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Folder Title:

Subject Files: Working Group on Global Climate Change #2 (IPCC - Intergovernmental Panel on Climate Change) and RSWG (Response Strategy Working Group) [Letters, Memorandums, Reports, and Other Information][1]

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01. Form	Re: Request for Appointments (2 pp.)	11/13/90	(b)(6)	

Collection:

Record Group: Bush Presidential Records

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File Location: Group on Global Climate Change #2 (IPCC - Intergovernmental Panel on Climate Change) and RSWG (Response Strategy Working Group) [Letters, Memorandums, Reports, and Other Information][1]

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THE WHITE HOUSE
WASHINGTON

February 19, 1991

*Working
Global -
Climate Change
Copy to
J. M. [unclear]*

MEMORANDUM FOR THE GLOBAL CHANGE STRATEGY TASK FORCE

FROM: D. ALLAN BROMLEY *DMB*
SUBJECT: Global Change Strategy Task Force Meeting

The Global Change Strategy Task Force will meet on Thursday, February 21, 1991, at 4 p.m. in Room 324 of the Old Executive Office Building.

We will review the results of the first negotiating session of the Framework Convention on Climate Change and discuss where the negotiations may be headed over the upcoming months. Bob Reinstein, US Negotiator for the Framework Convention, will present a summary of the meetings as well as a discussion of the final decisions made during the two-week session.

Attached for your reference are copies of the UN Press Release, which provides a good summary of the negotiations, and the Annex on Organizational Matters. The latter document defines how the negotiations will be conducted and includes guidelines for the negotiations, organization of Working Groups, and a listing of several procedural points.



General Assembly

Distr.
LIMITED

A/AC.237/L.5
14 February 1991

ORIGINAL: ENGLISH

INTERGOVERNMENTAL NEGOTIATING
COMMITTEE FOR A FRAMEWORK
CONVENTION ON CLIMATE CHANGE
First session
Washington, D.C., 4-14 February 1991
Agenda item 3

ORGANIZATIONAL MATTERS

Draft decision submitted by the Chairman

Establishment of subsidiary organs and organization of work

The Intergovernmental Negotiating Committee for a Framework Convention on Climate Change

1. Decides to establish two Working Groups to assist the Committee in carrying out its work;
2. Adopts the guidelines for the negotiations, organization of Working Groups and procedural points contained in the annex to the present decision.

ANNEX

I. GUIDELINES FOR THE NEGOTIATIONS

1. All items in the negotiations should be dealt with in an integrated manner and on the basis of General Assembly resolution 45/212 of 21 December 1990, which inter alia, reaffirms the principles embodied in General Assembly resolutions 44/207 and 44/228, both of 22 December 1989.
2. The work of the groups must be interrelated and will be integrated by the plenary. To this end the two Working Groups will report regularly to the plenary.
3. Funding commitments, mechanisms and means for transfer of technology to developing countries, as well as matters concerning international scientific and technological co-operation, should be an integral element in the negotiations.

4. The final agreement on the convention should cover in an integrated manner all areas of common concern, including, inter alia: (a) emissions; (b) sinks; (c) transfer of technology; (d) financial resources and funding mechanisms for developing countries; (e) international scientific and technological co-operation; and (f) measures to counter the effects of climate change and its possible adverse impact, particularly on small island developing countries, low-lying coastal, arid and semi-arid areas, tropical regions liable to seasonal flooding and areas prone to drought and desertification.

II. ORGANIZATION OF WORKING GROUPS

5. The Working Groups will prepare draft texts for consideration by the plenary.

A. Working Group I: Commitments

6. Working Group I will prepare a text related to:

(a) Appropriate commitments, beyond those required by existing agreements, for limiting and reducing net emissions of carbon dioxide and other greenhouse gases, on the protection, enhancement and increase of sinks and reservoirs, and in support of measures to counter the adverse effects of climate change, taking into account that contributions should be equitably differentiated according to countries' responsibilities and their level of development;

(b) Appropriate commitments on adequate and additional financial resources to enable developing countries to meet incremental costs required to fulfil the commitments referred to above and to facilitate the transfer of technology expeditiously on a fair and most favourable basis;

(c) Commitments addressing the special situation of developing countries, taking into account their development needs, including, inter alia, the problems of small island developing countries, low-lying coastal areas and areas threatened by erosion, flooding, desertification and high urban atmospheric pollution; also taking into account the problems of economies in transition.

B. Working Group II: Mechanisms

7. Working Group II will prepare a text related to:

(a) Legal and institutional mechanisms, including, inter alia, entry into force, withdrawal, compliance and assessment and review;

(b) Legal and institutional mechanisms related to scientific co-operation, monitoring and information;

(c) Legal and institutional mechanisms related to adequate and additional financial resources and technological needs and co-operation, and technology transfer to developing countries corresponding to the commitments agreed to in Working Group I.

III. PROCEDURAL POINTS

8. There will be no more than two meetings held at any one time within the Intergovernmental Negotiating Committee.

9. There will be no inter-sessional meetings of the Intergovernmental Negotiating Committee Working Groups or any subgroups.

10. All drafting is to be done by each Working Group, within the framework of its mandate, subject to any subsequent need for harmonization.

11. If and when it is deemed necessary, the Working Groups, subject to the approval of the Intergovernmental Negotiating Committee, may establish ad hoc subgroups to deal with specific issues, with due respect to the understanding that no more than two meetings may be held at any one time. These groups would be reviewed continually to allow reformulation and adjustment in order to reflect the progress of the negotiations.



RM

Press Release

Department of Public Information • News Coverage Service • New York

Intergovernmental
Negotiating Committee
on Climate Change
11th Meeting (PM)
and Round-up of Session

ENV/CCC/11
14 February 1991

INTERGOVERNMENTAL NEGOTIATING COMMITTEE FOR FRAMEWORK CONVENTION
ON CLIMATE CHANGE, WASHINGTON, D.C., 4-14 FEBRUARY

**Sets up Working Groups; Adopts Guidelines for Negotiations;
Urges Contributions for Developing Countries' Participation in Process**

The Intergovernmental Negotiating Committee for a framework convention on climate change this afternoon established two Working Groups to assist it in negotiating an international instrument to reduce global climate warming.

Working Group I will deal with appropriate commitments for reducing greenhouse gas emissions, additional financial resources to enable developing countries to fulfil their obligations under the convention, technology transfers and the special needs of developing countries. Working Group II will consider the legal and institutional mechanisms of preparing the framework convention.

In the same decision, the Committee adopted guidelines for the negotiations on a framework convention on climate change, the organization of the Working Groups and procedural points on the holding of meetings and on the drafting to be done -- all contained in an annex.

It emphasized in those guidelines that all items in the negotiations should be dealt with in an integrated manner; that the

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For information media--not an official record

work of the groups must be interrelated and integrated by the plenary; and that funding commitments, mechanisms, technology transfer and international scientific and technological co-operation should be an integral element in the negotiations.

Concluding nearly two weeks of deliberations at the Westfields International Conference Center, near Washington, D.C., the Committee also adopted a decision urging contributions to a special voluntary fund set up by the General Assembly to support the participation of developing countries in the negotiating process.

As of 13 February, contributions to the fund totalled \$1.25 million, and a number of countries indicated that they were considering pledges, some on a bilateral basis. Today, the representative of Japan announced a \$200,000 contribution to the fund.

Regarding relations with the Intergovernmental Panel on Climate Change (IPCC) -- an expert group whose scientific and technical findings on climate change formed the basis of an assessment report which was before the Committee during the session -- the Committee concluded that relationship had already been set out in General Assembly resolution 45/212.

The Committee said the IPCC was not a negotiating forum and that in continuing its work, as mandated by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO), the Panel could provide technical and scientific assistance in response to the requests of the Committee.

The Committee, in another decision, expressed its profound gratitude to the Government and people of the United States for their warm and generous hospitality and for the excellent facilities provided during the Committee's first session.

At the final meeting today, the Committee adopted, as amended, its report (document A/AC.237/L/1 and Corrs. and Adds 1-4), which was introduced by Vice-Chairman and Rapporteur Ion Draghici (Romania).

Concerning the dates for future sessions, it decided, provisionally, that its second session would be held at Nairobi, from 1 to 15 June; and that the second and third sessions would take place at Geneva, from 9 to 18 September and 9 to 20 December, respectively.

The Committee postponed the election of officers of the two Working Groups until its next session, because of a lack of consensus among the regional groups on representation.

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The Executive Secretary of the Committee and Director of the ad hoc secretariat made a statement on funding of the negotiating process, including the secretariat's operating budget.

The representatives of the Soviet Union, Vanuatu, Cuba, Greece and Zaire, on behalf of the five regional groups, expressed thanks to the host Government, the Chairman and Secretariat staff.

In a concluding statement, the Chairman, Jean Ripert (France), warned delegates not to leave the session believing that all the Committee had done was talk about procedural things. Because of the nature of the endeavour, concerns and interests, it had been necessary to spend time talking about mandates. Delegates, he said, should leave the meeting with an awareness of having done useful work.

The Assembly, in resolution 45/212, established the Intergovernmental Negotiating Committee to prepare an effective framework convention on climate change, containing appropriate commitments and any related legal instruments as might be agreed upon.

That instrument, the Assembly said, should be completed prior to the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil, in June 1992, and opened for signature during that Conference.

A "framework" for a convention consists of a statement of general principles identifying the major issues to be considered and defining general areas where Governments should assume commitments to specific actions.

In that connection, the guidelines for the negotiations, which the Committee adopted today, state that the final agreement on the convention should cover, in an integrated manner, all areas of common concern, including emissions; sinks (forests); transfer of technology; financial resources and funding mechanisms for developing countries; international scientific and technological co-operation; and measures to counter the effects of climate change and its possible adverse impact, particularly on small island developing countries, low-lying coastal, arid and semi-arid areas, tropical regions liable to seasonal flooding and areas prone to drought and desertification.

The first session of the Committee began on 4 February. Opening the meeting on behalf of Secretary-General Javier Perez de Cuellar was Antoine Blanca, Director-General for Development and International Economic Co-operation. Representing the host Government, the United States, was Michael R. Deland, Chairman of the President's Council on Environmental Quality.

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Also addressing the opening meeting were the Executive Director of UNEP, Mostafa K. Tolba, and the Secretary-General of the WMO, G.O.P. Obasi. Those two agencies gave momentum to the negotiation of a convention on climate change in 1988 when they jointly established the IPCC.

During three days of general debate, on preparations for the elaboration of an instrument on climate change, the Committee heard a total of 76 speakers -- 68 Member States and eight representatives of specialized agencies, intergovernmental and non-governmental organizations.

Statement by Executive Secretary

MICHAEL ZAMMIT CUTAJAR, Executive Secretary of the Committee and Director of its ad hoc secretariat, speaking on the funding of the negotiating process, including the secretariat's operating budget, said the adequacy of estimates made for staff and conference servicing costs, as well as the source of funding for heads of expenditure, would have to be examined in the light of the work plan emerging from the session. He recalled that in adopting the resolution which established the Committee and its secretariat, the General Assembly had received a statement indicating that no additional appropriations would be required in respect of the programme budget for the 1990-1991 biennium. No reference had been made about the source of funding for heads of expenditure.

The expenditures he had in mind, he said, were, for example, requirements for general operating costs, travel, consultants and documentation. Costs might also be incurred for activities aimed at raising awareness of the issues under negotiation, particularly in developing countries. Those could include public information work and dialogue with non-governmental organizations. When those matters had been clarified, it would be possible to estimate the overall cost of the negotiating process, to match that estimate with the resources available from the United Nations budget and from the budgets of other entities of the United Nations system.

It was his intention, he said, in consultation with the Chairman, to present such estimates to the Committee in advance of its next session. That would enable Governments to assess the need for contributions to the trust fund and to respond to it, hopefully in advance of the session.

The question of staffing and location of the secretariat would be taken up with the responsible departments at United Nations Headquarters, he continued. No one, other than himself, had yet been assigned to the secretariat of the Committee, and the ad hoc

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arrangements for servicing the current meeting were specific to it. On staffing, he would consult with the executive heads of UNEP and WMO, as well as other bodies, on the possibilities for secondment of staff.

As regards the location of the secretariat, he said there were several options in Geneva, which he would explore on his return there next week. It would be desirable to find a location which would maximize the ability of the Committee secretariat to draw upon existing infrastructures, thereby minimizing its own staffing and support needs. He drew attention to document A/AC.237/INF.2, entitled "Temporary secretariat arrangements", which indicated the present office address in Geneva where he might be reached until further notice.

Action on Organizational Matters

The decisions adopted by the Committee on organizational matters (document A/AC.237/L.5) cover three aspects of its future work: guidelines for the negotiations; organization of working groups; and procedural points.

The mandates of the two Working Groups, which will prepare draft texts for consideration by the plenary, are as follows:

Working Group I, on commitments, will prepare a text containing commitments for limiting and reducing net emissions of carbon dioxide and other greenhouse gases; on the protection, enhancement and increase of sinks and reservoirs; and in support of measures to counter the adverse effects of climate change, taking into account that contributions should be equitably differentiated according to countries' responsibilities and their level of development.

That text will also contain commitments on adequate and additional financial resources to enable developing countries to meet the costs required to fulfil their commitments, as well as commitments to facilitate the transfer of technology on a fair and most favourable basis.

The text to be prepared will also include commitments addressing the special situation of developing countries, taking into account their development needs, including the problems of small island developing countries, low-lying coastal areas and areas threatened by erosion, flooding, desertification and high urban atmospheric pollution, as well as the problems of economies in transition.

Working Group II, on mechanisms, will prepare a text containing legal and institutional mechanisms related to: entry into force,

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withdrawal, compliance and assessment and review of the convention; scientific co-operation, monitoring and information; and adequate and additional financial resources and technological needs and co-operation, as well as technology transfer to developing countries corresponding to the commitments agreed to in Working Group I.

On procedural points, the Committee decided that there will be no more than two meetings held at any one time; no inter-sessional meetings either of the working groups of any subgroups; all drafting is to be done by each working group, within the framework of its mandate, subject to any subsequent need for harmonization; and, if and when necessary, the working groups, subject to Committee approval, may establish ad hoc subgroups to deal with specific issues, on the understanding that no more than two meetings may be held at any one time.

Relationship with IPCC

Stating that the modalities of its relationship with the IPCC had been set out in Assembly resolution 45/212, the Committee welcomed suggestions that the Panel should continue with its work (document A/AC.237/L.1/Add.4). It said the Panel was not a negotiating forum, and that in continuing the work mandated by UNEP and WMO, the Panel could provide technical and scientific assistance in response to the Committee's requests.

The Committee said it was desirable that the IPCC continue to seek and achieve the full participation of developing countries in all aspects of its activities, and that it should encourage the widest possible participation of experts and of relevant international and other organizations in its work. It said the IPCC's work should cover both the short term and the long term, helping the Committee in its work on the framework convention.

Special Voluntary Fund

In a decision on the use of the special voluntary fund to support the participation of developing countries in its work (document A/AC.237/L.1/Add.4), the Committee welcomed the intention of several Governments and a regional organization to contribute to the fund; urged Governments which had not yet done so to contribute at an early date; and expressed the hope that those which had already done so would make further contributions. It also urged relevant United Nations bodies, in particular the United Nations Development Programme (UNDP), UNEP and WMO, to contribute generously to the fund.

The Committee requested the Executive Secretary, in determining the eligibility of countries for access to the fund, to bear in mind

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the following, in addition to the criteria set out in resolution 45/212: the vulnerability of countries to the rise in sea level, drought and desertification and severe weather disturbances; the importance of financing the attendance of experts, including scientists, as members of delegations from developing countries; adequate regional representation of developing countries; and the important role of regional organizations in providing suitable technical support to the effective participation of developing countries in the negotiating process.

Donors and recipients of financial assistance were invited to keep the Executive Secretary informed of their relevant funding arrangements so that the special voluntary fund might be used to the greatest effect. And the Executive Secretary was requested to facilitate the full participation of all countries entitled to participate, by ensuring the timely distribution of notifications, documentation and other information well in advance of Committee sessions.

Rules of Procedure

The Committee adopted its rules of procedure (document A/AC.237/5) on 11 February. Up until then, difficulties had centred on those rules dealing with decision-making, in particular, rule 27 on general agreement, and rule 29 on majority required.

As adopted, rule 27 states: "The Committee shall make its best endeavours to ensure that the work of the Committee is accomplished by general agreement. If, in the consideration of any matter of substance, all efforts by the Committee and its Chairman, pursuant to the provisions of rule 5 (on general powers of the Chairman) have been made and no agreement appears to be attainable, the Committee shall thereupon decide upon the steps to be taken in accordance with rule 29.

Rule 29, as adopted, states: "Subject to rule 27, decisions of the Committee and its subsidiary organs shall be taken in accordance with the rules of procedure of the General Assembly and its committees, respectively." The original version had called for decisions on all substantive matters to be taken by a two-thirds majority of the representatives present and voting. The Assembly's rules require a simple majority of those present and voting.

History

The negotiation of a framework convention on climate change is the latest development in a process which gained momentum in 1988 when the WMO and UNEP jointly established the Intergovernmental Panel on

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Climate Change. The Panel, consisting of climatologists, scientists, government officials, policy advisers and environmentalists, examined all available scientific information on climatic change, assessed its environmental and socio-economic impact and proposed possible action. After holding four sessions, the Panel issued its first assessment report which provided the most authoritative scientific and technical findings to date on climate change. That report was the main background document before the Committee at this first session.

In 1988, the Assembly endorsed the establishment of the IPCC. In 1989, it emphasized the need to begin, as a matter of urgency, the drafting of a framework convention on climate change. The preparatory meeting for the Committee's first session was the meeting convened by WMO and UNEP in Geneva (24-26 September 1990) of the Ad Hoc Working Group of Government Representatives to Prepare for Negotiations on a Framework Convention on Climate Change.

Among the recommendations of that Group was the establishment of a single negotiating process to discuss policy issues and respond to Assembly decisions. At its current forty-fifth session, the Assembly decided to set up the Intergovernmental Negotiating Committee to prepare a framework convention on climate change, to be completed prior to the 1992 Environment and Development Conference in Brazil.

Officers

The Committee elected Jean Ripert (France) as its Chairman, and elected four Vice-Chairmen: Ahmed Djoghlaif (Algeria), Raul Estrada Oyuela (Argentina), T. Prabhakar Menon (India) (later replaced by Chandrashekhara Dasgupta of India) and Ion Draghici (Romania). Mr. Draghici also acted as Rapporteur. The Alliance of Small Island States sought the representation of small island developing countries on the bureau.

Michael Zammit Cutajar was appointed Executive Secretary of the Committee and Director of its ad hoc secretariat. Assuming his duties on 11 February, he said he was convinced the Committee could contribute to a more efficient and equitable use of the world's resources to satisfy human needs and aspirations. Given that many actions required to counter climate change were also justified on other grounds, he saw prospects for a framework convention with substantive commitments and with productive linkages to more general programmatic initiatives in other policy areas.

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Participants

The first session of the Intergovernmental Negotiating Committee was attended by the representatives of 101 States, 11 United Nations offices, seven intergovernmental and 69 non-governmental organizations.

★ ★ ★ ★ ★



COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

MEMBER OF THE COUNCIL

January 10, 1991

*Work of 1/2
Schmalensee
Climate
Change*

MEMORANDUM FOR NANCY MAYNARD

FROM: RICHARD SCHMALENSEE *RS*

SUBJECT: Greenhouse Paper

I think the draft paper is very good. A section on economics, and some minor editorial suggestions are outlined below.

Page 2, para 3: While impacts may depend on regional predictions, the economic viability of response measures does not. The last sentence of this paragraph should therefore be deleted. The one before it can go too.

Page 2: I would add a new section on economics following the current science section that reads as follows:

Economics: Policy in this area must weigh the economic costs and human consequences of proposed response measures against the benefits associated with any resulting change in the timing and magnitude of any possible warming. Current analyses of the costs of a commitment to permanently hold carbon dioxide emissions at 80 or 100 percent of present levels show widely varying assessments of impacts on output and economic growth. Most studies using aggregate methods show an impact in the range of 0.5 percent to 1 percent of GNP (about \$35 to \$70 billion) at the turn of the century. Particular sectors, such as coal mining, would be particularly hard hit. Also, because the share of fossil fuels in the total primary energy supply varies widely across industrialized countries, there are likely to be significant trade and competitiveness effects.

Some "bottoms up" analyses show that the substitution of more energy-efficient technologies (better lightbulbs, more insulation) can contribute to emissions reduction in the near term without raising the lifecycle cost of energy-using activities. Such evaluations do not account for differences in taste and usage across consumers or the need to weigh energy-efficiency investments against alternative uses of capital. Obtainable energy savings and emissions reductions are almost certainly lower than estimates of technological potential.

Maintenance of any constant emissions level implies an ever increasing percentage reduction from an emissions baseline that is expected to grow as the economy expands. Since the marginal cost of emissions reduction increases after the cheapest opportunities are exploited, both aggregate and "bottoms up" modelling suggests that the costs of a constant emissions target are likely to rise over time. Finally, in considering the possible benefits of emissions reductions, it must be recognized that climate processes depend on world emissions, which are dominated by expected emissions increases outside of the industrialized countries.

Page 3: In second paragraph under Scenario for First Session substitute "with its potential for sharing any obligations across sources and sinks, gases, and countries" for "with its associated market-oriented implementation potential." The current phrase is too suggestive of obligations.

Page 4: Add a sentence under Research, systematic observations, and Analysis that indicates that this area includes both science and economics.



COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

MEMBER OF THE COUNCIL

November 16, 1990

MEMORANDUM FOR ROBERT GRADY, OMB

FROM: RICHARD SCHMALENSSEE

SUBJECT: Environmental Legislation Signing Statement

As you know, the Council of Economic Advisers has recommended against signing S. 169. We have not been asked to review any of the other pieces of legislation listed in the fact sheet, so it is difficult for us to comment on their description in the draft release.

Assuming that S. 169 is to be signed, the language in the draft signing statement should be modified in a number of respects. In order to be consistent with the President's stated intentions, we should emphatically make the point that research into economic and social interactions with climate processes is an integral part of the U.S. Global Change Research Program. It is important to put this spin on the signing statement because the legislation itself does not speak strongly one way or the other on the issue. It is also important to avoid any implication that USGCRP is the exclusive source of knowledge relevant to global change policymaking. CEA would recommend the following language after the first two sentences:

... The salient features of global environmental change issues are the significant uncertainties associated with predicting the behavior of many important earth and biological processes and the interaction of these processes with human activities. World leaders are taking an increasing interest in both the scientific issues surrounding global change and in the economic and social implications of global environmental changes and possible policy responses. S. 169 endorses the Administration's approach to global change research by codifying the Committee on Earth and Environmental Sciences (CEES), which was created by the President through the Federal Coordinating Council on Science, Engineering, and Technology. The CEES is charged with developing a U.S. Global Change Research Program (USGCRP) to create knowledge that can be used in addressing global environmental policy issues.

cc: James Cicconi

*Went to
in
Mark
Climate
Change*

Action: Howard G
cc RLS, JBT, HSC

Document No. _____

WHITE HOUSE STAFFING MEMORANDUM

DATE: 11/15/90

ACTION/CONCURRENCE/COMMENT DUE BY: 8:00 a.m. 11/16/90

SUBJECT: FACT SHEET ON ENVIRONMENTAL LEGISLATION

	ACTION FYI			ACTION FYI	
VICE PRESIDENT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	MCCLURE	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SUNUNU	<input type="checkbox"/>	<input checked="" type="checkbox"/>	NEWMAN	<input type="checkbox"/>	<input type="checkbox"/>
SCOWCROFT	<input checked="" type="checkbox"/>	<input type="checkbox"/>	PORTER	<input checked="" type="checkbox"/>	<input type="checkbox"/>
DARMAN	<input type="checkbox"/>	<input checked="" type="checkbox"/>	ROGICH	<input type="checkbox"/>	<input type="checkbox"/>
CARD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UNTERMAYER	<input type="checkbox"/>	<input type="checkbox"/>
CICCONI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	BOSKIN	<input type="checkbox"/>	<input type="checkbox"/>
DEMAREST	<input checked="" type="checkbox"/>	<input type="checkbox"/>	DELAND	<input checked="" type="checkbox"/>	<input type="checkbox"/>
FITZWATER	<input type="checkbox"/>	<input checked="" type="checkbox"/>	BROMLEY	<input checked="" type="checkbox"/>	<input type="checkbox"/>
GRAY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	GRADY	<input type="checkbox"/>	<input checked="" type="checkbox"/>
HAGIN	<input type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>
HOLIDAY	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____	<input type="checkbox"/>	<input type="checkbox"/>

REMARKS:

Please provide any comments/recommendations directly to Bob Grady by 8:00 a.m. on Friday with a copy to my office. Thanks.
11/16

RESPONSE:

James W. Cicconi
Assistant to the President
and Deputy to the Chief of Staff
Ext. 2702

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

November 16, 1990

President Bush today signed eight pieces of legislation that benefit the environment by protecting natural resources and advancing environmental research and education.

PROTECTION OF NATURAL RESOURCES

The Antarctic Protection Act of 1990 (H.R. 3977) strengthens environmental protection for Antarctica -- a pristine, unspoiled wilderness area whose unique environment contains a variety of species of wildlife, and offers a natural laboratory from which to monitor critical aspects of stratospheric ozone depletion and global change. There is a recognized need in the international community to better protect this fragile environment from unrestrained commercial activity. H.R. 3977 offers this protection. By placing a prohibition on United States mineral activities in Antarctica until a new international minerals agreement has been approved by Congress, the United States is sending a strong environmental message to the rest of the world. This legislation was amended by Congress in a manner that can be considered consistent with the Administration's position of advocating a forceful environment protection agreement to supplement the Antarctic Treaty.

The Florida Keys National Marine Sanctuary and Protection Act (H.R. 5909) designates 2,600 square nautical miles of coastal waters off the Florida Keys as our Nation's ninth national marine sanctuary. This designation provides long-term protection to the ecologically unique natural resources found in the Florida coral reef. In particular, the coral reef will be protected from vessel groundings that have damaged the reef in the recent past, as well as from water pollution and commercial exploitation. At the same time, uses of the Sanctuary, which are compatible with the goal of protection, will be allowed to continue. The sanctuary designation will permit the enjoyment of the Sanctuary resources by citizens today, while also protecting them for the enjoyment of future generations.

The Omnibus Natural Resources and Wildlife Program (H.R. 3338) provides for various important programs that will result in the protection and restoration of some of the Nation's most significant natural resources. In particular, H.R. 3338 establishes two new National Wildlife Refuges (NWR) -- the 18,000 acre Bayou Cocodrie NWR in Louisiana, and the 7,500 acre Walkill

River NWR in New Jersey. In addition, H.R. 3338 increases the authorized funding level for the National Fish and Wildlife Foundation. Since 1984, the Foundation has been able to leverage scarce Federal dollars from the private sector to fund projects instrumental in the protection and restoration of wetlands and other fish and wildlife habitat. H.R. 3338 also establishes a similar organization called the National Forest Foundation, which will conduct activities in support of the Department of Agriculture's Forest Service. Finally, H.R. 3338 enhances regional marine research programs through the National Oceanic and Atmospheric Administration, requires stepped-up environmental law enforcement efforts by the Environmental Protection Agency (not less than 200 criminal investigators by 1995), and authorizes additional funding for fish restoration programs on certain New England tributaries.

The Red Rock Canyon National Conservation Area Establishment Act of 1990 (H.R. 4559) designates 83,100 acres in southern Nevada as the Red Rock Canyon National Conservation area. Red Rock Canyon, located in Nevada's Mojave Desert, is rich in geologic, scenic, wildlife and recreational resources. The site has been home to several cultures, including the prehistoric Anasazi and Pueblo Indians, and later the Paiutes. The area also provides habitat for a diverse wildlife population ranging from desert bighorn sheep and wild horses and burros to the threatened desert tortoise and Gila Monster. Several bird species inhabit the area, including the endangered peregrine falcon and the golden eagle. The Department of the Interior's Bureau of Land Management (BLM) will manage this conservation to conserve, protect, and enhance these important natural resources. The core 62,000 acres of this National Conservation Area are already managed by BLM along with the Nevada Division of State Parks. This legislation authorizes Interior to acquire the additional 21,000 acres through donation, purchase, exchange or transfer from another Federal agency.

The Coastal Barrier Improvement Act of 1990 (H.R. 2840) will almost triple the size of the existing Coastal Barrier Resource System. H.R. 2840 adds 818,000 acres to the System, bringing its total size to over 1.25 million acres, encompassing 1,211 miles of shoreline along the Atlantic, Gulf of Mexico, and Great Lakes coasts. H.R. 2840 helps protect the Nation's threatened coastal barrier resources (which offer superlative fish and wildlife habitat, key physical protection to coastal shore areas, and outstanding places for outdoor recreation), by limiting Federal expenditures and assistance for development within designated coastal barrier areas. It also requires that any Federal property found to be part of a coastal barrier unit be transferred to the System. In addition, it establishes a Coastal Barrier Task Force, comprised of 11 Federal agency representatives, to analyze and report on the management and effectiveness of the Coastal Barrier Resource System.

RESEARCH AND EDUCATION

The National Environmental Education Act (S. 3176) marks a major step in the Nation's environmental progress, laying the groundwork for all generations of Americans to better understand our responsibilities of stewardship and wise use of our resources -- in essence, to improve this Nation's environmental literacy. While the legislation enhances learning opportunities for all ages, it focuses especially on students and their teachers, by including the President's proposal for Presidential awards to teachers for excellence in environmental education. Various other provisions of the bill encourage creativity at the local level through grants, awards and training programs, and provide for leadership at the National level through the creation of an Office of Environmental Education and a broad-based advisory committee. These efforts will enable the education community to help America preserve the environment for today's generations and generations of future Americans.

carefully

The Global Change Research Act of 1990 (S. 169) underscores U.S. world leadership in global change research. The FY 1991 Budget proposed over a billion dollars (a 57 percent increase over FY 1990) for this important research program, which Congress generally endorsed. Specially, S. 169 will help the Nation ~~reduce the significant scientific uncertainty associated with addressing precessing global environmental issues.~~ It endorses the Administration's effort by codifying the Committee on Earth and Environmental Sciences (CEES), which was created by the President through the Federal Coordinating Council on Science, Engineering, and Technology. The CEES would be charged with developing a U.S. Global Change Research Program (USGCRP) to create the ~~scientific~~ knowledge needed to address global environmental policy issues. World leaders are taking an increased interest in the economics and social implications of global environmental changes. The salient feature of these environmental changes is the significant ~~scientific~~ uncertainty associated with predicting the behavior of many Earth processes.

→ and be interactive of these processes with human activity.

The Great Lakes Critical Programs Act of 1990 (H.R. 4323) will provide a substantial boost to America's efforts to clean up the Great Lakes in cooperation with our Canadian neighbors. Much progress has been made in the past, but much progress must still be achieved, especially with respect to cleaning up the toxic pollution problems that make many of the fish in the Great Lakes unsafe to eat. The bill provides tools to make progress on much needed planning and cleanup activities. It will bring closer the day when the people of the United States and Canada will be able to not only admire the physical beauty of the continent's largest lakes, but also to once again safely enjoy the bountiful fisheries throughout the lakes. The bill also focuses Federal, state, and local actions, in cooperation with Canada, on Lake Champlain, another body of water that is important recreationally and historically to the people of the northeastern United States.

either scientific and economic or ~~just~~ just plain knowledge.

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01. Form	Re: Request for Appointments (2 pp.)	11/13/90	(b)(6)	

Collection:

Record Group: Bush Presidential Records
Office: Economic Advisers, Council of
Series: Schmalensee, Richard, Files
Subseries:
WHORM Cat.:
File Location: Group on Global Climate Change #2 (IPCC - Intergovernmental Panel on Climate Change) and RSWG (Response Strategy Working Group) [Letters, Memorandums, Reports, and Other Information][1]

Date Closed: 2/16/2018	OA/ID Number: 03679-012
FOIA/SYS Case #: 2017-0310-F	Appeal Case #:
Re-review Case #:	Appeal Disposition:
P-2/P-5 Review Case #:	Disposition Date:
AR Case #:	MR Case #:
AR Disposition:	MR Disposition:
AR Disposition Date:	MR Disposition Date:

RESTRICTION CODES

Freedom of Information Act (FOIA) - [5 U.S.C. 552(b)]

- (b)(1) National security classified information
- (b)(2) Release would disclose internal personnel rules and practices of an agency
- (b)(3) Release would violate a Federal statute
- (b)(4) Release would disclose trade secrets or confidential or financial information
- (b)(6) Release would constitute a clearly unwarranted invasion of personal privacy
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- (b)(8) Release would disclose information concerning the regulation of financial institutions
- (b)(9) Release would disclose geological or geophysical information concerning wells

Deed of Gift Restrictions

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- PRM. Removed as a personal record misfile

Presidential Records Act - [44 U.S.C. 2204(a)]

- P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
- P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]

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to the Cabinet
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Environment & Scientific Affairs
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Policy, Management, and Budget
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Washington, D.C. 20240
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Deputy Under Secretary for Policy,
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1000 Independence Ave., S.W.
Washington, D.C. 20585
Tel: 586-5316 FAX: 586-5313



COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

November 9, 1990

MEMBER OF THE COUNCIL

MEMORANDUM FOR TASK FORCE ON ECONOMIC COSTS

FROM:

RICHARD SCHMALENSER *RS*

SUBJECT:

Meeting Tuesday, November 13, 4:30

At today's meeting of the Global Change Strategy Task Force, Bob Reinstein (DOS) announced that a technical meeting between the U.S. and the E.C. would be held in Brussels, January 28-9, to discuss why we and they have such different views of the cost of reducing greenhouse gas emissions. My suggestion that our group be tasked with preparing the U.S. materials for that meeting was accepted.

Because it is important to begin our work soon, and because Bob has a full travel schedule, we will meet at 4:30 Tuesday with him to discuss deliverable(s) and workplan(s). The meeting will take place in 324 OEOB; please call Francine Obermiller (395-5037) to arrange clearance.

*F-
Wm
Shake
Change
Task
Force*



EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL OF ECONOMIC ADVISERS

Date: 11/9/90
 Please deliver to: BRUCE BARTLETT
TREASURY - RM 3445
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 Telephone number of addressee: 566 - 2760
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 FAX number of sender: 202-395-6947
 Telephone number of sender: 202-395-5036
 Number of pages, including cover sheet: 2

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NO	REMOTE STATION I. D.	START TIME	DURATION	#PAGES	COMMENT
1	202 786 8452	11- 9-90 5:14PM	1'26"	2	

TOTAL 0:01'26" 2



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1	202 252 0275	11- 9-90 5:13PM	1'23"	2	

TOTAL 0:01'23" 2

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USDA - RM 2295
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1	202 475 4915	11- 9-90 5:18PM	1'16"	2	

TOTAL 0:01'16" 2



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Date: 11/9/90
 Please deliver to: ROBERT GRADY
OMB - OEDB - RM 260

FAX number of addressee: 5730
 Telephone number of addressee: 4044

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1	2027752710	11- 9-90 5:16PM	1'22"	2	

TOTAL 0:01'22" 2



THE EXECUTIVE OFFICE OF THE PRESIDENT

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Date:

11/9/90

Please deliver to:

BOYDEN GRAY
WH-WW-2D FLR

FAX number of addressee:

6279

Telephone number of addressee:

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OPD - GLOB - RM 227
FAX number of addressee: 6554
Telephone number of addressee: 7739
From: RICHARD SCHMALENSEE, MEMBER
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NO	REMOTE STATION I. D.	START TIME	DURATION	#PAGES	COMMENT
1	OPD	11- 9-90 5:26PM	1'14"	2	

TOTAL 0:01'14" 2

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Date: 11/9/90
Please deliver to: NANCY MAYNARD
OSTP-OLEDB-431
FAX number of addressee: 2719
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NO	REMOTE STATION I. D.	START TIME	DURATION	#PAGES	COMMENT
1	2023953462	11- 9-90 5:34PM	1'15"	2	

TOTAL 0:01'15" 2

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Date: 11/9/90
 Please deliver to: MARK PLANT
Commerce - RA 4850
 FAX number of addressee: 377-0432
 Telephone number of addressee: 377-3523
 From: RICHARD SCHMALENSSEE, MEMBER
 FAX number of sender: 202-395-6947
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1		11- 9-90 5:09PM	1'17"	2	

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Date: 11/9/90
Please deliver to: JOHN SCHWARTZ
INTERIOR - RM 6214
FAX number of addressee: 208-4561
Telephone number of addressee: 208-4123
From: RICHARD SCHMALENSSEE, MEMBER
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1	92084561	11- 9-90 5:07PM	1'20"	2	

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COUNCIL OF ECONOMIC ADVISERS

Date: 11/9/90
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POK - RM 7 B - 084
 FAX number of addressee: 586-5313
 Telephone number of addressee: 586-4159
 From: RICHARD SCHMALENSEE, MEMBER
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NO	REMOTE STATION I. D.	START TIME	DURATION	#PAGES	COMMENT
1	202 586 5313	11- 9-90 4:57PM	1'17"	2	POWER INTERRUPTED

TOTAL 0:01'17" 2



EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL OF ECONOMIC ADVISERS

Date: 4/9/90
Please deliver to: INDUR GOKLANV
FAX number of addressee: 200 - 4067
Telephone number of addressee: 208 - ~~4067~~ 4951
From: RICHARD SCHMALEENSEE, MEMBER
FAX number of sender: 202-395-6947
Telephone number of sender: 202-395-5036
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NO	REMOTE STATION I. D.	START TIME	DURATION	#PAGES	COMMENT
1	2022084867	11- 9-90 5:28PM	1'37"	2	

TOTAL 0:01'37" 2



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COUNCIL OF ECONOMIC ADVISERS

Date: 11/9/96
BARRY McBLEE
Please deliver to: OCA - GLOB - Rm 235

FAX number of addressee: 2223

Telephone number of addressee: 6437

From: RICHARD SCHMALENSEE, MEMBER

FAX number of sender: 202-395-6947

Telephone number of sender: 202-395-5036

Number of pages, including cover sheet: 2

MEMORANDUM

COUNCIL OF ECONOMIC ADVISERS

October 31, 1990

all sent

TO: FRANCINE
FROM: DICK *[initials]*
SUBJECT: Distribution of Climate Change Report

While we await word from DOE regarding their distribution of the white paper, we may as well start sending copies to folks we know they won't cover. Please get me the delegate list from the White House conference and, in the meantime, send copies of the paper (regular mail except to Europe) as follows:

- ~~Boskin, Taylor, Broadman, and Jaffe - local~~
- ~~John Lange and Rich Behrend - U.S. delegation to the OECD~~
- ~~Constantino LLuch, Andrew Dean, and John Martin - OECD Secretariat~~
- ~~Kevin Lynch - get address from WP-1 steering committee list~~
- ~~M. Yoshikawa (Japan) - get name and address from WP-1 steering committee list~~
- ~~William Cline - Institute for International Economics (DC)~~
- ~~Dale Jorgensen - Harvard economics~~
- ~~David Wood - MIT (in rolidex, I think), send 5 copies & let me insert a note~~
- ~~William Nordhaus - Yale economics~~
- ~~Andrew Solow, Jesse Ausubel, Lester Lave - get addresses from WH conference materials~~
- ~~✓ Peter Passell - New York Times~~
- ~~Robert Solow - MIT economics~~

cc: HG

→

sent to all ↓

October 31, 1990

DOMESTIC POLICY COUNCIL
Working Group on Global Change
Task Force on Economic Costs

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National Science Foundation
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Oceans & International Environmental &
Scientific Affairs Bureau
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~~Nancy Maynard~~ → *Teresa Gorman*
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John Schrote
 Deputy Assistant Secretary
 Policy, Management, and Budget
 Department of the Interior, Room 6214
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 Tel: 208-4123 FAX: 208-4561

~~Linda Stuntz
Deputy Under Secretary for Policy,
Planning and Analysis
Department of Energy, Room 7B-098
1000 Independence Ave., S.W.
Washington, D.C. 20585
Tel: 586-5316 FAX: 586-5313~~

Copies of the global climate change report (with my card or equivalent) should go to

~~John Knaus, Commerce~~
~~Mike Deland/Dave Struhs, CEQ~~
~~Roger Porter, WH~~
~~Allan Bromley/Nancy Maynard, OSTP~~
~~Steve Danzansky/Barry McBee, Cabinet Affairs~~
~~Olin Wethington/Todd Buchholz, EPC~~
~~Richard Porter, DPC~~
~~Larry Lindsey, OPD~~
~~Richard Stewart, Justice~~
~~Tim Deal/Eric Melby, NSC~~

sent

Dick Schmalensee

Peter Passell
New York Times
229 West 43rd Street
New York, New York 10036

Print sent

Christine Dawson
Member, Policy Planning Staff
Department of State--S/P
Room 7328

BY COURIER

The Honorable Michael R. Deland
Chairman
Council on Environmental Quality
Old EOB, Room 156

David B. Struns
Staff Director
Council on Environmental Quality
122 Jackson Place, 2d Floor

BY COURIER

Richard W. Porter
Special Assistant to the President
and Executive Secretary
Cabinet Affairs--Domestic Policy
Old EOB, Room 231

Olin Wethington
Spec Asst to the President and
Executive Secretary
Cabinet Affairs--Economic Policy
Old EOB, Room 228

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Director, Center for Energy Policy
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MIT, Ctr for Energy Pol Research
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Dale Jorgensen
Harvard University
Economics Department
Cambridge, MA 02138

William Nordhaus
Yale University
Economics Department
New Haven, CT 06520

William Cline
Institute for International
Economics
11 Dupont Circle, N.W.
Washington, D.C. 20036

The Honorable Roger Porter
Assistant to the President for
Economic and Domestic Policy
White House-West Wing, 2d Floor

The Honorable Ricard B. Stewart
Assistant Attorney General
Department of Justice
Environment & Natural Resources
10th & Constitution Ave, N.W.
Washington, D.C. 20530

MEMORANDUM

COUNCIL OF ECONOMIC ADVISERS

October 30, 1990

TO: HOWARD GRUENSPECHT
FROM: DICK SCHMALENSEE
SUBJECT: Our GC Report

my copy
F
all sent
Winkler
Shahel
Christie
Cheng

Francine has asked for DOE's distribution list and another dozen copies of the report. I now think we'll need many more. I'd like copies to go at least to the following, none of whom I suspect are on the DOE list:

- ~~Boskin/Taylor/Broadman/Jaffe~~
- ~~John Knauss, DOC~~
- ~~Buff Bohlen/Chris Dawson/Dave R[?], State~~
- ~~Mike Deland/Dave Strubs [?], CEO~~
- The Governor (MJB to write buck slip)
- All "New Haven" economists, broadly defined, including
 - ~~Bill Cline~~
 - ~~Bill Nordhaus~~
 - ~~both Solows~~
 - Lester Lave
 - Jesse Ausubel
 - ~~Dale Jorgensen~~
 - Dave Wood [send 5 extras for intra-MIT distribution]
 - Whoever's involved in the NAS study

OECD:

- ~~John Lange, USDEL~~
- ~~Constantio LLuch~~
- Andrew Dean
- John Martin
- Kevin Lynch (Canadian Chair of WP-1)
- ~~Dick Stewart, Justice~~
- Roger Porter, WH
- Cabinet Affairs:
 - ~~Richard Porter~~
 - ~~Olin Wethington~~
 - ~~Todd Buchholz~~
 - ~~Steve Danzansky~~

~~Peter Passell,~~
NY Times

A (very) few selected delegates from the WH conference (list of names and addresses to be obtained from?). I'll want it to go at least to Yoshikawa from Japan.

In addition, I'd like to have at least 20 on hand for random requests. It thus looks like we'll need around (60 + your additions to the above list). Let's send out what we now have ASAP, get the DOE list quickly, add to our list, place our order, type our labels, and get this thing moving.

Mr. Andrew Solow
Marine Policy Center
Woods Hole Oceanographic
Institution
Woods Hole, MA 02543

*Grand
sent
Shaw*

Mr. Jesse Ausubel
Carnegie Commission on
Science, Tech. & Govt.
c/o Rockefeller University
1230 York Avenue, PO Box 20034
New York, NY 10021

Professor Lester Lave
GSIA
Carnegie Mellon University
Frew Street and Tech Street
Pittsburgh, PA 15213

Mr. Dan Reifsynder
State Department
Room 4327A
2201 C Street, N.W.
Washington, D.C. 20520

Mr. James M. Broadus
Marine Policy Center
Woods Hole Oceanographic
Institution
Woods Hole, MA 02543

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75016 Paris
FRANCE

Mr. Richard Berans
U.S. Mission of the OECD
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75016 Paris
FRANCE

The Honorable Robert Reinstein
Deputy Assistant Secretary
OES/E
Department of State
Room 7825
Washington, D.C. 20520

Mr. Robert Solow
Massachusetts Institute of
Technology
Department of Economics
E52-383B
Cambridge, MA 02139

Mr. John A. Knauss
Under Secretary for OA
Department of Commerce
Room 5128
14th & Constitution Ave., NW
Washington, DC 20230

The Honorable Curtis Bohlen
Assistant Secretary for OES
Department of State
Room 7831
2100 C Street, N.W.
Washington, D.C. 20520

Mr. Constantio Lluch
U.S. Mission of the OECD
19 rue de Franqueville
75016 Paris
FRANCE

APR 6 1990

*Janet
sent*

BRADLEY, Rick/WILLIAMS, Ted
Department of Energy
Room 4G036
1000 Independence Ave., SW
Washington, D.C. 20585
(Mail Stop EH22)
(202) 586-2061

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COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

November 1, 1990

MEMBER OF THE COUNCIL

MEMORANDUM FOR MEMBERS OF THE TASK FORCE ON ECONOMIC COSTS,
DPC WORKING GROUP ON GLOBAL CHANGE

FROM: RICHARD SCHMALENSEE *RS*

SUBJECT: Our Report

Enclosed, at long last, is the final fruit of our efforts. I have thanked the Department of Energy for their excellent production job, and I want to thank you for your critical substantive contributions to this project. By working together, I believe we have written a better, more complete, and more balanced report than any single agency could have. I hope you and others find the final product useful.

*Wash pp
n*
*Global
Climate
Change*

October 31, 1990

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*W. W. M.
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Climate
Change*

Task Force on Comprehensive and Incentives Approaches to Climate

**Interim Report:
Research and Analysis to Support the
Comprehensive and Incentives Approaches**

October 2, 1990

Introduction

This Administration has developed new approaches to the design of potential climate change policy, the "comprehensive" and "economic incentives"¹ approaches. The United States first clearly presented these approaches to the Intergovernmental Panel on Climate Change (IPCC) by letter in December 1989. They were presented more fully through an "Informal Seminar" for the IPCC Response Strategies Working Group (RSWG) officers in February 1990, accompanied by a booklet of Discussion Papers that have since been widely distributed. The new approaches have been reflected in U.S. positions in the IPCC and now in the IPCC report itself, and in several speeches, including the President's April 18 closing remarks to the White House Conference on Science and Economics Research relating to Global Change, and his July 11 news conference following the Houston Economic Summit meeting.

The discussion to date has largely been of a conceptual nature. Work must now be done on the practical workings of these approaches, and to the research and analysis that would be needed to assess their utility and to support their implementation. This Task Force was organized in May 1990 to specify, encourage, and coordinate this work. The Task Force is an interagency effort chaired by DOJ and involving representatives of numerous agencies, including CEA, CEES, CEQ, DOC/NOAA, DOE, DOI, DOJ, EPA, NASA, NSF, OPD, OSTP, State, USDA, USTR, Treasury, and WH Counsel. This "Interim Report" is provided to identify the research and analysis needed, the current Administration efforts

¹The "economic incentives" approach was originally focused on emissions trading, but has since been broadened to encompass other market-based economic instruments, including emissions taxes.

in that direction, and the further work required. Work is needed in several scientific, economic and institutional research areas that bear on or underlie these approaches, including efforts to quantify sources and sinks of multiple greenhouse gases and fill gaps in information on those sources and sinks, to quantify the relative environmental impacts of these gases, to compare the cost-effectiveness of these approaches and their alternatives, and to develop institutional arrangements that could translate these approaches from concept to practicality. In light of the plethora of upcoming discussions, workshops, conferences, international meetings, ministerial conferences and full negotiations -- including the first session of negotiations on a framework convention on climate change, to be hosted by the United States in February 1991 -- prompt attention to these topics is needed to prepare U.S. representatives for effective participation and to assess choices the U.S. may need to make in responding to others' proposals or putting forward its own.

Policy context

These approaches address the "how to" question -- how to design any policy that might be adopted to respond to potential climate change. Their principal aim is to improve the framework of policy analysis and the cost-effectiveness of any proposed policy choice. They do not address the larger cost-benefit question of "how much" policy action should be taken -- what level of social investment, if any, is warranted by risks of potential climate change. The work of this task force does not imply that a choice has been made to implement some policy action.

Furthermore, the "comprehensive" and "economic incentives" concepts are "approaches" or heuristics that offer insight into any discussion of response strategies for potential climate change. The utility of these approaches is not limited to the design of emissions limitation policies. Whether the strategy is pursuing scientific research, promoting new technology, enumerating the measures justified on other grounds that also have potential climate benefits,² or designing actual

²The major uncertainties surrounding potential climate change, potential response strategies, and the costs and benefits of both, have suggested a strategy of pursuing those policies which are justified on other (non-climate) grounds yet which also help to address potential climate change. More precisely, these are climate-relevant policies pursued in the face of uncertainties about predicted climate change which are so great that the present expected loss due to climate change (and thus the expected climate-related benefits of the policy) cannot

(continued...)

emissions limitations policies (whether domestic or international), these approaches suggest the desirable breadth, emphasis and direction of the strategy. The "comprehensive" and "economic incentives" approaches to potential climate change policy were originally developed in response to the piecemeal (CO₂-focused), command-and-control regulatory approach then dominating the discussion in the IPCC, but the approaches apply to the full array of policy types and options. And they apply to domestic as well as international discussions.

For example, a nation following the strategy of enumerating climate-relevant measures justified on other grounds could use the comprehensive approach to calculate the aggregate impact on net greenhouse gas emissions made by its various measures. A framework convention on climate change could take a comprehensive approach to the cooperative scientific and economic research to which the parties commit, including the development of international monitoring networks, as well as to any national emissions reporting, or to credit to be given under any future obligation for nations' current voluntary emissions-limiting activities. An economic incentives approach could be applied to adaptation measures desirable in long-range investments, such as coastal construction or water use planning.

Summary of the Approaches

The two approaches are compatible, but need not be employed together. Both approaches offer the possibility of designing environmental policies that achieve goals at lower cost and that heighten the possibility for diverse, innovative, flexible, and cost-effective responses.

Comprehensive approach. The "comprehensive" approach seeks to address all the important contributors to potential climate change, in contrast to a piecemeal focus on CO₂ from the energy sector. It therefore addresses all radiatively active trace gases (RATGs), primarily consisting of the greenhouse gases (GHGs), and their sources and sinks. GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), halocarbons such as chlorofluorocarbons (CFCs) and related substances (HCFCs, HFCs),

2 (...continued)

confidently be said to exceed a de minimis level. Examples include emissions-limiting or adaptive steps taken for non-climate reasons, such as phasing out CFCs, afforestation, improving energy efficiency, and developing more drought-resistant strains of crops. Other examples could include reducing landfill emissions of NMHCs and CH₄, reducing auto emissions of CO and NO_x, and encouraging coastal development to account for current subsidence trends.

and tropospheric ozone (O₃), whose precursors include oxides of nitrogen (NO_x), non-methane hydrocarbons (NMHCs) (also referred to as "volatile organic compounds," VOCs), and carbon monoxide (CO).³ Different RATGs arise from different sources and are removed from the atmosphere by different sinks, yielding a "net emissions" budget. Different RATGs have different impacts on the environment; for example, each gas has a different ability to trap certain radiated energy ("radiative forcing") or to reflect it. In order to relate the comparative environmental impacts of the various RATGs, the comprehensive approach employs a parameter or "index" that calculates the relative contribution of increments of each gas to physical effects, such as radiative forcing, used as proxies for global externalities. The comprehensive approach thereby avoids ignoring the important gases that would be omitted from a CO₂-only approach, and avoids ignoring important sources and sinks that would be omitted from an energy-only approach.

As a means of developing an agenda for science and economics research, such as research on the likelihood or impacts of potential climate change, the comprehensive approach suggests the scope of the research agenda: the range of relevant inquiry, the gases and sectors relevant as inputs to economic models of RATG emissions, and the relative environmental externalities (both negative and positive) related to emissions of each gas.

As an approach to technology development, the comprehensive approach assists in identifying and comparing the relative importance of technologies and practices affecting potential climate outcomes.

As a means of enumerating climate-relevant measures justified on other grounds, the comprehensive approach provides a metric for identifying and assessing the policy actions that are relevant in the climate context. It could form the basis for calculating the aggregate impact of various such measures on a nation's net RATG emissions.

As an approach to emissions limitation rules or obligations, the comprehensive approach provides an environmentally coherent and least-cost design for limitations policy. A piecemeal approach, focused on one gas (e.g. CO₂) or one sector (e.g. energy), would omit salient RATGs, sources and

³Other RATGs affect the radiative balance of the atmosphere, but unlike GHGs, their main influence is not through absorption of energy reradiated from the Earth's surface. Aerosol particulates such as sulfur dioxide (SO₂), which generally reflect insolation and thus may exert a net cooling influence, are RATGs but not GHGs. A fully comprehensive approach would encompass all such RATGs.

sinks. By aiming narrowly, it could very well induce unintended shifts of economic activities to unregulated modes that offset or even increase emissions of RATGs, much as focusing on air emissions alone can shift pollutants to toxic solid sludge discharges. For example, focusing on CO₂ alone could induce fuel-switching from high-CO₂ coal to lower-CO₂ natural gas, meanwhile leading to increased emissions of CH₄ from natural gas transmission leaks. The comprehensive approach cures these defects of a piecemeal approach. It also allows the flexibility to choose the least-cost mix of policy options yielding the desired overall RATG limitation. And, by addressing "net emissions," it encourages sink enhancement such as through afforestation or safeguards against pollution of oceanic phytoplankton. The comprehensive approach can be applied to a variety of emissions limitation measures,⁴ including emissions taxes and emissions trading, and including both domestic and international measures. If applied internationally, it has the additional benefit of affording each nation the flexibility and discretion to decide the mix of domestic policies regarding the array of gases, sources and sinks that that nation determines would best accomplish policy goals in light of its unique social, economic, cultural and institutional circumstances.

Economic incentives approach. The "economic incentives" approach similarly applies to a variety of policy options. In the emissions limitation area, it encompasses the panoply of market-based economic instruments, including emissions trading and emissions taxes, imposed to force internalization of the external environmental costs accompanying emissions. It includes the use of incentives to promote innovation in technologies and practices, and addresses adaptation as well as emissions limitation. These incentives could be applied domestically or internationally.

As one example, application of emissions trading to emissions limitation obligations would allow those emitting a substance to achieve compliance with limits on such emissions by voluntary agreements to reallocate emissions among individual emitters so long as the aggregate output did not exceed their overall limit. Thus, reductions would be obtained most at those places where reductions cost least. This could be accomplished by authorizing informal reallocations among emitters, or by formally issuing "allowances" and then authorizing a market in

⁴In light of the relative weighting of the various RATGs according to their environmental externalities and the flexibility afforded to choose a least-cost mix of measures, it is possible that the comprehensive approach could achieve an aggregate net RATG emissions limit by restricting emissions of some gases while allowing emissions of other gas(es) to rise.

the allowances. Experience with emissions trading in the U.S. indicates that it can achieve environmental quality goals at substantially lower cost, and therefore could be of use to nations domestically as they implement any limits on greenhouse gases. Several U.S. applications of emissions trading have been highly successful, such as the phasedown of lead in gasoline; some others have been instructive of the limits of emissions trading, especially when it is applied in the context of other regulatory restrictions on emitters. Allowing emissions trading among nations -- probably initially as informal reallocations accomplished through bilateral national accords -- could similarly be advantageous in the context of any international efforts to develop new technologies or limit emissions.

Emissions taxes would in theory also produce least-cost results. In general, while emissions trading provides more certainty about the quantity of emissions limitation achieved, emissions taxes provide more certainty about the cost imposed on emitters. Domestic use of emissions taxes could be apt where certainty as to cost is more important, or where revenue raising is an important goal. Imposition of international emissions taxes could raise additional institutional, political and sovereignty concerns -- such as whether nations would cede their sovereignty to an international tax authority, how the tax would be set, how it would be made equivalent across economies, and how the potentially enormous revenues raised would be allotted and expended -- that would probably not attend informal bilateral international emissions trading or domestic taxes.

As another example, market mechanisms could be used to encourage efficient adaptation practices. Long-range investments, such as coastal construction or water use planning, might, because of market failures or other institutional failures, be undertaken without giving appropriate weight to any climate change risks (e.g. rising sea levels or shifting precipitation). Such failures might be addressed by informational or incentive-based policies, such as by requiring coastal construction to purchase subsidence insurance, or by fostering a market in water resources that provides incentives for efficient use and long-range risk management.

Research and Analyses

The remainder of this Interim Report describes the research and analysis tasks needed to develop and support the comprehensive and incentives approaches. Our interagency task force has endeavored to identify all of the current agency activities related to each task, although we expect to learn of additional activities as this report is shortly completed.

A companion report being prepared jointly by the CEES' two working groups, Global Change and Mitigation & Adaptation Research Strategies, titled "Research in Support of a Comprehensive Approach to Trace Gas Emissions" (draft 10 September 1990), provides substantial additional detail on the ongoing scientific research relevant to these approaches and the research needed in the future.

Priorities and Timelines

For each task described below, our interagency task force has suggested a priority value and a timeline on which work could and should be completed to be most useful. The suggested relative priority is identified for each task as "high," or "medium," with the understanding that this list is itself a capsule summary of the highest priority items and does not mention numerous tasks judged to be somewhat relevant but not warranting inclusion here.

A time horizon of 3 months, 18 months, or 5 years is typically suggested for each task.⁵ The timeline developed is a combination of the practical pace of research, which suggested a breakdown of tasks into very short-term (3 months), near-term (18 months), or longer-term (5 years) horizons for each task; and the pace of international discussions, which suggested milestones at January 1991, the eve of the first negotiating session on a framework convention (3 to 4 months), June 1992, the target signing date for the convention (roughly 20 months), or 1995, the tentative time for the next full IPCC report (5 years).

The priorities and timelines suggested for each task are suggestions, and we anticipate further discussion and revision on these points.

⁵For certain tasks the timeline is different due to particular scheduling dates; for example, the Second World Climate Conference will be held at the end of this month.

Research and Analysis Underlying the Comprehensive Approach

I. Measuring and Monitoring Atmospheric Greenhouse Gas (GHG) concentrations

Any environmental impacts resulting from GHGs would be associated with changing actual concentrations in the atmosphere, not emissions per se. The comprehensive approach underscores the necessity of gathering data on atmospheric concentrations of all relevant GHGs. Over the last decade much work along these lines has already been undertaken or accelerated, including (i) direct measurement through ground station, aerial, and satellite observation of atmospheric (tropospheric and stratospheric) concentrations of several trace gases (chiefly CO₂, CH₄, N₂O, O₃, and CFCs), and (ii) sample records of past climate change found in ice cores, tree rings, and other sites. Measuring and monitoring past, current and future concentrations, temporal and spatial (e.g. vertical) distributions, chemistry, removal, and other dynamics of GHGs will remain an essential function under a comprehensive approach.

-- Current Administration efforts:

- Under the U.S. Global Change Research Program, several CEES agencies are conducting relevant research. For example, DOE, NASA, NOAA and NSF are conducting or will soon conduct direct measurement of atmospheric concentrations and distributions of CO₂, CH₄, N₂O, tropospheric O₃, CFCs, CO, NO_x and NMHCs. NASA, NSF and DOI are studying sample records of CO₂ and CH₄ in ice cores and tree rings. NASA and NOAA conduct direct observations of stratospheric O₃ and related substances. EPA monitors ambient concentrations of NO_x, O₃, NMHCs, SO₂, and CO. Internationally, the United States participates in the work of the World Meteorological Organization (WMO), the World Climate Program (WCP), the International Geosphere-Biosphere Program (IGBP), and many other monitoring efforts.

-- Future work:

- Ensure coverage of all relevant RATGs. Priority: high. Timeline: continuous.

- Advance the comprehensive approach in any framework convention on climate change. The science research section of the convention must address all the relevant RATGs. It should build networks of cooperative monitoring among nations. Priority: high. Timeline: 3 months to 18 months.

- Advance the comprehensive approach in the Second World Climate Conference. Priority: high. Timeline: 1 month and thereafter.
- Advance the comprehensive approach in the World Climate Program. Priority: high. Timeline: 1 month and thereafter.
- Ensure coverage of relevant temporal and spatial distributions.
- Advance understanding of chemical interactions among trace gases.
- Advance understanding of quantitative link between trace gases and radiative forcing.

II. Impacts of RATGs: Comparative Indices

Changing concentrations of RATGs in the atmosphere are of interest because those gases may yield environmental impacts on societies and ecosystems. Different substances in the atmosphere have different environmental impacts; it goes almost without saying that the environmental impacts of atmospheric oxygen, water vapor, and CO₂ are quite varied, and are believed to be fundamental to the present habitability of the planet. Incremental changes in concentrations of trace gases such as GHGs will similarly have various impacts depending on the particular gas at issue.

(A) Radiative forcing index

In the climate change context, the principal impact of RATGs under study has been radiative forcing. Radiative forcing is not the ultimate environmental impact of actual concern to societies and ecosystems; it is rather an intermediate physical effect that serves as a useful proxy or metric for assessing the impacts of different RATGs on the potential for warming-induced climate change, including atmospheric temperature change, changing precipitation, changing soil moisture, sea level rise, and temporal and regional variations, all of which in turn could affect biological and other systems. Molecules of different RATGs have different radiative forcing properties, and estimates of the relative radiative forcing of incremental amounts of GHGs can provide a common scale along which to compare the gases. A comparative parameter of relative radiative forcing, sometimes called a "global warming potential" (GWP) index or an index of "CO₂ equivalence," has been developed by several scientists. The index incorporates the instantaneous radiative forcing of each type of molecule, its dissipation function and hence its typical residence time in the atmosphere, and the discount rate applied

or the time horizon over which the forcing function is integrated.

-- Current Administration efforts:

- Considerable work has been done on the relative radiative forcing of many RATGs. Estimates of instantaneous radiative forcing, derived from laboratory tests of molecular properties, are well established, as are residence times for several RATGs.

Work in this area has been done by NASA, NOAA, NSF, EPA, and DOE, and has been reviewed and reported by IPCC WG I.

-- Overview of needed work:

Priority: In general, this task is extremely urgent, as it constitutes the technical focal point of the comprehensive approach.

Timeline: Current work on relative radiative forcing is very active; the science is maturing; and robust, reliable, consensus estimates will likely be ready in the near term (6 to 18 months), though with continued uncertainties on specific aspects.

-- Future work:

- Convene international workshop(s) to discuss current work and needed improvements, to build understanding among diverse and representative experts, and to encourage multidisciplinary efforts. EPA, NOAA and NASA are jointly planning to host such a conference in November 1990. Priority: high. Timeline: 3 months.

- Harmonize various quantitative approaches and extend international understanding of indices. Priority: high. Timeline: 3 to 18 months.

- Improve accuracy of dissipation functions and hence of estimated residence times of RATGs. Scientific uncertainties in the current estimates remain surrounding the residence time of CO₂, due to complications in the carbon cycle and uncertainties in CO₂ sink removal processes. Atmospheric chemical reactions involving other gases, such as CH₄ and precursors to tropospheric O₃, complicate estimates of their residence times. Recent work at NOAA is substantially improving estimates of the dissipation rate and residence time of CH₄. As work is ongoing, uncertainties in best estimates can be expressed and revised. Priority: high. Timeline: 3 months to 5 years, varying by gas.

- Incorporate indirect effects attributable to various gases' atmospheric reactions. Certain trace gases react to form other radiatively important trace gases,

or react with substances that would otherwise affect RATG abundances. Much of this work has already been conducted, hence: Priority: medium. Timeline: 18 months to 5 years, depending on gas.

- Take account of "saturation" effects. Radiative forcing by each RATG occurs within a different segment of the electromagnetic spectrum; as that segment or "band" becomes occluded, additional increments of the gas have diminishing marginal radiative forcing impacts. Radiative forcing estimates thus depend on, and need to be expressed in terms of, projected concentrations of relevant RATGs. Much of this information is already available and needs to be incorporated into expressed estimates. Priority: medium to high, depending on significance of the effect for each gas. Timeline: 18 months.

- Take account of the implications that vertical and other distribution of RATGs in the atmosphere may have for calculated index values. This factor is quite important for O3 and its determinants -- CH4, CO, NOx, NMHCs. Priority: high for relevant gases. Timeline: 18 months.

- Improve use of discount rates/time horizons. IPCC WGI expresses GWPs in three selected time horizons; analysis is needed of which of these three horizons, or which other horizon, is appropriate for policymaking. More broadly, better understanding is needed of the scientific and economic basis for choosing different discount rates. Priority: high. Timeline: 3 to 18 months.

- The indices calculated to date have often focused on GHGs and omitted other RATGs. Assess implications of including other relevant substances, such as anthropogenic aerosol particulates (e.g. SO2), in the index. Priority: medium. Timeline: 3 to 18 months.

- Develop institutional mechanisms for adopting a consensus index and adjusting it to new research results. Because uncertainties remain in certain aspects of the index, index values may change as new scientific information is discovered. If an internationally agreed index is used as a tool for design of national policy portfolios to limit net index-weighted RATG emissions, changes in the index values could mean changes in the costs to each nation of its policy package. Mechanisms should be developed for giving advance indication of index uncertainties and likely changes in the index, incorporating new scientific information, and smoothing transitions to new index values. Such mechanisms could include objective science panels and periodic reassessments. Priority: high. Timeline: 3 to 18 months.

(B) Global change index

As indicated above, radiative forcing is only an intermediate physical effect of trace gases, and is really a proxy used as a common metric to compare diverse RATGs.⁶ But RATGs have multiple attributes; they yield other, non-warming environmental impacts of global and local significance which may be more important (in magnitude, timing, or other features) than their contributions to radiative forcing. For example, CO, NOx, urban O3, and SO2 are reactive and/or toxic; CFCs and related substances deplete the stratospheric ozone layer; higher CO2 concentrations increase plant photosynthesis and increase plants' water use efficiency. Optimal policy choices would entail developing a comparative index that incorporates the full externalities (social and ecological costs) imposed by increments of each RATG. Without such a "complete" index, a simple radiative forcing index could provide signals or incentives that yield desirable changes in aggregate radiative forcing but undesirable changes in other impacts; in other words, significant externalities will remain uninternalized.⁷

At the same time, a fully "complete" index poses quite difficult analytic and technical problems. Data are not adequate on important aspects of the magnitude and variations of the diverse impacts; for example, data are lacking on the effects of ozone depletion on UV-B irradiance, and on the effects of changes in UV-B irradiance on biota. Comparing the dissimilar warming and non-warming impacts on a common scale, something like comparing apples and oranges, is a challenge requiring serious analytic efforts.

A somewhat more realistically achievable index would incorporate only the key "global change" attributes of each RATG, namely their radiative forcing and the other salient non-warming global impacts of GHGs, such as the direct effects of CO2 on vegetation and the ozone depletion impacts associated with CFCs and other halocarbons. Essentially local attributes of the

⁶Measurement of the ultimate impacts of warming itself on biological and other systems, though critical for assessing the costs and benefits of climate change, are not incorporated into the radiative forcing index because such impacts stem from warming generically, and do not vary depending on the type of gas enhancing the warming.

⁷It is worth noting that, in contrast to the warming-specific term GWP, the phrase "CO2 equivalence," though unfortunate for its focus of attention on CO2, does offer the opportunity to introduce non-warming effects into the generic concept of "equivalence."

gases, such as their toxicity, would be left to local policy strategies. This "global change" index would capture the main global externalities associated with the gases, providing significantly more optimal policy signals than an index limited to radiative forcing. It would nonetheless require effort and time to construct.

The desirability of a "global change" index faces a dilemma: pushing too hard for a more complete index could undercut the legitimacy of the radiative forcing index, leading to the latter's disparagement or rejection by other nations, or perhaps to the view that one must wait years for a more complete index. This in turn could encourage the reinvigoration of gas-by-gas policy proposals. A two-pronged effort is therefore needed, to build, improve and promote the radiative forcing index, and at the same time to work on a global change index without undercutting the radiative forcing index.

-- Current Administration efforts:

- Conceptual thinking about design of a global change index. (DOJ, USDA)
- Efforts to quantify direct environmental impacts of CO2 enrichment, chiefly its impacts on agricultural and forestry output, and on water resources. (DOE, USDA, DOI, EPA, NSF). These efforts are high priority in any event.
- Efforts to quantify environmental impacts of stratospheric ozone depletion and resultant UV-B irradiance due to halocarbon emissions, such as impacts on agriculture, phytoplankton, and cancers. (USDA, EPA). These efforts are high priority in any event.

-- Future work:

- Address technical and analytic issues in a global change index. Whereas the common proxy or metric used in current indices is radiative forcing, a global change index would require a common metric among the various warming and non-warming impacts. It would also require application of discount rates because different impacts may occur at different times; for example, CO2 enrichment will likely occur much sooner than any observed warming due to CO2. (DOJ, USDA, DOI). Priority: medium. Timeline: 18 months.
- Undertake preliminary design and rough quantitative estimate of a global change index, in order to assess the difference between the relative RATG values obtained in a global change index versus a radiative forcing index. This effort would also indicate whether a global change index is sufficiently different to be worth developing. Priority: medium. Timeline: 3 to 18 months.

- Improve understanding of direct environmental impacts of CO2 enrichment, including the impact of CO2 in concert with changes in other environmental variables such as temperature, moisture, and other pollutants. (DOE, USDA, DOI, EPA, NSF). Priority: high. Timeline:
- Improve understanding of impacts of ozone depletion, including measuring UV-B irradiance and assessing impacts of UV-B radiation on biological systems. (USDA, EPA). Priority: high. Timeline:

III. Measuring and Monitoring net GHG emissions

Assessment of current and future net emissions is critical to the task of predicting the contribution of net emissions to atmospheric concentrations and hence to forecasting potential climate change, regardless of whether any emissions limitations are ever adopted.

The comprehensive approach emphasizes attention to all RATGs, sources and sinks. Baseline data on all of these is not always currently available. In addition, much of the data that are available derives from estimates using data on inputs (e.g. fuel quantities) and knowledge of or assumptions about input-output ratios associated with technologies or practices. Better measurement, forecasting and actual monitoring of net RATG emissions is suggested by, and needed to support, the comprehensive approach.

The ability to better monitor future emissions could also be useful in verifying the implementation of limitation actions and in assuring others' compliance with their claims and with international obligations. This is true of domestic limitations rules as well as international obligations; if a domestic GHG emissions limitation policy is to be effective and, in particular, is to employ performance standards rather than technology-based standards, it will require sound emissions monitoring techniques.

(A) Measuring net GHG emissions

-- Current Administration efforts:

- Numerous agencies collect and analyze data on various gases, sources, sinks, sectors, and industries, and thereby measure emissions from a variety of sources (e.g. energy utilities, mobile sources, land use, agriculture) and uptake by a variety of sinks (e.g. oceans, forests, soils, grasses).
- Efforts are underway to assemble "inventories" of net

emissions of GHGs for many nations,⁸ chiefly EPA's analysis of CO₂, CH₄, CFCs, HCFCs, N₂O, CO, NO_x, and NMHCs for the US and other nations.

- Data are generally adequate on US and other industrialized nations' emissions of GHGs from fossil fuel combustion (generally measured by data on fuel inputs and knowledge of typical combustion techniques), and on world emissions of halocarbons (generally measured by production, consumption and storage rates).

-- Future work:

- Ensure that measurement covers all relevant GHGs, sources and sinks. Priority: high. Timeline: continuous.

- Improve data on other nations. Data on developing nations are particularly scant. The framework convention could call for development of information on all nations, including through a network of cooperative international measuring. Priority: high. Timeline: 18 months to 5 years.

- Develop technologies for measuring net GHG emissions, including direct observation and remote sensing. Priority: medium. Timeline: 18 months to 5 years.

- Develop a data set of emissions/uptake factors for current and potential technologies and practices, covering all relevant gases, sources and sinks. Priority: high. Timeline: 18 months.

- Develop practical proxies or surrogates, such as fuel or fertilizer input data coupled with assumed output rates (e.g. combustion or cultivation techniques), or acreage or livestock data coupled with assumed output rates, to generate emissions factors to assist in measuring emissions. Ensure that measurement uncertainties and assumptions, and use of

⁸ Efforts outside the government include: OECD project, soliciting data from member states on all GHGs; WRI project (in conjunction with UNEP/UNDP) on all nations' net emissions of CO₂, CH₄, CFCs; Harvard Kennedy School survey of many nations' emissions of CO₂ and CFCs.

proxies/surrogates, do not distort policy responses.⁹

Priority: high. Timeline: 18 months.

- Improve understanding of the processes involved in natural emissions and sink uptake, and how these activities might be influenced by climate change.

Priority: high. Timeline: 3 months to 5 years.

- Ensure that data presentations are comprehensive, e.g. avoid CO₂-only or fossil fuels-only charts in IPCC, NES, OTA, and other reports except as adjuncts to complete GHG presentation. Priority: high. Timeline: continuous.

- Ensure that data presentations include the scientific uncertainties involved. Priority: medium. Timeline: continuous.

(B) Forecasting future net emissions

-- Current Administration efforts:

- Use of economic models to generate scenarios of future emissions. EPA, DOE, and NSF are conducting such work, using a variety of economic models. U.S. agency work was reviewed and reported in the IPCC WGI/WGIII emissions scenarios.

-- Future work:

- Current economic models tend to focus on CO₂, separate sectors, and industrialized nations. Need to make use of new and expanded models that overhaul and elaborate current economic models to cover multiple RATGs, multiple sectors, and other important improvements. Ensure that these models include GHG sinks and other aspects of the comprehensive approach. DOE has a three-year phased project underway to accomplish this; EPA is working on improving its models. Priority: high. Timeline: 18 months to 5 years.

⁹For example, measurement of CH₄ emissions based on a proxy such as total acreage of rice cultivation might imply that the only option to reduce emissions is reduced rice cultivation, whereas changed practices using existing or new rice strains might accomplish the same at lower socioeconomic cost. In general, the use of proxies should not be allowed to conceal opportunities for changing the emissions factors or other assumptions from which the proxies derive.

(C) Monitoring net emissions in the future

This task is useful to test empirically the effects on RATG net emissions of observed changes in economic activity, economic structure, and technologies and practices. It is also useful to evaluate accomplishment of nations' espoused policies and of any limitation agreements reached in international accords.

-- Current Administration efforts:

- Efforts to improve monitoring of non-point emissions, including CH₄ emissions from rice cultivation (EPA) and ruminant animal husbandry (EPA); and GHG emissions from biomass burning (deforestation) (EPA, NASA, USDA).
- Efforts to improve monitoring of CH₄ emissions from energy systems such as natural gas transmission and fossil fuels extraction (DOE, EPA).

-- Future work:

- Use proxies/surrogates, developed for measurement of net emissions (section (A) above), to monitor emissions through monitoring of inputs, technologies and practices. Priority: high. Timeline: 18 months.
- Expand monitoring capacity and data to cover all relevant gases, sources, and sinks: data are especially needed on non-point sources of CH₄ and N₂O, e.g. agriculture, livestock; hydroxyl chemistry and atmospheric chemical reactions yielding tropospheric O₃; non-point sources and sinks of CO₂, including oceanic biota, terrestrial biota, long-term sequestration, plant lifecycles, grasses, soils, and trees, extent and effects of deforestation, and sink behavior. Priority: high. Timeline: 18 months to 5 years.
- Expand monitoring capacity and data to cover all nations. Current data generally cover industrialized nations. Develop an international network of cooperative net emissions monitoring. Priority: high. Timeline: 18 months to 5 years, depending on gas and sources/sinks.
- Harmonize techniques and data among nations and analysts. For example, resolve differences among nations monitoring deforestation (Brazil is urging that only its satellites produce reliable estimates of Brazilian land use). Priority: high. Timeline: 18 months to 5 years.
- Develop monitoring technologies and capabilities, as described under "(A) Measuring net GHG emissions" (above). Priority: medium. Timeline: 18 months to 5 years.
- Identify potential international and national methods for monitoring net GHG emissions; assess institutional,

political, social, and economic constraints on such monitoring, and means to overcome such constraints. Priority: high. Timeline: 3 to 18 months.

- Assess options for monitoring arrangements, including arrangements for monitoring and reporting and their relation to sovereignty concerns, e.g. voluntary or mandatory national reporting; "national technical means" of observation of other nations' activities; remote sensing; atmospheric observations; international oversight bodies (e.g. UNEP investigators); permission for on-site inspections; bilateral trade partner review under emissions trading; incentives and institutional designs to encourage development and application of accurate monitoring & reporting, for example by assuring credit for net GHG limitation actions (e.g. climate-relevant actions justified on other grounds) upon a showing by the emitter of successful monitoring practices (see section VI below); verification and enforcement procedures and their rules, reporting and enforcement procedures, burdens of proof, forum (international or bilateral, political or scientific adjudicators, etc.). Examine role of nongovernmental organizations and public. Priority: high. Timeline: 18 months.

IV. Evaluating current national policies and proposals

Whether or not international agreement is reached on response strategies to potential climate change, nations are already announcing their intention to restrict emissions of one or more RATGs or to expand RATG sinks. The U.S. policy of pursuing climate-relevant measures justified on other grounds has been articulated in qualitative form; at some point the U.S. -- or others -- may choose to present quantifications of the net RATG effects of these U.S. measures. The comprehensive approach provides the basis for computing the aggregate impact of such diverse measures. In addition, it may be valuable for the U.S. to assess the policy claims and policy proposals being made by other nations, using the comprehensive approach, and to examine the policy opportunities that would face other nations under a comprehensive approach.

(A) Extent and costs of net GHG limitations achieved by U.S. policy options within a comprehensive framework.

As described in the Introduction, it is useful to identify actions taken for other (non-climate) reasons but which influence net RATG emissions. One may calculate the percent limitations or reductions achieved by these policy actions using the comprehensive approach, and also calculate the marginal, average, and total cost per policy action.

This could be a first step toward assessing the marginal and total costs of RATG avoidance from different gas/source/sink policy options and hence toward assessing the relative cost-effectiveness of the comprehensive versus piecemeal approaches.

-- Current Administration efforts:

- analysis of US policies in EPA Cost Study/"Comprehensive Budget" analysis (covering U.S. energy efficiency and clean energy initiatives, CFC phaseout, afforestation, landfill rules, and other policies) through 2000. Priority: high. Timeline: 3 months.
- DOE/NES analysis of US energy policies through 2030, including NES options, afforestation, and CFCs. Priority: high. Timeline: 3 months.
- DOC study of future emissions under different tax options and under EC-wide strategy or global strategy. Priority: high. Timeline: 3 months.

-- Future work:

- Improve basis for projecting emissions limitations achieved by current policies
- Expand to cover influence of changes in agricultural subsidies, other relevant policy measures
- Look beyond 2000.

(B) Analysis of net GHG limitations achieved by other nations' policies

Analysis similar to that described for U.S. "no regrets" measures above should be undertaken for the policies announced and implemented by, proposed by, or available to, foreign nations. Certain nations have suggested unilateral limits on CO₂ emissions (e.g. Sweden, possibly Japan), on nuclear power (Sweden, GDR), on SO₂, NO_x, and NMHCs (U.S.); and others have announced willingness to enact CO₂ limits if others do too (e.g. U.K., Netherlands), and others have endorsed the Noordwijk Declaration's suggestion of CO₂ emissions stabilization by industrialized countries by 2000.

-- Current work:

- Obtain information on each nation's policies.

-- Future work:

- Using a comprehensive approach, calculate the value of current policies in place in nations abroad, as

described above for U.S. actions.¹⁰ Assess how other nations would fare under a comprehensive approach.

Priority: high. Timeline: 3 months.

- Include consideration of foreign nations' agricultural subsidies and other relevant policies regarding non-point sources. Priority: high.

Timeline: 3 months.

- Expand to cover developing nations. Priority: high.

Timeline: 3 months.

- Using a comprehensive approach, calculate the influence each foreign proposal would have on net RATG emissions and GHG concentrations. Priority: high.

Timeline: 3 months.

- Include modeling of international energy markets and effect of price responses to unilateral demand reductions. Priority: high. Timeline: 3 to 18 months.

V. Evaluating the comparative cost-effectiveness of piecemeal, partial, and comprehensive approaches.

Advocacy of the comprehensive approach is based in part on the intuitively strong hypothesis that the marginal costs of control vary across gases, sources, sinks, and nations, so that for any assumed limitation obligation,¹¹ each nation's least-cost mix of limitation strategies would be different and all nations, regardless of their current RATG inventories, would be better off under a comprehensive approach than under an approach which placed separate limitation obligations on each gas or sector.¹²

¹⁰Special attention may be due the range of CFC-substitutes to be used by each nation. Japan, for example, is apparently presenting figures that show larger reductions in radiative forcing from phasing out unit amounts of CFCs than is the U.S., suggesting that Japan may be counting on selecting CFC-substitutes with lower GWPs than those to be used in the U.S. This also suggests that the Montreal Protocol, although potentially helpful as a no regrets measure, may not by itself be sufficient to address climate concerns associated with ozone-depleting substances.

¹¹As stated in the Introduction, given an assumed objective, the task is to assess the comparative costs of achieving it under different policy designs. This task does not assess the overall rationality or economic efficiency of the chosen objective.

¹² The aggregate shares calculated in the inventories (in Part III(B), above) do not indicate the costs of incremental limitations for each nation. Simply because a nation currently has a large share in methane, for example, does not mean that

(continued...)

This task is needed to test that hypothesis and, if confirmed, to demonstrate the value of the comprehensive approach.

- (A) Marginal costs: information and analyses needed to map full comparative cost-effectiveness functions and variations by gas, source, sink, sector, nation.

This task moves beyond analyses of specific existing policy programs and evaluates the full marginal cost functions facing policy makers and private actors.

- Current Administration efforts:
 - DOE/NES analysis for US energy sector policies and afforestation
- Future work:
 - Expand to cover all relevant gases, sources, sinks, sectors. Priority: high. Timeline: 3 months.
 - Expand to cover other nations. Priority: high. Timeline: 3 months.
 - Assess full social costs, using general equilibrium model rather than expenditures by the regulated industry.¹³ Make use of forthcoming models. Analyze costs over time, relation to innovation.¹⁴ Priority: high. Timeline: 18 months.
 - Include (qualitative) evaluation of non-economic costs to response options, e.g. cultural or institutional barriers to certain policies. Priority: medium. Timeline: 18 months.
 - Assess informational, administrative, and other transactions costs of piecemeal, partial and

12 (...continued)

that nation would find methane reductions costlier than CO₂ reductions, at the margin. Economic analysis is needed to test the hypothesis of varying costs and to demonstrate the benefits to every nation of being afforded the cross-gas, cross-sector, and source-sink flexibility of the comprehensive approach.

¹³ The comparative impacts on macroeconomic and international variables (e.g. trade, competitiveness, economic growth) would require separate study.

¹⁴ Evaluation should also address the likely economic impacts in the US and worldwide of potential future changes in the understanding of the gas-comparison index, and means to cushion adverse impacts (e.g. periodic public science reviews).

comprehensive approaches. Priority: medium. Timeline: 18 months.

- Evaluate the benefits (effectiveness) of policies, in terms of RATGs avoided. Priority: high. Timeline: 3 to 18 months.

- (B) Use cost-effectiveness analyses to evaluate costs and benefits to the US and other nations of possible piecemeal, partial and comprehensive options that will be suggested for international policy design

This task moves beyond the analysis of current policy proposals suggested in section IV above to examine the marginal costs of policy designs, and to consider both proposed and hypothetical policy designs. It also focuses on international accords rather than national actions. This task is essential if U.S. policy makers and negotiators are to be able to assess policy proposals that inevitably be made as negotiations on a framework convention on climate change unfold.

Potential policy designs to be compared include: CO2 only, all RATs, or all RATGs except those covered under the Montreal Protocol; sources only, point sources only, all sources and sinks, or sources and terrestrial sinks only; all sectors, or certain sectors (e.g. energy, industry, transport, agriculture, forestry).

Priority: high. Timeline: 3 to 18 months.

- (C) Evaluate the environmental effectiveness of comprehensive and piecemeal approaches: propensity and impact of induced shifts in residuals

Thus far, for any given policy goal, a piecemeal (e.g. CO2-only) approach and a comprehensive approach have been assumed to yield identical results in terms of aggregated GWP (or full environmental impacts). In other words, whether a reduction in net index-weighted ("CO2-equivalent") emissions were achieved in CO2 or in a combination of gases, the overall calculated effect on the index value of concern would be the same.

But such analysis fails to account for actual economic and social responses to policy interventions. Advocacy of the comprehensive approach is based in part on the intuitively strong hypothesis that including all gases, sources and sinks ensures better effectiveness in any effort to limit contributions to potential radiative forcing (or full impacts), because piecemeal rules applying to one gas, source (or sector), or sink will engender shifts of

socioeconomic activity from regulated to unregulated modes, undercutting achievement of policy goals. Case studies will be especially helpful to illustrate these issues.

-- Current Administration efforts:

- Understanding of prior piecemeal approaches in environmental regulation and their resultant shifts of residuals, including single-medium approaches, e.g. to discharges into air, land, and water; and single-pollutant approaches, e.g. to SO₂.
- DOE/NES study will address CO₂ and CH₄ emissions from energy sector; it should consider potential GHG-related environmental effects of fuel switching, new energy sources, and sectoral shifts.

-- Future work:

- Develop "crisp retorts" to piecemeal approaches: Conduct case studies of cross-gas shifts: e.g. fossil fuel switching (coal to natural gas) induced by CO₂-only policies could have attendant impacts on CO₂-to-CH₄ emissions shifts due to CH₄ leakage from natural gas transport.¹⁵ Expand cross-gas shift studies, e.g. apply coal-to-gas CO₂-CH₄ shift analysis to actual global GHG output and in light of likely GHG emissions/leaks from future coal and gas facilities. Priority: high. Timeline: 3 months.
- Evaluate cross-source/sector shifts: e.g. under a transport-only policy (such as a high CAFE statute), possible shift from fossil fuel combustion on board vehicles to electric cars powered by central utility combustion, or to use of intensely cultivated biomass fuels; e.g. under an energy-only or fossil fuel-only policy, possible shift to biomass fuels whose cultivation emits other GHGs. Priority: high. Timeline: 3 months.
- Include consideration of international market responses to unilateral policy choices. Assess cross-boundary shifts, through price effects and industry flight, of unilateral or OECD-only policies. Priority: high. Timeline: 3 months.

(D) Evaluate the environmental benefits of a "net emissions" approach

¹⁵ See, e.g., Rodhe, Science 8 June 1990. Using a 100-year time horizon and a CO₂-equivalent GWP for CH₄ of 10, Rodhe estimates that if a CO₂-reduction policy were accomplished by fuel switching from coal to natural gas, a 3-6% CH₄ leakage rate from natural gas transport facilities would fully offset all the CO₂ reductions resulting from the fuel switch.

A net emissions approach, encompassing both sources and sinks, would encourage sink protection and expansion, whereas a source-only approach would not. Sink policies encouraged could include afforestation and protection of marine phytoplankton from pollution. This task is to evaluate the side benefits of likely sink policies, e.g. reduced soil erosion, enhanced biodiversity, protected phytoplankton, and better timber management.

VI. Bridging from piecemeal to comprehensive approaches

(A) Addressing the objection that the comprehensive approach is technically difficult or infeasible

As discussed in the introduction, the comprehensive approach can be applied to assist in design of various policies, including research strategies, technology development strategies, enumeration of steps justified on other grounds, and emissions limitation strategies. For most of these options, the comprehensive approach can be applied immediately, despite potential uncertainties, as a general guide to intelligent analysis of the scope and relative importance of policy choices.

For implementing emissions limitations, however, prompt application of the comprehensive approach might be somewhat more difficult. In principle, a comprehensive approach appears to be the most appropriate way to design any emissions limitation policy. But as indicated above, there are noteworthy gaps and uncertainties in the information on emissions of certain gases from certain sources and uptake by certain sinks. If emissions limitations were to be imposed today, a fully comprehensive approach would not be available. If emissions limitations are not needed immediately, work on the comprehensive approach can continue toward a time when limitations might be agreed. If emissions limitations are to be agreed at some point before all informational gaps are filled, a partially comprehensive approach could be employed with a mechanism for moving to a fully comprehensive approach as these gaps are filled.¹⁶

The issue for policy makers is not whether the comprehensive approach is "feasible," but whether at any point the social costs of implementing an incompletely comprehensive approach -- in terms of environmental effectiveness and economic efficiency, as

¹⁶Yet it must be recognized that piecemeal approaches, once adopted, generally attract vested interests who resist any efforts to expand toward a comprehensive approach.

described in section V above -- are outweighed by the social costs of obtaining additional information (including costs of delay). Such costs would also include transactions costs and administrative costs. In other words, one must ask whether the marginal value of additional information (leading to a more comprehensive approach) exceeds the marginal cost of obtaining additional information. Another way of examining the issue is to ask at what point would one know enough to proceed comprehensively; and to ask how (and at what cost) a comprehensive approach could evolve from incremental steps. Further, one would consider institutional means to incorporate incentives into any partial strategy that encourage evolution toward a comprehensive approach.

The scientific building blocks of the comprehensive approach are described above in sections I-III. Any framework convention should foster scientific research through a comprehensive approach. In addition, consideration of the need to bridge from a partial to a comprehensive approach would include:

-- Future work:

- Assess the time and expense needed to answer scientific questions, develop proxy measurement devices, and build monitoring capabilities to achieve a workable comprehensive approach.
- Assess other constraints to employment of a fully comprehensive approach, including institutional, political, cultural and economic obstacles.
- Compare the costs of acquiring this needed information to the socioeconomic and environmental costs (and foregone benefits) of adopting a piecemeal policy design for want of such information.
- Develop policy and institutional designs that offer incentives for needed research. For example, an emissions limitation obligation in an international agreement could be framed in a piecemeal fashion but offer the opportunity to emitters to achieve compliance through limitation actions addressing other GHGs, sources or sinks, so long as the emitter demonstrates the accomplishment. This would give emitters incentives to undertake the research needed to develop new monitoring capabilities.
- Consider intermediate approaches such as incremental or phased-in designs toward comprehensivity, and means to bridge from them to a fully comprehensive approach.

Overview: Priority: high. Timeline: 3 to 18 months.

(B) Integrating prior and concurrent law and policies into a comprehensive approach.

Even if a fully comprehensive approach were available for use in emissions limitations at any relevant point, it is apparent that other treaties, laws and policies will already be addressing discrete RATGs, sources, and sinks. Some means would be needed to accommodate and integrate these diverse endeavors into the comprehensive approach. Several options are available for such integration. One option is to use a comprehensive approach to net RATGs in any emissions limitation protocol while varying the baseline of allowed credit according to prior treaty obligations. Another option is to have the convention mandate that any future protocol (if any) employ a comprehensive approach. A related option is to incorporate in a framework convention on climate the assurance to nations, in advance of any hypothetical future protocol obligations (not yet agreed to), that they would receive credit against any such obligations for current or past (after a certain date) net emissions limitations actions, whether taken pursuant to treaties or national policies; the convention would further calculate the value of such actions according to the comprehensive approach. This would assure credit for measures justified on other grounds, avoid disincentives to those actions, and give root to the comprehensive approach, while not yet committing to emissions limitations obligations.

-- Current Administration efforts:

- devising means to ensure that international agreement integrates (gives credit for) current actions, other international agreements (forestry, VOCs, GHGs covered by ozone agreements), other domestic laws and initiatives. (DOJ, EPA, State)

-- Future work:

- Demonstrate incentive advantages of integration
 - lack of integration would yield perverse disincentives to take actions, even actions that are justified on other grounds, lest they be denied credit once emissions limitations are agreed. Priority: high. Timeline: 3 months.
- Address possible overclaiming (see "monitoring" and "verification," above). Priority: medium. Timeline: 18 months.
- Analyze advantages for other nations under integrated design. Priority: high. Timeline: 3 months.
- Analyze environmental advantages of integration. Priority: medium. Timeline: 3 months.
- Address issues of legal grafting presented by terms or design of other agreements, laws. Priority: high. Timeline: 3 months.

- Consider possible offset model (e.g. defining any limitation obligations in terms of CO2 emissions, to satisfy those eager for CO2 limits, but authorize offsets for any verifiable limits on any GHG, source, or sink, thus effectively constructing a comprehensive approach). Priority: medium. Timeline: 3 to 18 months.

Research and Analysis Underlying the Incentives Approach

As described in the Introduction, a variety of market-based incentives might be considered in the climate change context. The possible uses and advantages of these approaches are summarized in the Introduction.

I. Emissions trading

(A) Domestic trading

- Current Administration efforts:
 - review of past and current experience, e.g. lead phasedown, netting/bubble/offset program, CFCs trading, new acid precipitation trading scheme. Primarily EPA, DOE, CEA.
 - consider application to GHGs; consider issues of implementation, e.g. informal versus formal trading; who would trade; duration of allowances; means of distributing allowances; market power; hoarding; scope of GHGs, sectors, sources and sinks; monitoring trades; etc.
- Future work:
 - Evaluate the comparative cost-effectiveness of emissions trading and command-and-control approaches. Priority: high. Timeline: 3 to 18 months.

(B) International trading

- Current Administration efforts:
 - present US experience and suggestions at international discussion on application to climate
- Future work:
 - Extend analysis of above issues to international context, e.g. informal versus formal trading; who

would trade; duration of allowances; means of distributing allowances; market power; hoarding; scope of trading among GHGs, sources, sinks, sectors, industries, geographical areas, stages of development; monitoring trades. Priority: medium. Timeline: 3 to 18 months.

- In addition, consider international institutions; trade, assistance and national income implications; sovereignty issues; cultural or ethical objections to so-called "selling the right to pollute"; trading as a decentralized, market-based vehicle for resource and technology transfers.¹⁷ Priority: medium. Timeline: 3 to 18 months.

- Assess informational, administrative, and other transactions costs of emissions trading and command and control policies. Priority: medium. Timeline: 3 to 18 months.

- Identify opportunities for cross-national trades, and hence likely trading partners (for the US and worldwide). Priority: high. Timeline: 3 months.

- Evaluate the comparative cost-effectiveness of emissions trading and command-and-control approaches. Priority: medium. Timeline: 3 months.

II. Emissions fees

Fees might be employed domestically or internationally to address GHG emissions. Options discussed to date include carbon taxes based on the carbon content of energy fuels, and energy taxes. Other options include an energy sector tax that covers both CO₂ and CH₄ emissions from energy activities, using their GWP index ratings to weight the tax; and a more general multi-sector tax calibrated to the GWP index (or full environmental impacts index) rating of each gas.

-- Current Administration efforts:

- analysis of energy sector taxes in DOE/NES
- analysis of various fees in EPA "Comprehensive Budget" analysis
- related efforts: numerous studies have used assumed taxes to examine costs of GHG limitations policies. E.g. CBO (Montgomery), Manne & Richels, Nordhaus. See CEA overview of Economics of Global Change.

¹⁷ In addition, consider the options for trading within regional associations such as OECD, EC, ASEAN. Evidently the EC and OECD are both considering association-wide policies.

-- Future work:

- Improve assessment of tax implications. Consider international fuels market impacts; use general equilibrium models; address fiscal concerns. Priority: high. Timeline: 3 months.
- Consider variety of tax policy designs, including, carbon, energy, GWP within energy sector, etc. Priority: high. Timeline: 3 months.
- Much of this kind of consideration must be deferred to budget negotiations.

III. Adaptation Incentives

Market mechanisms and institutional reforms could be used to encourage efficient adaptation practices. Because of current institutional or market failures, long-range investments, such as coastal construction or water use planning, might be undertaken without giving appropriate weight to any climate change risks (e.g. rising sea levels or shifting precipitation). Such institutional or market failures might be addressed by informational or incentive-based policies, such as requiring coastal construction to purchase subsidence insurance, or encouraging long-range water use planning to take account of potential precipitation patterns. Some of these types of policies were addressed in the IPCC/RSWG RUMS and CZMS reports.

IV. Economic instruments in general

-- Future work:

- Pursue contacts with OECD regarding Environment Ministerial in January, Economic Instruments analytic workplan (experts meeting now tentatively slated for October 1990), and potential OECD Workshop on Economic Instruments.¹⁸ Priority: high. Timeline: 3 to 18 months.
- Develop suggestions for economic analysis and study of economic instruments in upcoming IPCC Future Workplan discussions (tentatively slated for December or January). Priority: high. Timeline: 3 to 18 months.

¹⁸ Preparing for the suggested OECD Workshop on Economic Instruments, tentatively slated for December 1990, will involve considerations of forum and cosponsorship, logistics and timing, relation to other OECD meetings, relation to other international meetings, invitees, topics to address, an October experts meeting, relation to the upcoming IPCC meeting on Future Work of the IPCC, and US presentation(s) at the December Workshop.

- Continue to work with CEES groups, including the new Ad Hoc Economics task group, to develop economic analysis of policy proposals and designs (addressing "comprehensive approach" issues as well as "incentives" approach issues). Priority: high. Timeline: 3 months to 5 years.

Stewart
October 2, 1990

TASK FORCE ON COMPREHENSIVE AND INCENTIVES
APPROACHES TO CLIMATE

RESEARCH AND ANALYSIS PRIORITIES FOR THE NEXT THREE MONTHS

1. Draft a framework convention that

- includes a science research section that addresses all GHGs, sources and sinks;
- provides for an international monitoring agenda for all GHGs, sources and sinks
- adopts or provides for development of a GHG index based on the radiative forcing and other environmental effects of all GHGs, and possibly incorporating radioactively active trace gases (e.g. sulfate aerosols)
- provides that any protocol(s) shall, to the extent feasible, be comprehensive.
- Mandates that any limitation protocols(s) (a) provides for voluntary trading among nations in net GHG reductions (b) provides "credit" for net GHG reductions achieved by nations unilaterally through measures justified on other grounds, or through other international, regional, or bilateral agreements (e.g. forestry)

2. Develop an improved GHG index and an international process for refining the index. Include, to the extent possible, environmental effects other than radiative forcing.

3. Develop a plan for developing an international net GHG monitoring system.

WG
4. Prepare "crisp retorts" to proposal for piecemeal measures by pointing out the environmental and economic drawbacks of agreements limited to particular GHGs, sources and sinks, sectors, or groups of nations, or that use command and control approaches. These also apply to congressional proposals.

5. Develop quantitative analysis and empirical examples to show the environmental and economic advantages of a comprehensive approach.

6. Update "report card" on the contributions to reducing net GHG of US actions being taken on other grounds. Conduct similar analyses of selected other nations.

7. Development of a concise but sophisticated vision of decision making under uncertainty to counter simplistic versions of the "precautionary principle."

8. Develop capacity to analyze economic and environmental costs and benefits of likely proposals by other nations.

9. Systematic intelligence gathering on the views and economic initiatives of other nations who will be influential in negotiations, and efforts to persuade them of our approach.

MEMORANDUM

COUNCIL OF ECONOMIC ADVISERS

September 19, 1990

TO: MARK KERRIGAN
FROM: DICK SCHMALENSEE *Crish*
SUBJECT: Climate Change Report

*Work F
n
Stable
Climate
Change*

Per our discussion yesterday, I've spent a few minutes looking over the DOE White Papers you sent. In terms of binding, I like the climate change report least; I'd like to have real covers of some sort. My favorite in this regard is the renewables paper, but use of such a fancy binding method may raise cost or mechanical (since our report is thinner) problems in this case.

Since we don't have much information that can go on our cover/title page, I leave it to your artistic people to figure out a design. The use of bars to fill space in the renewables paper has a certain appeal; perhaps what little information we have could be put inside a box of some sort. (I'm thinking now of some EIA report I can't put my hands on.)

As to the look of the text, the climate change paper may well be a good model -- if you can use a better grade of paper. In its current incarnation, our report has a lot of underlining of key points. Underlined material could be set in italics or, alternatively, repeated in boxes as in the climate change paper, though I worry that we may have too much underlining to make this device workable. I would think that from a layout/design perspective our main problem is that we have very few text-breakers, so that almost any device that avoids page after page of unbroken prose is worth considering. (My sense is that the two-column format is likely to be helpful in this regard, but I would defer to professionals.)

Finally, you agreed yesterday to let me know what sort of disk you would like to receive. This report now exists as a WordPerfect 5.0 file. Some systems can handle such files, while others need straight ASCII files (with no special control codes). A third alternative would involve our stripping some but not all control codes. We will in any case provide hard copy that conveys at least our original (stylistic) intent. Please let me know -- this week if possible -- what your wizard would like to receive from us.



COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

MEMBER OF THE COUNCIL

February 15, 1991

MEMORANDUM FOR ROBERT REINSTEIN, STATE

FROM: DICK SCHMALENSEE

DS/KG

SUBJECT: Draft Testimony on Climate Negotiations

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Although CEA generally agrees with the approach outlined in the draft testimony, we believe that the following revisions would strengthen and clarify the Administration position.

Page 5, second bullet: It would also be useful to raise the issue of competitiveness with respect to developed as well as developing country commitments. Therefore, delete the clause "distort competitive positions". Substitute the following new sentence after "restraining emissions."

We must also be sensitive to the fact that different forms of commitments and the extent to which appropriate commitments are applied unevenly will impact the competitive position of both developing and industrialized nations.

Page 5, under A Comprehensive Approach: There is too much emphasis on new net emissions reductions in our explanation of a comprehensive approach. The second and third sentences of the paragraph should be placed (with the obvious minor wording changes) right before the final sentence. As now drafted, it may appear that we have already accepted the need for new net emissions reductions and are merely focused on minimizing costs.

Page 8, under Implementation Issues: Delete the third sentence, which raises the thorny issue of how much growth developing countries should be expected to give up to reduce GHGs without providing any answer.

Page 9, second full paragraph: Delete the fourth sentence, which suggests that "any international response" that results from these negotiations" will take the form of new quantitative commitments for GHG reductions.

Page 10, line 2: Add "as the United States had hoped."

Page 10, line 7: Substitute "recognizes the value of" for "builds on". "Builds on" implies our acceptance of the view that appropriate commitments will necessarily require actions that go beyond our current actions.

Please let us know if there is any problem in accommodating our concerns, or if other changes that you believe may be troublesome to us are contemplated.



COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

December 10, 1990

MEMBER OF THE COUNCIL

TO: ALLAN BROMLEY
BOB GRADY

FROM: DICK SCHMALENSEE

Click

SUBJECT: Research on the Economics of Global Change

While I have heard a lot about what a good job Howard Gruenspecht did in leading the preparation of the CEES report on research on the economics of global change, I haven't heard any substantive reactions to the report's recommendations. (This is perhaps because I missed the relevant Director's briefing.)

This is to let you know that I think the Gruenspecht group did an excellent, thoughtful job and that I hope its recommendations will be taken very seriously. The dollar amounts they propose for this area are small, but the symbolic and substantive payoffs from a serious, focused research program on the economics of global change are potentially large.

The organizational changes they propose are of comparable potential value and also deserve serious consideration. I would hate to see this part of their proposal ignored because the forum in which it should be discussed may not be immediately obvious.

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COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

MEMBER OF THE COUNCIL

October 31, 1990

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Chavez

MEMORANDUM FOR ADMIRAL JAMES D. WATKINS
THE SECRETARY OF ENERGY

FROM: RICHARD SCHMALENSEE *RS*

SUBJECT: Production of the Interagency Report on
The Economics of Long-Term Global Climate Change

As the chairman of the interagency task force that wrote this report, I want to express my personal thanks and those of the other task force members for the Department of Energy's handling of its production. I appreciate your generosity in making available the necessary funds and people, and I appreciate the speed, skill, and care with which the task of producing and releasing the final report was done. Mark Kerrigan, in particular, deserves a pat on the back.

When it was decided to revise and release the report (which was originally distributed to the DPC Working Group on Global Change in March), the objective was to raise the level of the debate and to provide support for the U.S. position on a number of climate change issues in a way that would not generate new rounds of counter-productive rhetoric. Thanks in large measure to your Department's efforts, I believe we have succeeded.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506

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September 17, 1990

MEMORANDUM FOR GLOBAL CHANGE STRATEGY TASK FORCE

FROM: D. ALLAN BROMLEY *Allan*
SUBJECT: Global Change Strategy Task Force Meeting

The Global Change Strategy Task Force will meet Tuesday, September 18, 1990, at 2:00 p.m. in Room 180 of the Old Executive Office Building.

As we discussed at our last meeting, we will address several options relating to organizational issues for the first negotiating session of the framework convention on climate change. A draft options paper which addresses the timing, duration, and location of the first negotiating session is attached.

In addition, the Department of State has prepared a list of the priority issues, identified by the OES PCC Working Group on Environment, related to the proposed Second World Climate Conference Ministerial Declaration (attachment A). Please review and be prepared to comment on this list of major issues. A copy of an annotated compilation of all comments on the full declaration is also attached for your information (attachment B).

Attachments

MEMORANDUM

COUNCIL OF ECONOMIC ADVISERS

September 18, 1990

TO: MICHAEL BOSKIN

FROM: DICK SCHMALENSEE

SUBJECT: Today's Global Change Strategy
Task Force Meeting

This is in response to your request (via Harry) for a one-pager on this meeting. You should know up front that I strongly doubt that anything that will be discussed at this meeting merits your attention. This mass of paper is Allan's initial response to pressure to have this group deal with strategy, rather than with last-minute line-edits of instructions to delegations. Nothing on the agenda is last-minute, for once, but we will discuss logistics and line-edits, not what most of us would call strategy.

- o The first main item is the 4-page options paper dealing with logistical issues surrounding U.S. hosting of the first negotiating session of the framework convention on climate change.
 - We should probably propose a one-week session to limit mischief unless there is strong international pressure for a two-week session...
 - The only counter is that we will have more leverage at this session than later, so that a longer session maximizes our leverage.
 - I would think that we would have a strong preference for February 4 over January 28 to minimize the risk of stepping on the State of the Union.
 - I can't imagine why we would want to have the session outside Washington: press coverage wouldn't fall off much, cost and hassles would rise, and the task of control would be more complex.
 - This is a busy season for CEA, and I expect we will be shut out of the game completely if it is not in Washington.
- o This meeting is also supposed to discuss Attachment A, which deals with major policy issues posed by the draft Ministerial Declaration for the Second World Climate Conference, which will be held in October. (The U.S. will be represented by John Knauss of NOAA, not by a "minister,"

since we view this as a scientific meeting.) History suggests we may not get to this item.

- What's here is not bad, but it does not deal with what, if anything, we would refuse to sign. That, I would argue, is strategy; what's here is tactics.
 - The proposed language on targets and timetables is fine; we should refuse to sign if we don't get paragraphs 20-22 gutted.
 - The proposed language on the framework convention is also fine; we can live with a slightly more expansive version of the language on page 5.
 - We should try to delete the financial assistance paragraph; we should probably (per Admin. policy, not my view) refuse to sign if it is strengthened.
 - I'm happy to let the scientists wrestle with the language on scientific understanding, but we should not sign unless the hysterical draft language is toned down.
 - The proposed tactics on the precautionary principle seem fine; this is not a make-or-break issue.
- o I have not gone through the full marked-up declaration (Attachement B), which is included for background only. Howard is on the PCC that produced this beauty and seems reasonable comfortable.

THE WHITE HOUSE
WASHINGTON

GLOBAL CHANGE STRATEGY TASK FORCE

AGENDA

September 18, 1990

- I. **First Negotiating Session of the Framework Convention on Climate Change**
 - **Date**
 - **Duration**
 - **Location**
- II. **Second World Climate Conference Ministerial Declaration**
 - **Major Issues**
 - **U.S. Comments on Declaration**
- III. **Other Business**

DRAFT

Framework Convention Negotiations - Organizational Session

I. BACKGROUND

At several past meetings, the Strategy Task Force of the Global Change Working Group has discussed the U.S. position on the timing and length of session, location, and level of representation at the negotiations for a climate change convention. It is now essential that we get clearance on several decisions very soon so that: (a) the President and the U.S. delegation can move forward to secure our offer to host the first negotiating session (by having detailed preparations underway), (b) the US will be well-prepared in its planning for the meeting, and (c) the US can, in fact, be organized in its preparations for the negotiations by insuring that we have enough lead time to get ready for the meetings.

The consensus on the best time for the climate change negotiations was to have them begin in February 1991, perhaps during the first week of that month, preceded by an October prepcom. This is, in fact, what is now underway.

On September 24, 1990 an intergovernmental meeting will be held on organizational issues for the first negotiating session. A number of issues will be considered at this meeting, several of which have not been resolved for the U.S. side. There are three organizational issues which now need decisions:

- (1) Can we agree that the first negotiating session will begin the week of February 4-8?
- (2) Will the duration of the first negotiating session be one or two weeks?
- (3) Will the location of the session be in Washington, D.C. or elsewhere in the U.S.?

II. TIMING AND DURATION OF FIRST NEGOTIATING SESSION

The issue of timing involves not only the starting dates of the session, but also the length of the session.

The two options are:

- o One week session, starting February 4
- o Two week session, starting either February 4 or January 28

Summary of Options:

- o **OPTION 1 - A one week session beginning February 4: the first day (day and a half) for opening ceremonies, confirmation of officers and agenda, and country statements. These activities would be followed by plenary discussions on how the negotiations will be organized, assignment of drafting tasks, and identification of analytical work to be done by the IPCC.**

PROS:

- o U.S. originally (informally) proposed this date and schedule to be compatible with international meeting schedule.
- o This was chosen by U.S. as reasonable date to follow up on Presidential offer.

CONS:

- o Could be too short period of time to finish all the work.
- o If longer session, might better to have longer meeting and insure our points are incorporated into the negotiating outline.
- o **OPTION 2 - A two week technical level working session beginning the last week in January (favored by UNEP Executive Director Tolba). The session could focus on negotiating outline of framework document.**

PROS:

- o If there is strong international sentiment to do this, it could be advantageous for the US.
- o If there is strong international sentiment to do this, the U.S. might be perceived as foot-dragging if we did not.

CONS:

- o A one week session would allow a focus on basic organizational matters
- o Costs will be twice as much and there will be more time for mischief

III. LOCATION OF FIRST NEGOTIATING SESSION

The issue is whether to have the negotiating session in Washington, D.C. or elsewhere in the U.S.

- o **OPTION 1 - Washington, D.C.:**

PROS:

- o Opportunity for Presidential appearance to provide a forum for strengthening Presidential leadership on global change issue.
- o This would minimize costs and logistical arrangements. (Based on IPCC Plenary experience, DOS now has good leads on potential sites, conference services contractors, interpretation equipment and personnel, translation and printing services, catering services, and representational guest lists.)

CONS:

- o Greater distractions from Washington-based groups, and the Hill
- o Greater participation from press

o **OPTION 2 - Elsewhere in United States:**

PROS:

- o **Less distraction from Washington-based groups, and the Hill**
- o **Less participation from press**

CONS:

- o **Costs would be greater for all participants and logistics would be far more difficult and expensive. (e.g., locating a reliable conference services contractor at the site of the conference, scouting appropriate sites for representational events, and making heavy investment on advance teams).**
- o **More difficult for President to appear and advance leadership issue on global change.**



Major Policy Issues
Second World Climate Conference
Ministerial Declaration

1. Targets and timetables for reducing greenhouse gas emissions
2. Stipulating the nature and content of a convention on climate change
3. Financial Assistance
4. Statement concerning the scientific understandings associated with climate change
5. Precautionary Principle

-2-

1. Targets and timetables for reducing greenhouse gas emissions

Ministerial Declaration:

20. We stress, as a first step, the need to stabilize, while ensuring stable development of the world economy, emissions of greenhouse gases not controlled by the Montreal Protocol. We note with appreciation the unilateral commitments of some industrialized countries to stabilize emissions at present level or reduce them by the year 2000;

21. We agree that stabilization of greenhouse gas emissions should be achieved by industrialized countries by the year (2000) and should be set at (present) emission levels;

22. We urge industrialized countries to establish greenhouse gases reductions programmes aiming at achieving at least 20% reduction of their current contribution to global warming potential, possibly by the year 2005 and in any case not later than the year 2010;

USG position:

We should not agree to specific targets and timetables. We should take a comprehensive approach that includes all sources and sinks of greenhouse gases and, in the short-term, take those actions which are justified for reasons other than climate change. USG proposed language for paras. 20 and 21 follows on page 3; para 22 should be deleted.

Houston Summit Communique:

"We are committed to undertake common efforts to limit emissions of greenhouse gases, such as carbon dioxide.... The Second World Climate Conference provides the opportunity for all countries to consider the adoption of strategies and measures for limiting or stabilizing greenhouse gas emissions, and to discuss an effective international response."

21. We recognize that the most effective response strategies, especially in the short-term, are those which are:
- ┆ Justified for reasons other than climate change and also provide beneficial influence on potential climate change;
 - ┆ Economically efficient and cost effective,;
 - ┆ Able to serve multiple social, economic, and environmental purposes:
 - ┆ Easily modified to respond to increased scientific and economic understanding of climate change;
 - ┆ Compatible with the concept of a comprehensive approach addressing all sources and sinks of greenhouse gases;
 - ┆ Compatible with the concept of sustainable economic growth and development;
 - ┆ Administratively practical and effective in terms of application, monitoring, and enforcement;
 - ┆ Inclusive of obligations by both industrialized and developing countries.
22. We recommend that limitation and adaptation strategies be considered as an integrated package that complement each other to minimize net costs. These strategies should include measures which limit emissions from greenhouse gas sources as well as those which increase the ability of natural systems to utilize greenhouse gases. A comprehensive approach is needed which considers the costs of options for reducing emissions of different greenhouse gases and the effects of those reductions on potential

-4-

2. Stipulating the nature and content of a convention on climate change

Ministerial Declaration:

23. We recommend that the specifications of the obligation to stabilize and reduce greenhouse gases emissions be realized in the form of separate Protocols to the Climate Convention. Some of these protocols could be negotiated concurrently with the framework convention.

40. We recommend further that the Climate Convention and associated protocols contain specific obligations and address in particular:

- (i) the enhancement of research and systematic observation of climate
- (ii) the control of greenhouse gas emissions
- (iii) the adaptation to the adverse effects of climate change in coastal areas
- (iv) the needs of developing countries for financial assistance in their development efforts and transfer of technology
- (v) appropriate institutional and decision-making procedures.

USG position:

The declaration should not prejudge the negotiations. We support the negotiation of a framework convention; at a minimum, the declaration should be general and should advocate a comprehensive approach that includes sources and sinks of all greenhouse gases. USG would propose deleting para. 23; new USG version of para. 40 follows on page 5.

Houston Summit Communique:

"We reiterate our support for the negotiation of a framework convention on climate changes;...implementing protocols...should consider all sources and sinks."

-5-

35. We recommend that such negotiations consider the possible elements compiled by the IPCC, and that the Framework Convention be framed in such a way as to gain the support of the largest possible number of states. We recommend that the Framework Convention contain, at a minimum, general principles and obligations, and that it advocate a comprehensive approach that includes sources and sinks of all greenhouse gases.

-6-

3. Financial Assistance

Ministerial Declaration:

27. We recommend that additional resources should progressively, be mobilized to help developing countries take the necessary measures to address climate change consistent with their development needs.

USG position:

We will not commit to providing new and additional funding which increases the overall budget. We are already giving the environment a higher priority in our assistance funding, both bilateral and multilateral, and believe that existing resources and mechanisms must be fully utilized before new monies can be considered. It will also be necessary to quantify the costs associated with any actions in this area before consideration of new funds can be justified. We will also note that the provisions of the Montreal Protocol are not a precedent for other environmental issues.

We understand that other countries may try to strengthen this paragraph, calling for explicit reference to "new and additional funding". USG proposes that para. 27 be deleted.

Houston Summit Communique:

"We recognize that developing countries will benefit from increased financial and technological assistance to help them resolve environmental problems..."

-7-

4. Statements concerning the scientific understandings of climate change.

Ministerial Declaration:

4. Climate has varied in the past. But the temperature increase which is predicted to occur in the decades to come due to the increasing accumulation of the greenhouse gases in the atmosphere has not been encountered in the last 100,000 years at least; nor has the past rapidity of change been as fast as that predicted. The greenhouse gases result from a host of human activities such as the burning of fossil fuel, deforestation, mining operations and waste management.

8. Global warming poses environmental threat of a magnitude the world has never known. Human activities which have lead to the emissions of greenhouse gases into the atmosphere have so far committed the Global Commons to an irreversible warming so far.... It is therefore important that emissions of greenhouse gases, especially carbon dioxide and other long lived greenhouse gases, be reduced as soon as possible.... The long lived gases (CO₂ and N₂O) would require at least 60% reductions in emissions, and methane 15-20% reduction in emissions in order to stabilize their concentration in atmosphere at today's level.

USG position:

The declaration must accurately describe the scientific context and uncertainties associated with potential climate change. USG proposed language follows on page 8.

Houston Communique:

Does not address the scientific underpinnings.

-6-

4. Climate has varied significantly in the past; however, the potential change in global mean temperatures over the next century associated with human activities is predicted to be larger and more rapid than those seen in the last 10,000 years. The magnitude, timing, rate and regional distribution of these predicted climate changes are uncertain because of limitations in our present scientific understanding of climate processes and in our ability to model the behavior of climate systems and components. The human-caused emissions of greenhouse gases, while significant, are much smaller than the exchange between the atmosphere and natural systems. Stabilization of atmospheric concentrations of long-lived gases at today's levels, for example, would require either a 60 to 80% decrease in anthropogenic emissions or a 2 to 3% increase in absorption by natural systems.
8. The potentially serious consequences of human-induced climate change, however, give sufficient reasons to begin adopting response strategies that are fully justified for other reasons, even in the face of significant uncertainties. These strategies could include: improved energy efficiency, use of lower greenhouse gas-emitting sources; improved forest management; development of comprehensive coastal management plans; use of practices to recycle and reuse CFC gases and their substitutes; and improved agricultural practices.

-9-

5. Precautionary Principle

Ministerial Declaration:

17. In order to achieve sustainable development, we must base ourselves on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

USG position:

This definition was agreed to in the Bergen Declaration. We expect other countries to reopen this language, at which time we will seek to have the definition include a reference to the no-regrets strategy. USG proposed language follows on page 10.

Houston Summit Communique:

"We agree that in the face of threats of irreversible environmental damage, lack of full scientific certainty is no excuse to postpone actions which are justified in their own right."

-10-

In order to achieve sustainable development, we must base ourselves on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation which are justified in their own right.

WORKING DRAFT
9/12/96
B
DRAFT

PRIORITY CONCERNS ON SWCC

<u>Concern</u>	<u>Para</u>
We need to correctly convey scientific context and uncertainties.	4 8
We should take no-regrets actions.	9 17 20 22
All countries must share obligations.	20 24
We should take a comprehensive approach.	20 21 40
We will negotiate a framework convention only.	23 40
No new funding will be available	25 26 27

Precautionary Principle.

US COMMENTS ON SWCC DRAFT DECLARATION

General Comments

- References should be to a framework convention on climate change, rather than the Climate Change Convention;
- There should be no mention of concurrent negotiation of the framework convention and any implementing protocol(s);
- References to limitation measures should include mention of all GHGs and their sources and sinks, not just CO2;
- References to funding should not call for additional resources.
- There should be no specific commitments to quantitative reductions in greenhouse gas emissions.
- Text similar to that of the IPCC Policymakers Summaries and other previously adopted documents should be as consistent as possible with the texts of those sources.
- References should be to "industrialized" and "developing" countries, rather than "developed" and "less developed"
- The subtitles in parentheses should be eliminated.
- All paragraphs relating to the IPCC should be gathered together in one section.
- All paragraphs relating to the framework convention on climate change should be gathered together in one section.
- The small number of paragraphs dealing with science is disproportionate to the large number dealing with policy issues.

Key:

- "Original Version" is the 13 July 1990 Draft prepared by the SWCC organizers.
- "Comments" are the August 24 US Comments provided via STATE 291963, with the amendments agreed to in Sundsvall.
- "New Version" is the version distributed to other governments during the 4th IPCC Plenary.

Original:

PREAMBLE

- 1. We, the Ministers from [] countries representing the world community met in Geneva, Switzerland, from 6 to 7 November 1990 at the Second World Climate Conference.

Comments:

Specific Changes

Delete title "Preamble"

Para 1, line 1: delete "the" before "Ministers".

Para 1, line 1: delete "representing the world community"

New Version:

- 1. We, Ministers from [] states, met in Geneva, Switzerland, from 6 to 7 November following the Second World Climate Conference.

1 ?

Original:

2. Our Meeting following the IPCC Report is a demonstration of our intention to take active and constructive step in the global response to the global climate change issue. It is also the expression of our will to fully contribute to the preparation for the 1992 UN Conference on Environment and Development.

scientific understanding

Comments:

Para 2, line 2: replace "IPCC" with "adoption by the Intergovernmental Panel on Climate Change of its First Assessment"

Para 2, line 2-3: replace "step in the global response to the global climate issue" with "steps in response to concerns regarding human-induced global climate change"

Para 2, line 4: delete last sentence

New Version:

2. Our Meeting, following the adoption by the Intergovernmental Panel on Climate Change of its First Assessment Report, is a demonstration of our intention to take active and constructive steps in response to concerns regarding human-induced global climate change.

Original:

3. Ever since the dawn of history, man's life on earth has been largely dependent on the environmental processes which we call weather and climate. The world climate system consists of a delicately balanced combination of many interactive components which include the atmosphere and the biosphere, as well as the land, sea and ice surfaces.

Comments:

Para 3, line 1: delete "largely"

Para 3, line 3: delete "delicately balanced"

Para 3, line 4-5: add a comma after "atmosphere" and change the rest of the sentence to read: "the oceans, the biosphere, as well as land and ice surfaces."

New Version:

3. Since before the dawn of history, life on Earth has depended on the natural processes we call weather and climate. The world climate system has many interactive components which include the atmosphere, the oceans, the biosphere, as well as land and ice surfaces.

Original:

4. Climate has varied in the past. But the temperature increase which is predicted to occur in the decades to come due to the increasing accumulation of the greenhouse gases in the atmosphere has not been encountered in the last 100,000 years at least; nor has the past rapidity of change been as fast as that predicted. The greenhouse gases result from a host of human activities such as the burning of fossil fuel, deforestation, mining operations and waste management.

USE IPCC OVERVIEW LANGUAGE

Comments:

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Para 4, replace with:

Climate has varied significantly in the past; however, the potential change in global mean temperatures over the next century associated with human activities is predicted to be larger and more rapid than those seen in the last 10,000 years. The magnitude, timing, rate, and regional distributions of these predicted climate changes are uncertain because of limitations in our present scientific understanding of climate processes and in our ability to model the behavior of climate systems and components. The human caused emissions of greenhouse gases are much smaller than the exchange between the atmosphere and natural systems. Stabilization of atmospheric concentrations of long-lived gases at today's levels, for example, would require a 60-80% reduction in anthropogenic emissions compared to a 2-3% increase in absorption by natural systems.

New Version:

4. Climate has varied significantly in the past; however, the potential change in global mean temperatures over the next century associated with human activities is predicted to be larger and more rapid than those seen in the last 10,000 years. The magnitude, timing, rate and regional distribution of these predicted climate changes are uncertain because of limitations in our present scientific understanding of climate processes and in our ability to model the behavior of climate system and components. The human-caused emissions of greenhouse gases, while significant, are much smaller than the exchange between the atmosphere and natural systems. Stabilization of atmospheric concentrations of long-lived gases at today' levels, for example, would require either a 60 to 80 percent decrease in anthropogenic emission or a 2 to 3 percent increase in absorption by natural systems.

SUBS. TACTIC
 (1) (34?)
 SEE #24

Original:

5. Recognising that climate change is a common concern of mankind United Nations General Assembly's Resolution 43/53 urged the intergovernmental and non-governmental organisations and scientific institutions, to treat climate change as a priority issue, and to co-operate in research and action-oriented programmes so as to increase the understanding of the causes and effects of climate change.

Comments:

Para 5: add to the end of the paragraph:

Industrialized countries and developing countries have a common responsibility in dealing with problems arising from climate change.

(AND VARIED)?

New Version:

5. Recognizing that climate change is a common concern of mankind, the United Nations General Assembly urged intergovernmental and non-governmental organizations and scientific institutions to treat climate change as a priority issue and to cooperate in research and action-oriented programmes so as to increase the understanding of the causes and effects of climate change. Industrialized countries and developing countries have a common responsibility in dealing with problems arising from climate change.

Original:

6. The World Climate Programme undertaken jointly by the World Meteorological Organization, the International Council of Scientific Unions with the co-operation of its Scientific Committee on Oceanic Research, and UNESCO and its International Oceanographic Commission and UNEP have endeavoured during the last decade to promote a quantitative understanding of climate, and predictions of global and regional climate changes on all time scales and on their potential impacts. Through its three major projects the study of Tropical Ocean and Global Atmosphere, the Global Energy and Water Cycle Experiment, and the World Ocean Circulation Experiment, the World Climate Research Programme has succeeded in providing valuable information on the causes, processes and some of the effects of climate change.

Comments:

Para 6, lines 1-5: list all sponsors on an equal basis: WMO, UNEP, ICSU including SCOR, UNESCO and its Intergovernmental Oceanographic Commission

Para 6, line 5: replace "a quantitative understanding.... impacts." with

an improved quantitative understanding of climate, advances in predictions of global and regional changes on all time scales and estimates of the potential impacts of these changes.

Para 6, line 7-10: delete "Through its three.... Circulation Experiment,"

Para 6, lines 11-12: replace both lines with:

...improved our understanding of climate change processes, thus providing valuable information on the causes and possible manifestations of such change. However many uncertainties remain and must continue to be addressed by these and national scientific programs.

New Version:

6. The World Climate Programme, undertaken jointly by the World Meteorological Organization (WMO), the United Nations Environment Program (UNEP), the International Council of Scientific Unions (ICSU), with the cooperation of the Scientific Committee on Oceanic Research (SCOR), and the United Nations Educational, Scientific and Cultural Organization (UNESCO) and its Intergovernmental Oceanographic (IOC), has endeavored during the last decade to promote improved quantitative understanding of climate, advances in predictions of global and regional climate changes on all time scales, and estimates of the potential impact of these changes. The World Climate Research Programme has improved our understanding of climate processes, providing valuable information on the causes and possible manifestations of climate change. However, many uncertainties remain and must continue to be addressed by international and national scientific programs.

Original:

- 7. The Intergovernmental Panel on Climate Change (IPCC) established by U.N.E.P. and W.M.O. has undertaken to study the problem of climate change including global warming. Through the work of its various working groups and their sub-groups the I.P.C.C. has produced a comprehensive report on the causes and effects of climate change. It has also ~~proposed~~ strategies to delay, limit or mitigate the impact of climate change, and at the request of United Nations General Assembly has ~~proposed the~~ elements for inclusion in a convention on climate.

identified

also identified possible

Comments:

Para 7: place in a new section entitled "The Intergovernmental Panel on Climate Change" after rewriting as follows:

The Intergovernmental Panel on Climate Change (IPCC) was established by WMO and UNEP to assess the current level of scientific knowledge on climate change including its possible impacts and options for limiting or adapting to adverse impacts. Based on the work of its various working groups and their subgroups the IPCC has produced its First Assessment of global climate change. It has also identified options to limit and to adapt to climate change, and has identified elements to be considered for inclusion in a framework convention on climate change and in possible subsequent protocols.

New Version:

The Intergovernmental Panel on Climate Change

11. The Intergovernmental Panel on Climate Change (IPCC) was established by WMO and UNEP to assess the current level of scientific knowledge on climate change including its possible impacts and options for limiting or adapting to adverse impacts. Based on the work of its various working group and their subgroups, the IPCC has produced its First Assessment Report on global climate change. Its Report identifies options to limit and adapt to climate change and elements to be considered for including in a framework convention on climate change and in possible subsequent protocols.

8.

DEFINITION OF PROBLEM AND RISKS

11

8. Global warming poses environmental threat of a magnitude the world has never known before. Human activities which have lead to the emission of greenhouse gases into the atmosphere have so far committed the Global Commons to an irreversible warming so far. In order to stem unprecedented global warming likely to lead to serious environmental consequences such as a rise in sea level of about 20 cm by the year and 65 cm by the end of the next century urgent action should be taken now. Carbon dioxide has been responsible for over half the enhanced greenhouse effect in the past and is likely to remain so in the future. It is therefore important that emissions of greenhouse gases especially CO2 and other long lived greenhouse gases be reduced as soon as possible. This is urgent because changes in emission rates of these gases lead to a slow rate of change in their concentration in the atmosphere. If action is delayed, it will take much longer and much greater reductions at greater economic sacrifice to stabilize concentrations at today's levels. The long lived gases (CO2 and N2O) would require at least 60% reductions in emissions, and methane 15-20% reduction in emissions in order to stabilize their concentrations in atmosphere at today's levels. The other gases of concern, namely the CFC are addressed under the Montreal Protocol on Substances that Deplete the Ozone Layer.

Original:

Comments:

Para 8: delete the title "Definition of Problem and Risks"

Para 8: Replace with the following paragraph from RSWG Policymakers Summary, page 12:

The consideration of climate change response strategies present formidable difficulties for policymakers because of: (a) remaining scientific uncertainties regarding climate change; (b) uncertainty with respect to how effective specific response options or groups of options would be in actually limiting or averting potential climate change; and (c) uncertainty with respect to the costs, effects on economic growth, and other economic and social implications of specific response options or groups of options.



New Version:

7. The consideration of global climate change response strategies presents formidable difficulties for policymakers because of: (a) remaining scientific uncertainties regarding climate change; (b) uncertainty in the effectiveness of response options in actually limiting or adapting to potential climate change; and (c) uncertainty in estimates of costs, effects on economic growth, and other economic and social implications of specific response options or groups of options.

Original:

GLOBAL STRATEGY

9. We consider therefore that a global response must be decided and implemented without further delay based on the best available knowledge such as those resulting from the IPCC assessment. Recognizing that the principle of equity should be the basis of any global response to the climate change phenomena industrialized countries, which are responsible for most of the observed increase in the greenhouse gases' concentration in the atmosphere must take the lead, commit themselves to immediate action and provide resources and assistance to developing countries to help them in addressing climate change in a way compatible with their development needs. [To this end the industrialized countries will support developing countries with additional and specific contributions.] [To this end there is a need to negotiate the necessary support needed by developing countries] [To this end there is a need to provide the necessary support, including additional and specific financial assistance to the developing countries]

Comments:

Para 9: delete the title "Global Strategy"

Para 9: replace with the following:

CHECK IPCC OVERVIEW + PMS

The potentially serious consequences of human-induced climate change, however, give sufficient reasons to begin adopting response strategies that are fully justified for other reasons even in the face of significant uncertainties. These strategies could include improved energy efficiency; use of cleaner, more efficient and lower greenhouse gas-emitting energy sources; improved forest management; development of comprehensive coastal management plans; use of practices to recycle and reuse CFC gases and their substitutes; and improved agricultural practices.

New Version:

8. The potentially serious consequences of human-induced climate change, however, give sufficient reasons to begin adopting response strategies that are fully justified for other reasons, even in the face of significant uncertainties. These strategies could include: improved energy efficiency, use of lower greenhouse gas-emission sources; improved forest management; development of comprehensive coastal management plans; use of practices to recycle and reuse cfc gases and their substitutes; and improved agricultural practices.

Original:

ACKNOWLEDGMENT OF THE CONCLUSIONS OF LONDON CONFERENCE ON THE MONTREAL PROTOCOL

10. [Short text to be included after the conclusions of the London Meeting]

Comments:

significant

Para 10, replace text in parenthesis with:

We acknowledge the agreement of the Parties to the Montreal Protocol in June in London to phase out substances that deplete the ozone layer. This action, when implemented, will have a beneficial influence on global climate change by reducing human emissions of greenhouse gases, by
We urge all states to participate in the Protocol and implement the London agreements.

rately

amendments

join

New Version:

The Montreal Protocol

10. We acknowledge the agreement of the Parties to the Montreal Protocol in June in London to phase out substances that deplete the ozone layer. This action, when implemented, will have a beneficial influence on global climate change by reducing human emissions of greenhouse gases by [percent]. We urge all states to participate in the Protocol and implement the London agreements.

WASCH FINAN. MECH. "PRECEDENT"

Original:

HEDGE

ENDORSEMENT OF THE CONCLUSION OF THE SCIENTIFIC PART OF SWCC

11. We are highly appreciative of the work done by IPCC.

We accept and are highly appreciative of the conclusions and recommendations of the scientific part of the Second World Climate Conference as presented in the annex 1 of this Declaration. Their implementation should be strongly supported by governments.

SFR SECTION

Comments:

Para 11, lines 1-4: replace with:

We acknowledge the conference statement of the scientific and technical part of the Second World Climate Conference. We urge all nations and relevant international organizations to respond to the conference statement and incorporate relevant actions into their scientific and technical programs.

Para 11, lines 2-3: rewrite first part of sentence to read:

We are also appreciative of the conference statement of the scientific part of the Second World Climate Conference

New Version:

The SWCC Conference Statement

14. We acknowledge the conference statement of the scientific and technical part of the second world climate conference. We urge all nations and relevant international organizations to respond to the conference statement and incorporate relevant actions into their scientific and technical programs.

Original:

THEREFORE:

I. ROLE OF SCIENCE IN IMPROVING OUR UNDERSTANDING, CAPACITY OF PREDICTION AND OUR RESPONSE TO CLIMATE CHANGE

12. We reaffirm that, in order to reduce uncertainties, to increase our ability to predict (including early identification of as yet unknown climate-related problems) and to design scientifically sound response strategies, there is a need to strengthen both national and international activities in research, monitoring, and data and information exchange related to climate change.

Comments:

Para 12: delete the title "Therefore"

Para 12: title should read "Role of Science"

Para 12, lines 2-3: replace "(including early identification of as yet unknown climate related problems) and to design scientifically sound response strategies" with

climate and climate change on a global and regional basis and to design response strategies that are scientifically and economically sound

(2+)

Para 12, line 5: scientific research, monitoring, analysis.

Para 12, line 6: add additional paragraph:

To this end, we pledge our full support to the needs of the World Climate Program including contributions to the WMO Special Fund for Climate and Atmospheric Environment Studies.

(2)

New Version:

Role of Science

15. We reaffirm that in order to reduce scientific uncertainties, to increase our ability to predict climate and climate change on a global and regional basis, and to design response strategies that are scientifically and economically sound, there is need to strengthen both national and international activities in scientific research, monitoring, analysis, and data and information exchange related to climate change.

OTHER

To this end, we pledge our full support to the needs of the world climate program including contributions to the WMO special fund for climate and atmospheric environmental studies.

Original:

13. Recognizing that climate changes are of a complex interdisciplinary character, we urge the full participation of scientists dealing with atmosphere, the oceans and land, as well as with the physical, chemical and biological processes needed for a deeper understanding of climate issues. Given the intrinsically global nature of climate and climate research, we stress the need to strengthen international cooperation. The magnitude of the problem being addressed is such that no nation can undertake it alone. It is imperative therefore, that, to the extent feasible, national research programmes on climate be planned in such way that they form integral parts of international research programme. We urge that special resources to sustain such programmes are made available to less developed countries in order to insure their full participation in the international research effort and the response strategies based upon the results.

Comments:

②? EDITOR.

INCONSIST.

Para 13, line 1: climate change | and its impacts |

④

Para 13, line 10: replace "from integral parts of" with "are consistent with and support"

②

Para 13, line 12: replace "less developed" with "developing"

⑤

③

Para 13, lines 13-14: delete "and the response strategies based upon the results"

②

New Version:

16. Recognizing that climate change and its impacts are of a complex interdisciplinary character, we urge the full participation of all scientists who are expert in dealing with the atmosphere, the oceans, and land as well as with the physical, chemical and biological processes needed for deeper understanding of climate issues. Given the intrinsically global nature of climate and climate research, we stress the need to strengthen international cooperation. The magnitude of the problem being addressed is such that no nation can undertake it alone. It is imperative therefore, that, to the extent feasible, national research programmes on climate be planned in such a way that they are consistent with and support international research programmes. We urge that special resources to sustain such programmes be made available to developing countries in order to insure a full partnership in the international research effort.

Original:

14. We stress that special efforts be directed to key areas of uncertainty, including:

the role of clouds, ocean and greenhouse gases; ecosystem responses to global change; effects of land-use changes in the hydrological cycle; climate changes on a regional scale and the socio-economic and cultural dimensions and impacts of climate change.

Comments:

Para 14, line 3-7: replace with

the roles of clouds, oceans, and greenhouse gases;
ecosystem interactions with climate; net emissions of
greenhouse gases; types and levels of atmospheric aerosols;
effects of land-use changes in climate change; regional
climate change; and the regional socio-economic and
ecological implications of impacts of climate change.

New Version:

17. We stress that special efforts be directed to key areas of uncertainty, including: the roles of clouds, oceans and greenhouse gases; ecosystems interactions with climate; net emissions of greenhouse gases; types and levels of atmospheric aerosols; effects of land-use changes on climate change; regional climate; and regional socioeconomic and ecological implications of climate change.

Original:

15. We consider that research programmes must be accompanied by long-term monitoring programmes so designed as to provide continuous and comprehensive coverage of climate-influencing variables as well as those useful in detecting climate change. We agree that long term governmental commitments are necessary to sustain these monitoring programmes. We ask further-more that obstacles to the free flow of relevant data and information be removed.

Comments:

WDC SOVEREIGNTY
ISSUE

1 ?

Para 15: replace last two sentences with:

We recommend that governments make the long term commitments necessary to the development and operations of these monitoring and data management programs. We fully support the Climate Change Detection Project of WMO with its goal of regularly providing assessments of the state of the global climate to all governments.

Para 15, line 7: add a new paragraph:

We support the ^{full} free and open exchange of relevant data between nations, recognizing its important use in monitoring, detecting and predicting and understanding climate and climate change. It is critically important to move ahead as quickly as possible with the development of integrated, comprehensive (satellite and in situ) ocean and terrestrial monitoring systems and with the improvement of the existing atmospheric system. We agree to strengthen and improve the utilization of our current data resources by improving the quantity, quality and accessibility of these data. We recommend that governments make the long-term commitments necessary to the development and operation of these monitoring and data management programs. We stress that full and open access to relevant data and information by global change researchers from all countries must be a fundamental principle of international climate data policy, and we urge countries to establish national policies and administrative practices consistent with this principle.

"free" vs "full"
1

New Version:

18. We consider that research programmes must be accompanied by long-term monitoring programmes so designed as to provide continuous and comprehensive coverage of climate-influencing variables as well as those useful in detecting climate change. We recommend that governments make the long-term commitments necessary to the development and operation of these monitoring and data management programs. We fully support the Climate Change Detection Project of WMO with its goal of regularly providing assessments of the state of the global climate to all governments.

New Version:

19. We support the free and open exchange of relevant data between nations, recognizing its important use in monitoring, detecting, predicting and understanding climate and climate change. It is critically important to move ahead as quickly as possible with the development of integrated, comprehensive (satellite and in situ) ocean and terrestrial monitoring systems and with the improvement of the existing atmospheric system. We agree to strengthen and improve the utilization of our current data resource by improving the quantity, quality, and accessibility of these data. We recommend that governments make the long-term commitments necessary to the development and operation of these monitoring and data management programs. We stress that the free and open access to relevant data and information by climate and global change researchers from all countries must be a fundamental principle of international climate data policy, and we urge countries to establish national policies and administrative practices consistent with this principle.

Original:

16. We reaffirm that there is no need to establish new international coordination mechanisms, but rather urge all countries and relevant organizations to contribute through their national efforts and to increase financial support and assistance in kind on a sustained basis to important existing programmes such as the World Climate Programme including the WMO/ICSU World Climate Research Programme, the ICSU International Geosphere-Biosphere Programme, and the climate-related components of programmes of WMO, UNEP, Unesco and its IOC and FAO. We further urge that these programmes be better supported in order to continue to strengthen their interdisciplinary approach, to include the participation of all nations, and to increase coordination in order to achieve still greater efficiency.

Comments:

Para 16: line 1: add "scientific" after "international"

Para 16: line 3: delete "through their national efforts"

Para 16: lines 9-12: redraft final sentence as follows:

We further urge that these programs continue to strengthen their interdisciplinary approach, broaden national participation, and strive for more effective coordination.

2-3
}

New Version:

20. We reaffirm that there is no need to establish new international scientific coordination mechanisms, but rather urge all countries and relevant organizations to contribute and increase financial support and assistance in kind on a sustained basis to important existing programmes such as the World Climate Programme, including the WMO/ICSU World Climate Research Programme; and the climate-related components of programmes of WMO, UNEP, UNESCO and its IOC, and FAO. We further urge that these programs continue to strengthen their interdisciplinary approach, broaden national participation, and strive for more effective coordination.

WATCH

Original:

II. POLICY TARGET FOR URGENT POLICY ACTION

(Precautionary measures)

BERGEN
QUOTE

- 17. In order to achieve sustainable development, we must base ourselves on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Bergen }
quote }

Comments:

Para 17: title should read: "Policy Considerations"

Para 17: add at the end of the paragraph "which are justified in their own right"

]

in
(Houston version)

New Version:

9. In order to achieve sustainable development, we must base ourselves on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (which are justified in their own right.

essly
negate
add.

If can't get what want, push to
stick to Bergen

Original:

18. We note that a mechanism is being set up by WMO and UNEP to undertake the necessary intergovernmental negotiations on global warming.

ADD TO IPCC
FOLLOW-UP
H

Comments:

Para 18: move to end of Declaration to new section entitled "Framework Convention on Climate Change" after rewriting to read:

We note that a mechanism has been created by WMO and UNEP for intergovernmental negotiations on a framework convention on climate change.

Not in new version

Original:

(Stabilisation and reduction of greenhouse gases)

19. We recognise the fundamental need [to conserve the global climate,] and protect it from anthropogenic interference. Taking into account that the increase of greenhouse gas concentrations in the atmosphere threaten the natural variability of climate, we agree that the ultimate global objective should be to stabilize and reduce those concentrations.

REWRITE

EMISSIONS VS CONCENTRATIONS

Comments:

Para 19: delete entirely to improve balance between science paragraphs and policy paragraphs

BAD LANG.; MEANINGFUL PARTS ELSEWHERE?

LOOK FOR BERGEN/NOORDWIJK VAR.

Original:

20. We stress, as a first step, the need to stabilize, while ensuring stable development of the world economy, emissions of greenhouse gases not controlled by the Montreal Protocol. We note with appreciation the unilateral commitments of some industrialised countries to stabilize emissions at present level or reduce them by the year 2000.

(OVERVIEW)

ADD PMS III, P. 13

①

Comments:

Para 20: rewrite as follows:

We recognize that the most effective response strategies, especially in the short-term, are those which are:

- Justified for reasons other than climate change and also provide beneficial impacts on potential climate change;
- Economically efficient and cost effective,;
- Able to serve multiple social, economic, and environmental purposes;
- Easily modified to respond to increased scientific and economic understanding of climate change;
- Compatible with the concept of sustainable economic growth and development;
- Compatible with the concept of a comprehensive approach that deals with all sources and sinks of greenhouse gases;
- Administratively practical and effective in terms of application, monitoring, and enforcement; and
- Inclusive of obligations by both industrialized and developing countries in addressing this issue.

BREBEN & NOORD
IPCC RSCG PMS P.13

]- ?

New Version:

Policy Considerations

21. We recognize that the most effective response strategies, especially in the short-term, are those which are:

- Justified for reason other than climate change and also provide beneficial influence on potential climate change;
- Economically efficient and cost effective;
- Able to serve multiple social, economic, and environmental purposes;
- Easily modified to respond to increased scientific and economic understanding of climate change;
- Compatible with the concept of a comprehensive approach addressing all sources and sinks of greenhouse gases;
- Compatible with the concept of sustainable economic growth and development;
- Administratively practical and effective in terms of application, monitoring, and enforcement;
- Inclusive of obligations by both industrialized and developing countries.

Original:

21. We agree that stabilization of greenhouse gas emissions should be achieved by industrialized countries by the year [2000] and should be set at [present] emission levels.

INDUST. / ASAP
- (BERGEN / NOORD.)

Comments:

Para 21: rewrite as follows:

We recommend that limitation and adaptation strategies be considered as an integrated package that complement each other to minimize net costs. These strategies should include measures which limit emissions from greenhouse gas sources as well as those which increase the ability of natural systems to utilize greenhouse gases. A comprehensive approach is needed which considers the costs of reducing emissions of different greenhouse gases and the effects of those reductions on potential climate change.

ADD TO # 20

New Version:

}

21. We recommend that limitation and adaptation strategies be considered as an integrated package that complement each other to minimize net costs. These strategies should include measures which limit emissions from greenhouse gas sources as well as those which increase the ability of natural system to utilize greenhouse gases. A comprehensive approach is need to which considers the costs of options for reducing emissions of different greenhouse gases and the effects of those reductions on potential climate change.

Original:

22. We urge industrialized countries to ~~establish~~ greenhouse gases reduction programmes aiming at achieving at least 20% reduction of their current contribution to global warming potential, possibly by the year 2005 and in any case not later than the year 2010;

Comments:

Para 22: delete entirely to improve balance between science paragraphs and policy paragraphs

Original:

net

any

(a)
(one or more)

23. We recommend that the specifications of the obligation to stabilize and reduce greenhouse gases emissions be realized in the form of separate Protocols to the Climate Convention. Some of these protocols could be negotiated concurrently with the framework convention.

MOVE TO SEP. SECTION

Comments:

Para 23: delete entirely; point addressed in para 37-8.

Original:

(Economic situation of certain countries)

- 24. We recognize that developing countries with, as yet, relatively low energy requirements, which can reasonably be expected to grow in step with their development, may have targets that accommodate that development. We also recognize that additional financial resources [will] [may] have to be made available to developing countries to enable them to limit their net emissions of greenhouse gases while ensuring a steady development of their economies;

Comments:

Para 24: replace with page ii of RSWG Policymakers Summary:

We note that all countries have a common responsibility for dealing with problems arising from climate change.
Industrialized countries should adopt domestic measures to limit climate change by adapting their own economies in line with future agreements to limit emissions.
Industrialized countries should also cooperate with developing countries in international action, without standing in the way of the latter's development.
Developing countries should, within limits feasible, take measures to suitably adapt their economies. Because a large, projected increase in world population is a major factor in causing the projected increase in global greenhouse gases, it is essential that global climate change strategies include strategies and measures to deal with the rate of growth of the world population.



MEX:

New Version:

23. We note that all countries have a common responsibility for dealing with problems arising from climate change. Industrialized countries should adopt domestic measures to limit greenhouse gas emissions by adapting their own economies in line with future agreements to limit such emissions. Industrialized countries should also cooperate with developing countries in international action addressing climate change, without standing in the way of the latter's development. Developing countries should, within limits feasible, take measures to suitably adapt their economies. Because a large, projected increase in world population is a major factor in causing the projected increase in global greenhouse gases, it is essential that global climate change strategies include strategies and measures to deal with the rate of growth of the world population.

Original:

(Fund (Climate Fund))

- 25. We recommend that existing institutions for development and financial assistance including the World Bank and other Multilateral Development Banks, Bilateral Assistance Programmes, the relevant United Nations organisations and specialized agencies, and scientific and technological organisations should give greater attention to climate change issues within their environmental and other relevant programmes by providing expanded funding including concessional funding. In addition, regional and subregional co-operation should be reinforced and funded so as to address and implement the required action at that level.

①

Comments:

CHECK
IPCC RPT.

Para 25: delete "by providing expanded funding including concessional funding"

New Version:

- 24. We recommend that existing institutions for development and financial assistance including the world bank and other multilateral development bank, bilateral assistance programmes, the relevant United Nations organizations and specialized agencies, and scientific and technological organizations give greater attention to climate change issues within their environmental and other relevant programmes. In addition, regional and sub-regional cooperation should be reinforced and funded so as to address and implement the required action at that level.

Original:

Whether there is a

26. We ^{re}commend that consideration should be given to the need for funding facilities including a clearinghouse mechanism and a possible new international fund and their relationship to existing funding mechanisms, both multilateral and bilateral. Such funding should be related to the implementation of the climate convention and associated protocols. In the meantime the donor community is urged to provide assistance to developing countries to support immediate actions addressing climate change without waiting for the Convention.

Any

HOLD LINE

Comments:

Para 26: replace with:

We recommend that financial resources channelled to developing countries to limit and/or adapt to climate change be focused on those activities which contribute both to limiting greenhouse gas emissions and promoting economic development.

New Version:

25. We recommend that financial resources channelled to developing countries to limit and/or adapt to climate change be focused on those activities which contribute both to limiting greenhouse gas emissions and promoting economic development. We recommend further that the scope of resource needs for these activities be assessed for developing countries. Such assessments should include, inter alia, country studies and the capabilities of existing institutions and mechanisms to meet the financing needs identified.

Original:

27. We recommend that additional ~~resources~~ should progressively, be mobilized to help developing ~~countries~~ take the necessary measures to address climate change consistent with their development needs.

Comments:

Para 27: delete in its entirety.

Original:

28. We recommend further that the scope of resources needed be assessed. Such assessments should include *inter alia* country studies and the capabilities of existing institutions and mechanisms to meet the financing needs identified, ~~similar to the approaches developed under the Montreal Protocol.~~

EDIT.

as has been done under
LEAVE AS IS

Comments:

Para 28, line 1: after "assessed" add "for developing countries".

Para 28, lines 4-5: delete "similar to the approaches developed under the Montreal Protocol."

combined into para 25 of new version

New Version:

25. We recommend that financial resources channelled to developing countries to limit and/or adapt to climate change be focused on those activities which contribute both to limiting greenhouse gas emissions and promoting economic development. We recommend further that the scope of resource needs for these activities be assessed for developing countries. Such assessments should include, *inter alia*, country studies and the capabilities of existing institutions and mechanisms to meet the financing needs identified.

Original: 29. We recommend that, initially, international funding be directed to:

- (i) conducting research and monitoring;
- (ii) promoting public awareness, education and institutional and manpower development.
- (iii) promoting efficient use of energy, including appropriate end use technologies, increasing the use of non-fossil fuels and switching to energy sources with lower greenhouse gas emissions, and the use of renewable energy sources;
- (iv) increased financial support for forest protection and forest management improvement, [For example through the Tropical Forestry Action Plan (TFAP), the Plan of Action to Combat Desertification, the International Tropical Timber Organization (ITTO) and other relevant international organizations];
- (v) arranging for technology transfer to and technology development in developing countries;
- (vi) assisting developing countries in planning how to address problems posed by climate change;
- (vii) supporting developing countries to enable their full participation in international meetings on the subject of climate change.

such as

KEEP AS IS

KILL (OR KEEP INTER ALA)

The use of financial resources could subsequently be extended inter alia to major energy sources with little or no environmentally damaging characteristics and for steps to reduce other global man-made emissions of greenhouse gases due to human activities.

Comments:

Para 29, line 1, subpara (iii): break into two subparas by starting new subpara with "increasing the use of...."

Para 29, line 1, subpara (iv): delete "financial"

Para 29, para 1, subpara (iv): following "for example through" add "a global forestry agreement".

Para 29, para 1, subpara (v): replace with:

(v) fostering technology development and transfer of technology that is usable and applicable to economic development opportunities that would be beneficial to developing countries.

Para 29, para 1, subpara (vii): replace "their full" with "greater"

Para 29, para 1, subpara (vii): replace "meetings" with "activities"

Para 29, para 1, add new subpara (viii):

(viii) improving climate data management related to global and regional data sets with special emphasis on developing country requirements.

Para 29, second paragraph: delete entirely

New Version:

26. We recommend that initially international funding be directed towards:

- (i) conducting research and monitoring;
- (ii) promoting public awareness, education and institutional and manpower development;
- (iii) promoting efficient use of energy, including appropriate end use technology;
- (iv) increasing the use of non-fossil fuels and switching to energy sources with lower greenhouse gas emissions and the use of renewable energy sources;
- (v) increasing support for forest protection and improving forest management, for example through a global forestry agreement, the Tropical Forestry Action Plan (TFAP), the Plan of Action to Combat Desertification, the International Tropical Timber Organization (ITTO) and other relevant international organizations;
- (vi) arranging for technology transfer to and technology development in developing countries;
- (vii) assisting developing countries in planning how to address problems posed by climate change;
- (viii) supporting greater participation of developing countries in international climate change activities; and
- (ix) improving climate data management related to global and regional data sets with special emphasis on developing country requirements.

Original:

(Economic instruments)

- 30. We recognise that an environmentally sound development must include policies which will achieve a sustainable energy system and take the environmental costs and benefits of energy fully into account. We are convinced that promoting energy efficiency is the most cost effective immediate measure for reducing energy-related emissions of atmospheric pollutants, in particular CO2.

Comments:

Para 30, replace with:

We recognize that environmentally sound development must include policies which consider the costs and benefits of energy use. We are convinced that, in many states, increasing energy efficiency is one of the most cost effective measures for reducing energy-related emissions of greenhouse gases.

2

Para 30, line 6: add new sentence at end as follows:

However, considerable research is necessary for each nation to establish what degree of energy efficiency is also economically efficient taking into account environmental externalities.

4

New Version:

- 27. We recognize that environmentally sound development must include policies which consider the costs and benefits of energy use. We are convinced that, in many states, increasing energy efficiency is one of the most cost effective measures for reducing energy-related emissions of greenhouse gases. However, considerable research is necessary for each nation to establish what degree of energy efficiency is also economically efficient taking into account environmental externalities.

Original:

2

31. We recommend that ~~new~~ policies at national level ~~be established~~ making extensive use of economic instruments in order to increase energy efficiency and reduce energy consumption.

Such instruments could include:

- (i) taxes on environmentally damaging activities and energy inefficient product
- (ii) emission trading (tradeable permits/allowances)
- (iii) reduction or, wherever possible, elimination of subsidies to ~~energy intensive and other~~ activities that induce climate change
- (iv) other measures such as emission charges and fees deposit refund systems and fiscal incentive

could
DELETE
(POLICIES)

1

Such action ^{clw} should in particular affect energy prices with the aim to reflect environmental costs and benefits and provide incentives to reduce energy consumption. They ^{clw} should also modify production and consumption pattern and encourage production and use of energy efficient technologies.

Comments:

Para 31, para 1, line 1: replace "new policies at the national level be established making" with "policies at the national level make"

Para 31, line 3: replace "reduce energy consumption" with "conservation"

Para 31, subpara (iii): delete "energy intensive and"

Para 31, subpara (iv): replace "change" with "charge"

Para 31, subpara (iv): move "fiscal incentives" to before "measures" and delete the word "and" at the end.

Para 31, para 2 (on p. 7): delete this paragraph.

3

New Version:

28. We recommend that policies at the national level increase energy efficiency and conservation, making use of economic instruments including:

- (i) taxes on environmentally damaging activities and energy inefficient products;
- (ii) emission trading (tradeable PERMITS/allowances);
- (iii) reduction or, wherever possible, elimination of subsidies to activities that induce climate change; and
- (iv) other fiscal incentive measures such as emission charges and fee-deposit-refund systems.

Original:

(Technology development)

KEEP

32. We agree that technological breakthrough in a wide range of fields covering energy, industry and other sectors related to the emission and absorption of CO₂ and other greenhouse gases is the key element of any long-term strategy that deals with climate change in a way that meets the goal of sustainable development. To this end, we urge all countries, the industrialized countries in particular, to intensify their individual efforts and international cooperation in technology development concerning, inter alia, low-energy and low-GHG production processes and products (e.g. chlorofluorocarbon substitutes with little or no global warming potential), and CO₂ fixation and reutilization.

Comments:

Para 32, line 3: delete "CO₂ and other"

Para 32, line 4-5: delete "in a way.....sustainable development"

Para 32, line 6: delete "the industrialized countries in particular,"

Para 32, lines 7-10: replace "in technology developing..." with on technologies and practices which reduce emissions or increase absorption of greenhouse gases.

New Version:

29. We agree that technological breakthrough in a wide range of fields covering energy, industry and other sectors related to the emission and absorption of greenhouse gases is the key element of any long-term strategy that deals with climate change. To this end, we urge all countries to intensify their individual efforts and international cooperation on technologies and practices that reduce emissions or increase absorption of greenhouse gases.

Original: (Transfer of technology)

[Alternative 1]

33. We urge that relevant technology be utilized by all sectors in all countries to the full extent possible. We recognize that there are great disparities in energy efficiency, even among the industrialized countries, and further urge all countries, industrialized and developing, to identify and take effective measures to remove barrier to the dissemination of the best available technology. This requires in the case of developing countries, effective measures to aid their efforts in meeting the specific needs arising, to a great extent, from their lack of human and financial resources and other elements necessary for the continuous development and dissemination of the most appropriate technology. The East European countries, which are currently suffering the consequences of inefficient use of energy and other resources, all require special attention. To this end, we also urge all industrialized countries and relevant international institution to step up their contributions to the effective transfer and dissemination of relevant technology in ways that fully address the constraints that all these countries face.

[Alternative 2]

33. We consider important that this expansion of development employ appropriate and environmentally sound technology in order that the problem of global warming and climate change not be exacerbated. Consequently, the transfer and development of such technologies must assume a high priority. It will be important for the industrial nations to respond to this priority and assign sufficient resources to assure technological development and establishment of mechanisms for successful transfer.

Comments:

Para 33, We prefer Alternative 2.

Para 33, Alternative 2: replace "this expansion of" with "economic" on line 1

Para 33, Alternative 2: delete "and environmentally sound" on line 2

Para 33, Alternative 2: replace "technology in order... exacerbated" with "technologies and practices" on line 2

Para 33, Alternative 2: revise second sentence as follows:

Consequently, consideration of effective mechanisms to develop and transfer such technologies must be accorded a high priority.

Para 33, Alternative 2, lines 5-8: Rewrite last sentence to:

It is important for both industrialized and developing nations to respond to this priority, by creating conditions that would be conducive to the development and transfer of such technologies and practices.



New Version:

30. We consider important that economic development employ appropriate technologies and practices. Consequently, consideration of effective mechanisms to develop and transfer such technologies must be accorded a high priority. It is important for both industrialized and developing nations to respond to this priority by creating conditions that would be conducive to the development and transfer of such technologies

(Forestry)

34. We recognize that the conservation of the world's forests is of crucial importance for global climatic stability, particularly having regard to the important contribution of forest destruction to global warming through the emission of carbon-dioxide, methane and other trace gases.

We stress the need to reduce the rate of deforestation and to enhance the potential of the world's forests as a sink for greenhouse gases, through vigorous programmes of reforestation and afforestation.

①

We endorse the target included in the Noordwijk Declaration of achieving net global forest growth of 12 million hectares per year, through conservation of existing forests and through aggressive programmes of reforestation and afforestation.

We call on all countries to:

- (i) Adopt clear objectives for the conservation, reforestation and sustainable management of forests in national development plans.
- (ii) Amend national policies to minimize forest loss and their human disturbance associated with public and private development projects (e.g. roads, dams, resettlement projects, mining, logging).
- (iii) Integrate forest management solutions with policies on environment, agriculture, transportation, energy, poverty and landlessness.
- (iv) Strengthen, support and extend the Tropical Forestry Action Plan (TFAP) process to all countries with tropical forests, and expand support for immediate implementation of completed plans.
- (v) Strengthen the role of the International Tropical Timber Organization (ITTO) in supporting the sustainable utilization of forest resources.
- (vi) Strengthen the role of development banks, IMF, FAO, UNEP, and other multilateral and bilateral organizations in helping developing countries achieve conservation and sustainable development of forests by:
 - a) Requiring analyses of climate change implications, potential greenhouse gas emissions, and response programmes in their review of project proposals involving forests;
 - b) Expanding greatly aid and investment flows to the forest sector as well as for the production of energy from biomass.
 - c) Expanding debt relief via renegotiation of debt, and debt for conservation exchanges; and
 - d) Linking structural adjustment measures to alleviation of climatic impacts and reduction of gas emissions.

EDIT.
REWRITE

FIX
IF
LEFT

Comments:

Para 34, line 2: after "importance" add "to the stability of the global climate"

Para 34, lines 2-4: delete "for global climatic stability,.... and other trace gases."

Para 34, lines 2-4: delete "for global climatic stability,.... and other trace gases."

Para 34, para 3: delete in its entirety because it goes beyond the Noordwijk Declaration

Para 34, para 4, delete subpara (vi)(b-d)

New Version:

31. We recognize that the conservation of the world's forests is of crucial importance to the stability of the global climate. In particular we note the significance of forest destruction to global climate change both in contributing to the increase in emissions of carbon-dioxide, methane and other trace gases, and in reduction of natural absorption of carbon dioxide.

We stress the need to reduce the rate of deforestation and to enhance the potential of the world's forests as a sink for greenhouse gases, through vigorous programs of reforestation and afforestation.

We call on all countries to:

- (i) adopt clear objectives for the conservation, reforestation and sustainable management of forests in national development plans;
- (ii) amend national policies to minimize forest loss and disturbance by public and private development projects (e.g. roads, dams, resettlement projects, mining, logging);
- (iii) integrate forest management solutions with policies on environment, agriculture, transportation, energy, poverty and landlessness;
- (iv) strengthen, support and extend the tropical forestry action plan (tfap) process to all countries with tropical forests, and expand support for immediate implementation of completed plans;
- (v) strengthen the role of the international tropical timber organization (ITTO) in supporting the sustainable utilization of forest resources;
- (vi) strengthen the role of development banks, IMF, FAO, UNEP, and multilateral and bilateral organizations in helping developing countries achieve conservation and sustainable development of forests by requiring analyses of climate change implications, potential greenhouse gas emissions, and response programmes in their review of project proposals involving forests.

Original:

35. We call finally for the development of a World Forest Conservation ~~Protocol or Convention~~, covering temperate, boreal and tropical forests, in the context of or in association with a Climate Convention which also addresses energy supply and use. The specific elements of such a protocol or convention are a matter for international negotiations which should begin at an early date. These elements may include: fundamental research, tropical forest planning, measures to use, protect and reforest, international trade, financial assistance and possible national and international targets for conservation, reforestation and afforestation.

*Convention
or
agreement*

Comments:

Para 35, line 7: before "tropical" add "temperate and"

Para 35: replace first four lines with:

We call finally for the development of a global forest convention or agreement. The specific elements of such a convention or agreement....

New Version:

32. We call finally for the development of a global forest convention or agreement. The specific elements of such a convention or agreement are a matter for international negotiations which should begin at an early date. These elements may include: fundamental research, temperate and tropical forest planning, measures to use, protect and reforest, international trade, financial assistance and possible national and international targets for conservation, reforestation and afforestation.

Original: 36. We recommend that regional and/or sub-regional studies on these subjects be undertaken to cover the impacts of climate change in the following fields:

- (i) Drought;
- (ii) Desertification;
- (iii) Water resources and their evolution;
- (iv) Agriculture (positive and negative impacts);
- (v) Energy;
- (vi) Forests.

Comments:

These studies should lead to the development of scenarios and short, medium- and long-term measures for mitigation of drought and stopping and reversing desertification for the attention of economic and political decision makers.

Para 36: expand list of items to include coastal resources, human health, infrastructure, human settlements, fisheries and biodiversity.

Para 36, para 1, line 2: positive and negative impacts

Para 36, para 1, line 3: replace "fields" with "areas"

Para 36, subpara (iii): delete "and their evolution"

Para 36, subpara (iv): delete "(positive and negative impacts)"

Para 36, subpara (v): replace with: "Energy supply and use:"

Para 36, para 2: replace with:

We recommend that all nations assess the potential impacts of climate change on their resources and plan for adaptation. Appropriate regional institutions should work with member countries to assess and plan for regional impacts of climate change. Industrialized countries should provide technical assistance to developing countries to conduct such assessments. These activities might be facilitated by the establishment, within an existing institution, of an international clearinghouse on climate change impacts and assessments.

New Version:

33. We recommend that regional and/or sub-regional studies be undertaken to evaluate the positive and negative impacts of climate change in the following areas:

- (i) drought;
- (ii) desertification;
- (iii) water resources;
- (iv) agricultural;
- (v) energy supply and use;
- (vi) forests;
- (vii) coastal resources;
- (viii) human health;
- (ix) national infrastructure;
- (x) human settlements;
- (xi) fisheries; and
- (xii) biodiversity.

We recommend that all nations assess the potential impacts of climate change on their resources and plan for adaptation. Appropriate regional institutions should work with member countries to assess and plan for regional impacts of climate change. Industrialized countries should provide technical assistance to developing countries to conduct such assessments. These activities might be facilitated by the establishment, within an existing institution, of an international clearinghouse on climate change impacts and assessments.

3

Original:

III. GLOBAL CONVENTION

37. We welcome the resolutions of the Executive Council of the WMO and Special Governing Council of UNEP authorising their Secretary General and Executive Director to begin negotiations ~~for~~ a Climate Convention, and associated Protocols. We call for such negotiations to begin without delay. We endorse the WMO and UNEP Governing Bodies Decisions in this respect. We urge all countries to join in these negotiations, with the aim of completing negotiations to ensure adoption of a Climate Convention by the time of the UN Conference on Environment and Development in 1992;

on a framework convention on climate change

① →

MEX ADDITION 01C

Comments:

Para 37, title should read "Framework Convention on Climate Change"

④

TRACK WMO RESOL.

Para 37, line 3: replace "begin negotiations for a" with establish an ad hoc group of government representatives to prepare for negotiations for a Framework

Para 37, line 4: delete "and associated protocols"

Para 37, line 5: replace "without delay" with "no later than February 1991"

①-2

New Version:

Framework Convention on Climate Change

34. We welcome the resolutions of the Executive Council of the WMO and special session of the governing council of UNEP ~~authorizing their Secretary General and Executive Director to establish an ad hoc group of government representatives to prepare for negotiations on a framework convention on climate change.~~ We call for such negotiations to begin not later than February 1991. We urge all countries to join in these negotiations, with the aim of completing negotiations to ensure adoption of a framework convention by the time of the UN conference on environment and development in 1992.

with respect to

Original:

38. We recommend that such negotiations take account of the possible elements compiled by the IPCC, and that the Climate Convention be framed in such a way as to gain the support of the largest possible number of countries.

KEEP AS IS

Comments:

Para 38: change "the Climate" to read "the Framework Climate"

Para 38, line 1: replace "take account of" with "consider"

New Version:

35. We recommend that such negotiations consider the possible elements compiled by the IPCC, and that the framework convention be framed in such a way as to gain the support of the largest possible number of states. We recommend that the framework convention contain, at a minimum, general principles and obligations, and that it advocate a comprehensive approach that includes sources and sinks of all greenhouse gases.

⑤
COR (1) IF
COMPREH. DOESN'T
GET IN ELSEWHERE

session

EDIT.

Original:

39. We welcome the offer of the Government of the United States to host the first negotiating ~~meeting of a Working Group~~ on the elaboration of a Climate Convention. We also welcome the possible invitation of Italy to host the first meeting of the Working Group for the elaboration of an Energy Protocol. We urge that these two meetings be convened at the beginning of 1991.

0

- ① HASN'T HAPPENED
- ② NO SIMULTAN. PROTOCOLS
- ③ UNCONNECTED

Comments:

Para 39, lines 2-3: revise first sentence to read:

We welcome the offer of the Government of the United States to host the first negotiating session on the Framework Convention in February 1991.

Para 39, lines 3-6: delete the last two sentences.

New Version:

36. We welcome the offer of the government of the United States to host the first negotiating session on the framework convention in February 1991.

Original:

①
ITEMS
FOR
NEGOT.

40. We recommend further that the Climate Convention and associated Protocols contain specific obligations and address in particular:

- (i) the enhancement of research and systematic observation of climate
- (ii) the control of greenhouse gas emissions
- (iii) the adaptation to the adverse effects of climate change in coastal areas
- (iv) The needs of developing countries for financial assistance in their development efforts and transfer of technology
- (v) appropriate institutional and decision-making procedures.

Comments:

COVERED BY 438

Para 40: replace with language from RSWG Policymakers Summary:

We recommend that the framework convention contain, at a minimum, general principles and obligations, and that it take a comprehensive approach addressing all sources and sinks of greenhouse gases.

Combined with para 35 in new version:

New Version:

35. We recommend that such negotiations consider the possible elements compiled by the IPCC, and that the framework convention be framed in such a way as to gain the support of the largest possible number of states. We recommend that the framework convention contain, at a minimum, general principles and obligations, and that it advocate a comprehensive approach that includes sources and sinks of all greenhouse gases.

PUT
SOMEWHERE
ELSE

41:

Original:

IV. INFORMATION AND PUBLIC AWARENESS

41. We believe that a well informed public is essential for addressing and coping with as complex an issue as climate change and urge countries
- (i) encourage wide participation of all sectors of the population in addressing climate change issues and developing appropriate responses
 - (ii) provide guidance for positive practices to limit/or adapt to climate change
 - (iii) incorporate in the curricula of their educational systems environmental education
 - (iv) establish national committees or clearing houses to collect, develop and disseminate accurate information on climate change issues.

Comments:

None

New Version:

Information and Public Awareness

37. We believe that well informed public is essential for addressing and coping with as complex an issue as climate change and urge countries to:

- (i) encourage wide participation of all sectors of the population in addressing climate change issues and developing appropriate responses
- (ii) provide guidance for positive practices to limit/or adapt to climate change
- (iii) incorporate in the curricula of their educational systems environmental education
- (iv) establish national committee or clearing houses to collect, develop and disseminate accurate information on climate change issues.

Original:

V. INSTITUTIONAL MATTERS

42. We congratulate the IPCC for the outstanding achievement of producing a very short time its first report on the state of the science of climate change, the socio-economic impact and policy options. We recognize that the IPCC structure can provide an invaluable mechanism for periodic assessments, perhaps every five years, of the evolving knowledge from research and impact studies. We urge that the IPCC continue its analysis of risks of action and inaction, policy options and economic aspects of alternative measures for limiting greenhouse gas emissions, mitigating or adapting to climate change. We also urge that ~~a further report~~ ^{studies} on these issues should be produced during 1991 to support the then ongoing negotiations of a Climate Convention on Climate Change.

Comments:

Para 42 and 43, place paragraphs in new section on IPCC.

Para 42, line 3: policy options to limit or adapt to climate change

Para 42, line 4: delete "structure"

Para 42, line 5: delete "perhaps every five years"

Para 42, lines 7-8: delete "risks of action and inaction"

Para 42, lines 8-9: replace "and economic aspects.... adapting to climate change." with "especially the economic aspects of alternative measures for limiting greenhouse gas emissions of adapting to climate change."

Para 42, line 10: delete "during 1991"

Para 42, lines 11: delete "then"

Para 42, last sentence: framework convention

New Version:

12. We congratulate the IPCC for the outstanding achievement of producing its First Assessment Report on the state of the science of climate change, the socio-economic impacts and policy options to limit or adapt to climate change. We recognize that the IPCC can provide an invaluable mechanism for periodic assessments of the evolving knowledge from research and impact studies. We urge that the IPCC can provide an invaluable mechanisms for periodic assessments of the evolving knowledge from research and impact studies. We urge that the IPCC continue its analysis of policy options, especially the economic aspects of alternative measures for limiting greenhouse gas emissions or adapting to climate change. We also urge that further reports on these issues be produced to support the ongoing negotiations of a Framework Climate Convention on Climate Change.

*IPCC
Early*

43

Original:

43. We further express our appreciation to WMO and UNEP for initiating the IPCC and providing an efficient Secretariat. We urge that this arrangement be continued and that countries continue to provide resources to support the Secretariat and participation of developing countries in the work of IPCC.

Comments:

Para 43, line 2: after "efficient" add "and effective"

Para 43, line 3: replace "that countries continue..... in the work of the IPCC." with "expanded to provide secretariat support for negotiations on a framework convention on climate change"

New Version:

13. We further express our appreciation to WMO and UNEP for initiating the IPCC and providing for an efficient and effective Secretariat. We urge that this arrangement be continued and expanded to provide secretariat support for the negotiations on a framework convention on climate change.

FUNDING FOR FIRST NEGOTIATING SESSION

o Estimated costs for the first negotiating session run between \$300 to \$500 thousand, depending on where the conference takes place, how long it lasts, and the number of participants.

o OES has requested \$318,000 in FY 91 funds to cover the cost of a modest conference in Washington. D.C. with full U.N. standard translation and interpretation services. (This includes interpretation in five or six languages, plus full on-site translation of conference documents.) Providing we get the full amount and providing the first negotiating session runs no longer than one week, we should be able to fund the session with minimal solicitation of other agencies.

o If OES receives significantly less than what we have requested to cover conference costs, we shall have to pass the hat to other agencies in addition to collecting from them about \$200,000 to cover FY 91 IPCC secretariat and developing country travel expenses.

o If sequestration takes place and/or departmental budgets are severely reduced, agencies funds may not be available to cover costs of conference and special discretionary funds may be needed.



COUNCIL OF ECONOMIC ADVISERS
EXECUTIVE OFFICE OF THE PRESIDENT
WASHINGTON

Wink in
RSWG
MEMBER OF THE COUNCIL

June 5, 1990

MEMORANDUM FOR STEPHEN DANZANSKY

FROM: RICHARD SCHMALENSSEE 

SUBJECT: RSWG

It is my understanding that Fred Bernthal stated last night at the RSWG meeting in Geneva (to the Japanese, at least) that the U.S. had policies in force or in prospect that would result in a 25 percent reduction (from a "business as usual" baseline) in a comprehensive index of greenhouse emissions by 2000. (The Japanese say he said this about CO₂ emissions, but this seems less likely.) This, he stated, would result in approximate stabilization.

I am of course aware of the exercise that Boyden has led that has developed figures that would support an assertion of this sort. But I am unaware that anybody authorized Bernthal to release them in this fashion. I have an urgent request from Michael for information on this matter and would appreciate learning whether Bernthal's statement was authorized and, if so, by whom.

MEMORANDUM

COUNCIL OF ECONOMIC ADVISERS

June 1, 1990

TO: STEVE DANZANSKY
FROM: DICK SCHMALENSEE
SUBJECT: Global Change Research

Wish

*Wish
Sp.
Should
Change*

I have finally managed to touch base with Corell, and I think we can manage the substance of U.S. participation in these Dutch/German meetings on research on the economics of global change, as long as my assumption that nobody else in the government cares much is correct.

But I still need your help badly. We need to identify Japanese and Canadian players for this game soon, since the Bonn meetings are in early July. I am completely in your hands as regards Japan, since my efforts at and immediately after the White House Conference have produced nothing. I badly need advice on protocol as regards Canada: which ministry should be contacted at what level by whom?

Help!

MEMORANDUM

COUNCIL OF ECONOMIC ADVISERS

May 31, 1990

MEMORANDUM FOR DR. MENDEN (fax: 0049-228-59-3601)
FROM: RICHARD SCHMALENSEE (fax:001-202-395-6947)
SUBJECT: Economics Research on Global Change/
Temporary Steering Committee

I have received Dr. Ziller's fax of May 22, I have talked briefly with Dr. Corell, and I have seen your fax to him of May 29. After Dr. Correl's return to the U.S., he and I plan to review this whole matter with others in the U.S. government early next week, after which I will be able to send you a full response to the May 22 fax.

But you should know now that I share his positive reaction to your efforts and to the July and September meetings that you and the Dutch propose. My only regret is that I will be in Japan the first week of July and so will be unable personally to come to Bonn.

cc: Dr. R. Corell
Dr. P.A.J. Tindemans (fax: 0031-79-512-651)

bcc: Chris Dawson (State)
Steve Doyank

F
Wink
Global
Climate
Change