards adaptation to the greenhouse effect shall report on it regularly to the secretariat, which shall facilitate the dissemination of such knowledge and techniques to all interested Parties.

3. Parties deciding to develop a national adaptation programme in keeping with paragraph 1 may request assistance from the secretariat or another Party in the formulation of such a programme.

PAPER NO. 14: NORWAY

NORWEGIAN NON-PAPER

14.1 OUTLINE OF A FRAMEWORK CONVENTION ON CLIMATE CHANGE

PREAMBLE

I. PRINCIPLES

SPECIAL SITUATION OF THE MOST DISADVANTAGED COUNTRIES

II. DEFINITIONS

III. GENERAL OBLIGATIONS

1. OBJECTIVES, TARGETS AND COMMITMENTS

2. ALLOCATION OF EMISSION TARGETS AND OBLIGATIONS

3. NATIONAL STRATEGIES BASED ON COUNTRY STUDIES

4. TRANSFER/FUNDING MECHANISMS (FINANCIAL ENTITLEMENTS AND OBLIGATIONS) FOR MOBILIZATION AND TRANSFERS OF NEW AND ADDITIONAL RESOURCES TO DEVELOPING COUNTRIES, AS WELL AS

OBLIGATIONS ON FAIR AND EQUITABLE ASSISTANCE TO COUNTRIES WHICH HAVE TO BEAR AN ABNORMAL BURDEN

5. IDENTIFICATION, DEVELOPMENT, TRANSFER AND USE OF APPROPRIATE TECHNOLOGIES

IV. RESEARCH, SYSTEMATIC OBSERVATIONS (MONITORING) AND INFORMATION EXCHANGE

V. INTERNATIONAL MONITORING AND FOLLOW-UP MEASURES

VI. INSTITUTIONAL STRUCTURE

1. DECISION-MAKING PROCEDURES

2. CONFERENCE OF THE PARTIES
(Provisions for new institutional authority)

3. SECRETARIAT

VII. IMPLEMENTATION, COMPLIANCE AND SETTLEMENT OF DISPUTES

1. IMPLEMENTATION AND CONTROL MEASURES

2. COMPLIANCE

3. SETTLEMENT OF DISPUTES

4. PROVISIONS REGARDING CONTROL BY THE INTERNATIONAL COURT OF JUSTICE (ICJ)

VIII. ARRANGEMENTS WITH REGARD TO PROTOCOLS, ANNEXES AND AMENDMENTS AND REVIEWS

1. ADOPTION OF PROTOCOLS TO THE CONVENTION

2. AMENDMENT OF THE CONVENTION OR PROTOCOLS

3. ADOPTION AND AMENDMENT OF ANNEXES

14.2 OBJECTIVES, TARGETS AND COMMITMENTS IN A CLIMATE CONVENTION

Basic principles

A long-term objective of climate policies should be to take appropriate action to stabilize greenhouse gas concentrations in the atmosphere at a level which minimizes damages to the sustainable development of societies and to ecosystems, ecological processes, and climatic conditions essential for the functioning of the biosphere.

A balance must be struck between potential ecological and socioeconomic consequenses of climate change, the cost of abatement policies and the cost of adaptation. Climate policies must be combined with policies to foster vigorous economic growth to combat poverty, safeguarde the development priorities of developing countries and create the necessary resources to combat local and regional environmental degradation.

Climate policies should include all relevant sources and sinks of greenhouse gases. Emission targets should be defined in terms of net emissions of the greenhouse gases that are adequately measurable, measured as CO_2-equivalents, taking into account requirements under the Montreal Protocol and other agreements.

The need for equitable burden-sharing, both between industrialized and developing countries and between the industrialized countries, must be secured.

High priority must be given to solving the remaining major uncertainties regarding causes and effects of climate change, including the risk for non-linear and rapid changes, as well as uncertainties regarding economic projections and cost estimates.

Cost of measures to counter and adapt to climate change.

The possible ecological, social and economic effects of climate change will depend on a number of factors and may be difficult to quantify. The mobility of ecosystems in response to movements of temperature zones, and the vulnerability of low lying and arid areas will be important for the ecological effects. The impacts on agriculture, forestry, fisheries and on the need for relocation of popula-tion, industry and infrastructure will have crucial socio-economic consequences.

It is reasonable to assume that minor changes in temperature will have moderate impacts and that total costs will grow increasingly higher as temperature change increases. So far, we have no detailed information on how total impact may depend on the change in temperature, partly due to the lack of reliable regional estimates.

There have been some efforts to estimate levels of temperature change beyond which the risks of severe damages might be expected to increase rapidly. On the basis of research done so far, the UNEP/WMO/ICSU Advisory group on Greenhouse gases has stated that a rate of mean global temperature rise of 0.1 degree/decade, and an absolute rise of between 1 and 2 degrees above preindustrial mean temperature, might be a significant level.

The social and economic consequences of various abatement measures, such as emission reduction and sink enhancement may vary greatly. Some of these are "no-regrets" measures. Due to economic or other environmental reasons, such measures are justifiable in their own right. Other measures entail social and economic costs. For small limitations in emission patterns, the costs might be modest. On the other hand OECD-studies imply that global stabilisation of net emissions in the long run might entail costs amounting to 2-5 % of world GDP. If emission targets grow more ambitious over time, costs are expected to escalate rapidly.

Countries will have to consider various measures to adapt to climate change. This could include reducing vulnerability to sea level rise by building dikes and dams, changes in land use and agricultural policies and relocation of industries and populations.

The costs of adaptation may vary greatly between countries. Given a gradual implementation, the costs of adaptation policies may be fairly modest. An OECD report on potential costs of adapting to sea level rise of one meter indicates total costs to be in the order of 0,1 % of GNP within the OECD countries. For vulnerable regions adaptation costs may be very substantial. For some countries complete adaptation may not be possible. In the absence of effective adaptation measures the IPCC has estimated that some island countries and 10 - 15 % of the area of certain countries with large river deltas may be flooded.

There remain a number of major uncertainties regarding the possible extent as well as the effects of climate change, including potential socioeconomic costs, and the costs of abatement and adaptation measures. The question of how to handle this uncertainty and the development of "insurance policies" based on the precautionary principle will be essential in the development of efficient climate policies.

At this stage, research to reduce uncertainty about the extent, as well as the socioeconomic costs, of climate change and policy

measures should be given high priority. In addition, a balanced mix of adaptation and abatement policies should be pursued. The level and strength of climate policy targets should fully reflect the current state of risks and uncertainties and their expected resolution over time. Climate targets should at all times be based on the best available knowledge regarding the balance between possible damages, abatement costs and adaptation costs, and be revised at regular intervals.

Objectives, targets and commitments

The long-term objective in the initial framework convention on climate change should be of a general, qualitative nature. It should be linked to the major determinants for climate change, as well as the need to develop international cooperation to respond effectively to this challenge.

To achieve these objectives, it must be recognized that climate change is a global challenge that requires global participation. An environmentally efficient and cost-effective climate regime therefore requires short-term emission targets set at the global level.

Commitments by countries to meet long term global objectives and short term targets should be based on the principle of equity and the common but differentiated responsibility of countries. Therefore, groups of countries at different levels of economic development should take on different emission control commitments.

The short-term commitment for OECD countries should be stabilization of greenhouse gas emissions, excluding the requirements under the Montreal Protocol, at 1989 levels by 2000. Groups of non-OECD countries could take on commitments that are consistent with their economic circumstances and development needs as well as the long-term objectives of the convention.

14.3 MECHANISMS TO ALLOCATE AND IMPLEMENT OBJECTIVES, TARGETS AND COMMITMENTS

Introduction

Measures to counter climate change should be environmentally efficient, equitable and cost-effective. It is necessary to develop new and innovative mechanisms compared to previous environmental agreements. This might be a lengthy process. The framework convention that is scheduled to be signed in 1992 should be process-oriented, and thus have a structure that facilitates timely revision of current elements and inclusion of new elements.

The development of environmentally efficient climate policies and global targets, based on a balance between the potential social and economic costs of climate change, abatement and adaptation policies, is the topic of a separate paper. This paper discusses mechanisms to allocate the global targets between various countries.

Equity and cost-effectiveness

When discussing the concept of **equity**, there are two rules of thumb that have important implications:

> "Vertical equity" implies that the burden of reaching a specific environmental target should be differentiated between countries at different stages of development and in different economic situations.
>
> "Horisontal equity" implies that countries at the same stage of development and in the same economic situations should share a burden that is comparatively equal.

The climate agreement should aim at universal participation. The special circumstances of certain countries should, to the largest degree possible, be handled as an integral part of the climate agreement and not by their non-participation. To facilitate discussions regarding burden-sharing during the climate negotiations it might be fruitful to categorize countries in a limited number of groups, according to their economic situation.

Cost-effectiveness implies that the total costs of achieving a given target are as low as possible. The more cost-effective a mechanism is, the lower are the costs of reaching a given target. A frequent misunderstanding is that the objective of

cost-effectiveness is in some way contradictory to setting ambitous targets. This is not the case.

The costs of reaching a target are minimised when the costs of additional net emission reductions are equal for all sources and sinks, all sectors in a country and in all countries. If this condition is not met, total costs can be reduced by reducing emissions from a low-cost source and increasing emissions from a high-cost source with the same amount. Total emissions of greenhouse gases will then be unchanged, but total costs are reduced.

Previous environmental agreements are often based on equi-proportionate emission reductions in all participating countries. In these agreements, countries that already have made significant efforts, where the costs of further reductions are high, may incur very substantial costs. At the same time, countries that have done little to reduce emissions previously may incur far more moderate costs. It is obvious that agreements of this type are not cost-effective.

If commitments regarding net emission reductions result in a disproportionate burden-sharing, this could be off-set by financial transfers between countries. When emission reductions are allocated in a cost-effective manner, thereby minimising total costs, such schemes can be constructed in a way that benefits all countries.

Due to the dynamic nature of the negotiation process and uncertainty regarding different countries' motives, intentions and strategies, the issues of equity and cost-effectiveness will tend to be intertwined. It is important to keep in mind that these issues can be addressed through two separate mechanisms, namely the allocation of net emission commitments and the possible financial transfers.

Lack of information regarding the development of costs and benefits over time is a potential obstacle to the construction of a climate agreement that is cost-effective and equitable. One way to handle this uncertainty is by developing mechanisms that allow for a flexible formulation and implementation of policies towards climate change. Such policies will be less vulnerable to lack of information than more traditional, static approaches, which may turn out to be grossly ineffective in the long run.

Harmonisation of taxes

In order to achieve greenhouse gas emission targets in a cost-effective manner, abatement strategies in different sectors and countries must be consistent. Greenhouse gas taxes and other appropriate mechanisms, including incentives for sink enhancement, should be harmonized to the largest extent possible.

Under a system of greenhouse gas taxes, consumers and producers will reduce emissions until the costs of further reductions are larger than the tax. When taxes are harmonised as far as possible, and subsidies are abolished, the costs of further reductions will tend to be the same in all countries. Accordingly, the allocation of emission reductions will be cost-effective.

The climate agreement can contain more or less sophisticated provisions regarding harmonisation of taxes. The simplest version is that countries declare their general willingness to work towards a gradual coordination of emission-relevant taxes. The most elaborate would be the establisment of a global tax authority, collecting emission taxes from each country and redistributing the revenue according to specific criteria.

An intermediate solution could be that groups of countries, through the climate agreement, agree on certain minimum levels or intervals for a specific set of taxes. This last approach seems to be the most appropriate at the current stage. If called for, more advanced and elaborate schemes for harmonisation of taxes could be established later.

Provisions regarding coordination and harmonisation of greenhouse gas taxes should be combined with a system of financial transfer, for instance through a clearing house mechanism as discussed below.

If a country taxes its export industry more heavily than other countries, this may lead to a substantial loss of competitiveness. Beacause of this, many countries are inclined to excempt their export industries from greenhouse gas taxes. The effects of greenhouse gas taxes can also be offset by other changes in the national tax systems or by subsidisation.

Policies to avoid or offset taxation of export industries may cause significant distortions, both in the country that introduces these policies and in other countries. These policies are clearly neither equitable nor cost-effective. The climate agreement should include provisions aimed at avoiding unfair distortions in terms of trade.

Exchange of emission control commitments

A climate agreement that contains quantitative net emission reduction commitments by individual countries, needs flexible provisions for the implementation of these commitments, in order to ensure cost-effectiveness. Countries should have the option to decide wether they should achieve the reductions they had commited themselves to domestically or abroad, in cooperation with other countries. This can be done by

allowing for exchange of emission commitments between various countries.

In an exchange system, countries would agree on an initial allocation of commitments. Within defined limits, the parties would be free to achieve the net emission reductions they had comitted themselves to wherever they wanted. For instance, industrialized countries might find that investing in energy efficient technology in Eastern Europe or in developing countries gives far greater emission reductions than investments in their own countries. Others might find support of sink enhancement in the developing world, for instance by reforestation, to be a cost-effective measure.

Foreign investments of this kind would also be beneficial to the countries where the investments take place. The transfer of resources will represent a significant contribution to the potential for economic development in these countries. In addition, measures to reduce greenhouse gas emissions may have a substantial impact on domestic and regional environmental problems.

Exchange of emission commitments allows for the least expensive actions to be undertaken first, regardless of country. Over time, this system will tend to equate the costs of further abatement measures in different countries.

Initial allocation of commitments

In an exchange system, the allocation of initial commitments between countries at different levels of economic development could be based primarily on equity grounds. This would imply that the most developed countries take on the largest emission reduction commitments.

Initial targets for developing countries and countries with economies in transition should be set at levels that are consistent with their economic circumstances and development needs. For some countries it might be appropriate to express commitments in relative terms, for instance as required reductions in energy intensities. This type of targets will leave the countries less exposed to uncertain economic prospects.

For countries at the same level of economic development, the criteria of equity and cost-effectiveness will to a large extent coincide. A cost-effective allocation of initial commitments between these countries would imply that countries with high emissions, where the cost of emission reductions are comparatively low, take on the largest commitments.

An allocation of initial emission commitments on the basis of a combination of maximum emissions per capita and per unit of GDP seems to be consistent with these criteria. The relative weights of each of the two factors must be settled through negotiations. The allocation could be revised at regular

intervals, to allow for a gradual development of targets on the basis of new information.

Clearing house system

An exchange system can be constructed at various levels of sophistication. One option could be a "bubble" system, based on a bilateral agreement between two countries or a regional agreement between several countries to pool the implementation of their commitments. The most elaborate option could be a system of emission permits that can be traded freely on a world market.

An intermediate variety could be a clearing house system. In our opinion, the establisment of a clearing house system seems to be the most promising option for further exploration and implementation in the initial framework convention. The agreement should also provide for research into further development and refinement of trading schemes, to be implemented as appropriate and with due consideration to the need for more elaborate compliance mechanisms. However, these more sophisticated trading schemes are probably not viable for implementation in the initial framework convention.

A clearing house could appraise and select projects for reducing emissions, according to their cost-effectiveness and coordinate the funding of these projects. The net reduction in emissions resulting from any specific project should be credited to the country that contributes to the funding of this project and deducted from its national commitment. A clearing house would have a large portfolio of potential projects, thereby facilitating a more efficient matching of projects and funds than a system of bilateral exchanges.

Even if one should not manage to agree on specific country commitments in the initial framework convention, a clearing house system might be of great value. Countries with self-declared commitments, or even without specific commitments, would still have the option to finance emission reductions in other countries as an alternative to more expensive reductions in their own countries.

In a clearing house mechanism, the transfer of financial resources between countries is integrated in the system. It seems probable that the flow of funds to a large extent will be from the industrialized countries to the developing countries and the countries in transition. This could be supplemented with other financial mechanisms. The clearing house mechanism should function in close cooperation with any such funding mechanisms. Eventually, these mechanisms should be integrated as much as possible. The Gloabal Environmental Facility, which recently was established by the World Bank, UNEP and UNDP, gives a practical demonstration of how a financial mechanism could be organized.

Conclusions

1 The negotiation of an effective climate agreement will be a lengthy process. The initial agreement should be process-oriented and thus have a structure that facilitates timely revision of current elements and inclusion of new elements.

2 The climate agreement should aim at universal participation. The special circumstances of certain countries should, to the largest degree possible, be handled as an integral part of the climate agreement.

3 The initial framework convention should initiate the process towards harmonisation of greenhouse gas taxes and other appropriate mechanisms in the participating countries, for instance through a set of minimum tax levels. It should contain comittments to avoid unfair trade effects.

4 The allocation of initial net emission commitments between countries at <u>different</u> levels of economic development could be based primarily on equity grounds. This implies that the most developed countries take on the largest commitments. Initial targets for developing countries and countries with economies in transition should be of a kind consistent with their economic situation and development needs.

5 The allocation of initial commitments between countries at the <u>same</u> level of economic development should be based on both equity and cost-effectiveness. This implies that countries with high emissions, where the cost of emission reductions are comparatively low, take on the largest comittments.

6 Countries should have the option to achieve quantitative emission commitments alone or in cooperation with other countries. The framework convention should initiate the process towards the establisment of a clearing house system. This would facilitate transfer of financial resources to the developing countries and countries with economies in transition and contribute to a cost-effective allocation of net emission reductions on a global basis.

14.4 FINANCIAL TRANSFER MECHANISMS/SPECIAL SITUATION OF DEVELOPING COUNTRIES/COUNTRIES WITH AN ABNORMAL BURDEN

Developing countries have as their main priority alleviating poverty and achieving social and economic development. Their emissions will have to be allowed to grow, reflecting their present low energy consumption, in order to accommodate their development needs. Growth in emissions will be allowed to continue until an understanding/agreement to the contrary is reached. However, developing countries should be encouraged on their own accord to accede to developed country status as regards obligations.

Developing countries' obligations could i.a. consist of ensuring that energy efficiency is improved in an agreed period by reducing the tons of carbon emitted per GNP by a given percent (to be agreed upon).

Financial Mechanism

A mechanism will have to be established for the purposes of providing financial and technical co-operation, including the transfer of technologies, to developing countries (DC) or countries with an abnormal burden (AB), to enable their compliance with energy efficiency obligations or self-imposed emission control measures. Transfers should meet all agreed incremental costs in order to enable compliance with obligations, thereby guaranteeing that productive investments are not undercut. Thus, investments in the protection of the global atmosphere that otherwise would not be undertaken due to an insufficient national rate of return, will be secured. Contributions to the mechanism will be separate from and additional to other financial transfers to recipient countries, including development assistance. As an example of such an approach, Norway has established a new budget item for global climate funding, additional to and separate from the development assistance budget. The Norwegian 1991 contribution to the IBRD/UNEP/UNDP Global Environment Facility comes from these funds and thus represents genuine additionality.

The Financial Mechanism established will include a Multilateral Fund:

(a) To meet, on a grant or concessional basis, agreed incremental costs.

(b) To assist Parties (DC and AB) through country studies to identify their needs for co-operation.

(c) To facilitate technical co-operation to meet identified needs.

(d) To facilitate other multilateral co-operation to meet needs for capital investments in energy efficiency, low or non-greenhouse gas agricultural, forestry, industrial, transportation or infra-structural activities.

(e) To facilitate operations favourable to the global environment that would not go forward without a special extra assistance to provide an acceptable return in relation to a given country's benefit.

(f) To facilitate investment by one country in another country that could either be a developing country or a country with abnormal burden, based on provisions in the agreement to achieve the most cost-effective solutions to counteract climate change or meet obligated control measures. Such investments should be credited the investor country proportional to the net GHG emission limitations obtained.

The Multilateral Fund will operate under the authority of the Parties to the Climate Convention. They will also decide on its overall policies.

The Parties may establish an Executive Committee to develop and monitor the implementation of operational policies in co-operation with the IBRD/UNDP/UNEP "GEF" which may administer the Multilateral Fund.

An alternative would be to use the "GEF" as the Financial Mechanism. In that case, no Executive Committee needs to be established between the Parties and the Financial Mechanism/GEF. In order for this to take place, the GEF decision making structure needs to evolve in a fashion conducive to policy control by the Parties, and real influence by the developing countries not hitherto a part of the Bretton Woods structure. One option would be for the GEF to become a separate branch of the World Bank, such as the IFC, MIGA etc.

The Financial Mechanism is to initially receive direct budgetary contributions from industrial countries on the basis of burden-sharing (e.g. relative GHG emissions in a given year). However, as regards (a) to (e) above, the mechanism could progressively become an integral part of the very operation of the climate regime. In a system based on emission permits which would be freely tradable on the world market, arrangements for transfer of financial resources between countries are integrated in the system. It seems probable that the flow of funds to a large extent would be from the industrialized countries to the developing countries and countries in transition. This system could be supplemented by other financial mechanisms in order to secure adequate flows of funds for these countries. Eventually, these mechanisms should be integrated as much as possible.

The Financial Mechanism could as regards (f) above operate as a

clearing house or broker. These latter functions can also be expanded to concern trades in GHG emission rights between countries to fulfill obligations in a market-based, cost-effective fashion.

A first priority as regards a financing mechanism must be the undertaking of country studies, on a comparable basis, in order to clarify the costs and the distributional effects of a climate strategy based on the concept of incremental costs. See further Norwegian non-paper on this subject.

The above in no way suggests that all activities in developing countries need concessional financing in order to have a beneficial effect on climate change. A wide spectrum of investments, e.g. in the energy, forestry/agricultural and industrial field, are of a no-regrets nature and make sense both from an environmental and economic point of view and could thus be financed on non-concessional terms, be it on an equity or credit basis.

In the negotiating process, both sub-groups under the Negotiating Committee will have a role to play vis-a-vis the Financial Mechanism. Group I might have the role initially to oversee country studies, what activities are to be financed, financing needs, defining/agreeing on incremental costs and clarifying additionality in terms of commitments by industrial countries.

At a later stage, the institutional issues will come to the forefront through Group II: How are agreed commitments/ obligations to be implemented, which existing agencies can deliver the goods, what changes are needed in existing institutional arrangements, which new institutions are needed, and their relation to the Convention, the UN and the Bretton Woods system.

14.5 TECHNOLOGY TRANSFERS IN A CLIMATE CONVENTION/CLIMATE REGIME.

Provisions for technology transfers will have their place in a climate convention alongside those pertaining to mechanisms for financial transfers.

The linkage of technology transfer and the transfer of financial resources

It would be useful if one could agree that as far as a Climate Convention will provide for covering developing countries incremental costs in taking actions in the climate field through the provision of new and additional financial resources, this coincides with the transfer of technology for the same purposes.

The technology needed to enable developing countries to undertake actions would be available in private markets and the incremental costs to acquire that technology should be covered. In this sense, there would be no residue for technology to be transferred outside the financial mechanism on non-commercial terms.

However, the two issues are not always overlapping. First, a large proportion of technology development takes place in the public sector, e.g. within public R & D institutions. When appropriate such public sector technological know-how should be made available to developing countries. Further, Governments have a <u>separate</u> responsibility to create a <u>policy framework</u> which promotes technology transfer and information exchange, and to assist in establishing contacts between potential partners, i.a. through rosters identifying technologies that are benign to the global climate.

Technology transfer - a wider concept than that of transfer of financial resources

The concept of technology transfer in one sense goes far beyond that of financing on concessional terms. It covers the whole range of developing countries' relations with the outside world through regular trade and investment patterns. It is therefore most likely that the bulk of technology transfer for climate purposes as for other aspects of economic intercourse will be made on regular commercial terms.

Technology transfer - not only the hardware

However, as technology transfer is also a very wide concept concerning not only the economic, be it commercial or non-

commercial side of financing, but such aspects as training, development of human resources, the identification of technology, soft ware education and the availability of technologies, the protection of patents and proprietary rights, i.e. the economic regulatory regimes of developed and developing countries. There is a strong case for a specific role under a Climate Convention/Climate Regime to establish mechanisms to contribute to the development, identification and inventory information on the availability of technologies as well as contributing to the training of personnel to handle technologies and through courses/curricula to educate populations in a more general sense.

Property rights and expropriation

Expropriation of privately owned technology would be illegal from the point of view of most national legal regimes and international patent treaties. The draw-backs of privately developed and owned technology including the right to discretion are, however, the same factors that ensure continued development of new technologies, i.e. the right to market them and earn a profit on superior new technologies from the point of view of productivity, environmentally qualities etc. Expropriation might be tempting as a short-term solution (in particular in reference to the unique and global significance of climate change) but would be based on a misunderstanding of the factors pushing technology development forward. It is also important to have in mind that by and large, private developers of new technologies are in the business of technology development in order to market the technologies and gain an increased market shares for their products overall. One should also note that much of the potential in developing countries as well as EE countries regarding reduction of greenhouse gas emissions is not dependent on advanced and specialized technology. The improvements needed also comply with the no-regret policy.

Avoid double compensation

What should be avoided in a Climate Convention is to establish financing mechanisms for technology transfers apart and separate from or in addition to a financing mechanism to recompense additional costs in acquiring technologies. Such un-financed technology transfer on non-commercial terms would be tantamount to expropriate technology from private proprietors/holders of technology/patents. Added to DC-financing to cover incremental costs this would amount to attempting to have the cake and eat it too. Worse, the attempt would probably be counter-productive and backfire on developing countries by barring/slowing down technology transfer rather than promoting it.

Technology transfer related to the Climate Convention

Technology transfer related to the Climate Convention should be within the following areas:

- Establishment and improvement of monitoring systems.

- Capabilities to assess alternative solutions.

- Technologies to stabilise and mitigate greenhouse gases (many sectors).

- Technologies to adapt to climate change: improved coastal mangaement and improved and robust agricultural technologies, including forestry.

- Energy sector:
  Investment in human and institutional capabilities, for upgrading and more efficient use of existing investments in DCs.

  Co-development, technological development cooperation, where funds should enable suppliers and public sector utilities to take part in international development projects on new and more efficient technology.

Towards a technology transfer mechanism

Steps towards a technology transfer mechanism must comprise:

- an analysis of the needs of the developing countries and the EE countries;

- overview of present obstacles to technology transfer;

- overview over present organisations and systems dealing with technology transfer today, and the experience from these projects;

- a study on how to treat technology transfer in view of existing and coming international environmental agreements.

14.6 Compliance

1. The Parties' compliance with the provisions of the Climate Convention will be crucial in determining the efficiency of the Convention in achieving its objectives.

2. The complexity of the Climate issue may require diversified compliance mechanisms in the Convention and its related Protocols in order to deal adequately with the compliance issues which are likely to emerge. The compliance system could be structured functionally, taking into account the possibilities of integrating or building upon existing mechanisms or institutions.

3. As the Climate Convention will be a first generation climate agreement, its compliance mechanisms should be flexible and adaptable, in order not prejudice the Convention's possibilities to be process oriented. To some extent, parts of the compliance provisions in a first generation climate agreement are likely to be of an interim nature. The Convention's compliance mechanisms should therefore at the outset aim at utilizing the existing institutions to the extent practicable.

4. An adequate compliance system for the Climate Convention and its related Protocols will have to be considered with due regard to inter alia the following main questions:

4.1. Monitoring, verification.

The Climate Convention will have to contain provisions regarding monitoring and verification of the Parties' obligations under the Convention. Parts of the basis for this control may already exist in fora like UNEP and WMO. It should be examined whether one or both of the two said institutions, possibly in conjunction with other existing institutions, could undertake the task of monitoring and verification.

A system for country reporting of climate data will have to be established. Today, only partial climate information is available country-wise. The IEA, IMF, World Bank, UNDPs ESMAP, OECD, UNEP and WMO will have elements of a country information base available. It should be clarified whether one or several institutions could contribute to, or be responsible for, the establishment of a country climate data base.

The data resulting from the monitoring and verification activities will have to be reviewed. One possibility could be to establish a system of "country climate examinations", for instance along the lines of country examinations in the OECD, and Article IV examinations in the IMF.

The results of the country reviews will have to be examined with regard to each Party's implementation of its obligations under the Convention.

4.2. Compliance decisions.

When the facts regarding a Party's compliance with the provisions of the Convention have been established, as a result of monitoring and verification mechanisms, the review procedure or otherwise, decisions will have to be

taken with respect to matters of non-compliance. Institutional authority will be needed under the Convention in order to handle compliance cases. The handling of compliance matters, at least on a day to day basis, can clearly not be undertaken by Meetings of the Parties. A likely possibility would be to leave all or parts of the handling of implementation matters to the Executive Body under the Convention. The mandate of the Executive Body will have to contain provisions clarifying its role in such matters, in particular:

- should the Executive Body have executive and judicial powers in compliance matters

- should its role be limited to making decisions with regard to measures in response to non-compliance (including but not limited to sanctions), or should the Executive Body have wider powers in the field of implementing the Partis' obligations under the Convention.

4.3. Implementation of response measures.

Among the questions that need clarification with regard to implementation of response measures are:

- Should the Convention itself and its related Protocols contain provisions regarding implementation measures

- How should disputes between Parties, or between one or more Parties and the Executive Body, with regard to compliance be handled:

- should the Convention establish a settlement of disputes mechanism

- for the Convention in general or limited to

compliance matters

- Can already existing settlement of dispute mechanisms be utilized, in particular mechanisms within the U.N. system.

- What should be the relationship between compliance mechanisms established under or in the Convention and its Protocols on one side, and general conflict resolution mechanisms on the other side.

- Should the International Court of Justice play a role

- Is a specialized international court or mechanism needed

- Should Parties to the Convention be able to "opt out" of the compliance provisions in the Convention by transferring the compliance matter at hand to other institutions, like the ICJ, thereby avoiding the implementation of response measures.

14.7 COUNTRY STUDIES

In order to clarify the costs and the distributional effects of a climate strategy, country studies need to be carried out, on a comparable basis. Special emphasis should be given to the effects of possible climate regimes on international trade. OECD has an important role to play here as regards industrial countries.

Country studies on developing countries should put emphasis on the concept of incremental costs resulting from greenhouse gas reductions that are not economically viable from a national point of view. This was the approach chosen in the Montreal Protocol. The experiences gained through GEF operations could also serve to gauge the size and nature of financing needs.

We are of the opinion that the World Bank, in cooperation with UNDP - through the ESMAP program - as well as UNEP, is particularly well placed to conduct country studies on developing countries. The Bank's present country "Environmental Profiles" as well as the broader "Country Environment Studies" could serve as natural points of departure - to be expanded to also encompass climate issues.

Although not presently part of the planned work program of GEF, we are inclined to propose country studies as a priority task for the GEF at its first meeting in May 1991 in order for the GEF to support on-going negotiations on global environmental issues.

In addition bilateral donors could finance country studies of developing countries, as was done in the Montreal Protocol process with great success. We understand that proposals to this effect will be made in the context of IPCC, and this should be supported.

Norway has already financed a study on Indian and Chinese energy options to be started shortly by the World Bank and we are looking at a similar proposal for a study on the use of economic instruments in environmental policy in major developing countries.

It is important to see country studies as part of the broader process that eventually lead to the establishment of national climate policy strategies in all countries as part and parcel of the future climate regime. The strategies/national programs should be reviewed in a constant effort to adapt to the deepening of our scientific knowledge and to be improved in the light of up-dated experience, i.a. through a process-oriented climate regime where examinations form an integral part.