Originally Processed With FOIA(s):
2005-0336-F

FOIA Number:
2005-0336-F

FOIA MARKER

This is not a textual record. This is used as an administrative marker by the George Bush Presidential Library Staff.

Record Group/Collection:	George H.W. Bush Presidential Records
Collection/Office of Origin:	Science and Technology Policy, Office of (OSTP)
Series:	Bromley, D. Allan, Files
Subseries:	Global Climate Change Files - Conferences/Meetings
OA/ID Number:	62055
Folder ID Number:	62055-002

Folder Title:
Global Warming: NOORDWIJK [1 of 2] [1990]

Stack:	Row:	Section:	Shelf:	Position:
	0	0	0	0

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

DATE: 1/2/90

TO: Dr. Bromley

ADDRESS:

TELPHONE NUMBER:

FAX NUMBER:

FROM: N. C. Maynard

TELEPHONE NUMBER:

FAX NUMBER: (202) 395-~~3100~~ 3719

NUMBER OF PAGES, INCLUDING COVER SHEET: 3

SPECIAL INSTRUCTION:

Here are some Administration accomplishments (put together by WH Press + DPC + others — still in draft form + never released to my knowledge) which list actions already taken by US "which will reduce CO_2 emissions and address the global warming problem."

I don't think this statement has been made publically yet. (Still looking)

U.S. ACTIONS ALREADY UNDERWAY TO CUT GREENHOUSE GASES

In the first 11 months of the Administration, the U.S. has already taken several actions unilaterally which, in addition to being meritorious in their own right, will reduce CO_2 emissions and address the global warming problem.

- The Administration's proposed Clean Air Act, by significantly reducing pollution from coal-fired power plants and placing a permanent cap on emissions, creates a powerful incentive for conservation. This alone could reduce CO_2 emission by several percent a year. No other nation has adopted such an ambitious clean air strategy.

- The Administration's action to increase required corporate average fuel efficiency (cafe) standards to 27.5 miles per gallon will cut CO_2 emissions from automobiles.

- The Administration has not only called for a worldwide phase out of CFC's by the year 2000, but the Administration's February 9th budget included a unilateral fee on CFC emissions, which will sharply reduce U.S. production and emissions of CFC's. The CFC fee has been adopted by the Congress. Scientists believe that CFC's are responsible for 20% of the greenhouse problem. In addition, the Administration has proposed expanding the Montreal Protocol to cover additional greenhouse gases which deplete the ozone layer.

- The Administration has sharply increased funding for global climate change research. The fiscal year 1990 budget contains almost $1/2 billion for this effort, a 21% increase over 1989 levels. We expect another increase in the FY 1991 budget, with the amount to be determined. No other nation is spending nearly this much on research.

- The Administration is now developing a national energy strategy, to be released in April. One of the clear goals in developing the strategy is to increase energy conservation.

- Clean coal technologies proposed by the President in his Clean Air proposal and federally funded will reduce the production of greenhouse gases which are a by product of current, older technologies. Current technologies can add approximately 3% to greenhouse gas production per plant.

- The President's proposed alternative fuels program for automobiles has the potential to reduce CO_2 emissions from automobiles.

- The Administration is preparing a major reforestation initiative for possible inclusion in the State of the Union address. The initiative will include funding of approximately $175 million annually under a program called "America the Beautiful." This program will encompass a national partnership for tree planting. We hope to work hand in hand with state and local governments, foundations, corporations, and private citizens to reforest urban and rural areas, on public and private lands.

Called OK to Marci who will pass along concurrence to McBee + Dawsonby

DH
1/2/90

January 3, 1990

MEMORANDUM FOR THE PRESIDENT

FROM: DOMESTIC POLICY COUNCIL

SUBJECT: 1990 International Environmental Initiative

ISSUE

Consideration of the elements of the 1990 International Environmental Initiative.

BACKGROUND

The Cabinet-level DPC Working Group on Global Change was first convened in October to formulate and coordinate United States policy on global change and other selected environmental issues. As part of its charge, the Working Group was assigned the task of developing options to seize the initiative on the international environmental agenda. In response to that charge, the Working Group developed an outline for a 1990 International Environmental Initiative (the Initiative).

The Initiative represents a coherent omnibus process by which the Administration can address the full range of international environmental issues while maintaining the U.S. commitment to the United Nations Intergovernmental Panel on Climate Change (IPCC) as the principal international forum to address the issue of global change. It has as its other fundamental underpinning a commitment to highlighting Administration accomplishments to date on environmental issues, including global change. It is also designed to complement and avoid scheduling conflicts with the various events already on the international and domestic environmental calendar (Appendix A).

The Working Group's recommendation for the series of events comprising the Initiative was presented to you prior to your meeting in Malta with Chairman Gorbachev. Following those meetings, two of the events identified by the Working Group were announced. The first, an international meeting at the White House this spring of government science, economics and environmental officials, has been further refined by a representative task force convened by Dr. Allan Bromley. Attached as Appendix B to this memorandum is a detailed outline for that conference, setting forth the task force's consensus view regarding the conference's objectives, timing, participants and structure. This outline for the conference, which will focus

on science and economics research, has been reviewed and approved by the Working Group and the entire DPC.

The second announcement made was an offer for the U.S. to host the first negotiating session for an international convention on climate change. The U.S. had previously agreed to participate in the negotiations for such a convention and has been serving as chair of the Response Strategies Working Group of the IPCC. Negotiations will not commence until after the Second World Climate Conference, which is scheduled to be held in November, which for practical purposes means that the first negotiating session will not take place until December 1990 or early 1991.

A third event that was presented for your consideration prior to Malta, but on which no formal decision has yet been made, is an address to the IPCC when it meets in plenary session here in Washington in February. A speech to the opening session of the IPCC would provide an opportunity to explain U.S. policy on global change and promote the enormous investment the U.S. has made both in understanding the scientific elements of global change and in beginning to take mitigating actions. The speech would allow the U.S. to assert its leadership role on global change and reinforce its commitment to the IPCC as the principal forum for addressing this problem. The Working Group and the DPC recommend that you make such an address.

In recent meetings the Working Group has identified one additional possible event for consideration - a major environmental address prior to the State of the Union. In addition, a fourth event within the overall Initiative, an international conference on the conservation of nature, had been identified prior to Malta but no decision with respect to it was made. Both of those events have been discussed by the Working Group and the DPC, but no consensus was reached. Set forth below for your consideration are brief descriptions of the events and the pros and cons for each.

DISCUSSION

I. Major Environmental Speech in January.

To set the tone for 1990 as a year in which the environment will be a major focus of Administration activity and to highlight some or all of the components of the Initiative, you could make a major speech on the environment in early to mid-January (prior to the State of the Union). In the speech you should note the accomplishments of the Administration on environmental issues, which have often been overlooked. You could also announce several of the environmental initiatives that will be part of the 1991 budget. To heighten the impact of the speech, an

appropriate venue with some strong link to the outdoors and the environment could be found.

Pros

o A separate address focused on the environment allows you to reassert your position going into the new year and new decade as the "environmental president"; this would be particularly true if you announced your conference on the conservation of nature (if approved).

o Announcing the Administration's environmental initiatives through several events (e.g., announcements in this speech) over a period of time, rather than in one event such as the State of the Union, prolongs media attention and provides a "bigger bang" for each initiative.

o Highlighting accomplishments reestablishes the Administration's leadership on the environment in the minds of the media and the public.

Cons

o A separate address could be overlooked; holding the announcement of Administration environmental initiatives until the State of the Union ensures greater coverage.

o A separate address heightens expectations and results in increased scrutiny of initiatives, with possible criticism that the Administration is not doing enough.

o A separate address dilutes the impact of those initiatives held for announcement as part of the budget or in the State of the Union.

II. International Conference on the Conservation of Nature

In the fall of 1990 (probably October), you should host an international conference, in the tradition of Teddy Roosevelt, focused on the twin goals of the conservation of nature and sustainable development. The announcement of this conference should be a major event, made in the environmental address prior to the State of the Union or as one of the highlights of the State of the Union. The announcement should declare that the U.S. is leading the world in its commitment of resources and expertise to increasing the understanding of, and the response to, atmospheric pollution and global change through its Clean Air and Acid Rain legislation, its participation in the IPCC, the White House conference on science and economics research and its offer to host the initial global change framework convention negotiating session; what remains for

international consideration among the major environmental issues is conservation and the preservation of nature, natural resources and biodiversity. You could at the same time announce that the U.S. will also host negotiations for an international convention on biological diversity, planned to begin in 1991, which the United Nations Environment Programme (UNEP) has offered to the U.S.

The emphasis of the conservation of nature conference would be on energy conservation, biological diversity, reforestation, wetlands and oceans, highlighting, as models, successful domestic programs, international ventures (e.g., the pending U.S.-Brazil agreement for assistance in the management of Brazilian national forests, banning of ivory imports and debt-for nature swaps), and future initiatives (e.g., the reforestation initiative to be announced in the State of the Union and the America the Beautiful initiative to be included in the 1991 budget). Attendance would include local as well as national officials and representatives from non-governmental environmental groups. The conference would be open to participation by all nations, consistent with your commitment to such a conference.

In preparation for the conference, the White House could host a series of open meetings with "constituents" of the conference -- conservationists, environmentalists, business, economists, scientists and international organizations -- to build support, consensus and media attention. These meetings, or selected parts of the meetings, which would be open, could be attended by you to show your commitment and desire to lead the public with your agenda.

To ensure that both this conference and the conference on science and economics research are successful, a full-time White House coordinator will be designated through detail or otherwise; another professional to coordinate the logistics of the conferences is also required, either through detail or contract.

<u>Pros</u>

o This approach, coupled with the other proposed events, is consistent with a coherent overall approach to international environmental issues, supporting established forums for issues relating to the atmosphere, such as the IPCC and the ongoing Montreal Protocol negotiations, and separating these volatile issues from the event with which you will be most closely identified.

o Attention would be focused on issues the general public traditionally thinks of when discussing the environment and

the conference could include a significant "thousand points of light" volunteer component.

o The conference would provide developing nations and environmental groups, which have special expertise and have achieved notable successes in these areas, an opportunity for more active participation.

Cons

o Given the announced U.S. intention to host the conference on science and economics research and the initial negotiating session on a global change convention, and the numerous other international environmental events already scheduled (see Appendix B), the conference is duplicative and unnecessary.

o Widespread calls for extensive expanded funding from the developed nations and new policy initiatives that the U.S. might not support could result from the conference.

o Forestation and biological diversity could be sensitive issues to developing nations, particularly Brazil.

DECISIONS

I. January Environmental Speech

_____ Approve _____ Disapprove ____ Discuss

II. Conference on Conservation of Nature

_____ Approve _____ Disapprove ____ Discuss

_____

Dick Thornburgh
Chairman Pro Tempore

APPENDIX A

1990 ENVIRONMENTAL CALENDAR
Major International and Domestic Events

[Events, dates and locations in brackets are tentative]

January [29]	Submission of President's Budget
January [30]	State of the Union
February 5-8	Plenary Session of Intergovernmental Panel on Climate Change (IPCC) - Washington
[February 6]	[Presidential Address to IPCC]
[April]	White House Conference on Science and Economics Research on the Environment - [Washington]
April 22	Earth Day 1990 (20th anniversary; events are scheduled throughout country several days before and after April 22)
April 29-May 2	Interparliamentary Conference on the Global Environment - Washington (sponsored by U.S. Senate)
May 8-16	Conference on Action for our Future - Bergen (ministerial-level meeting; follow-up to conference on sustainable development previously held under auspices of Prime Minister Bruntland)
[June 18-30]	Summit Meeting between Bush and Gorbachev
June 20-29	Second Meeting of Parties to Montreal Protocol - London (negotiating session to expand Montreal Protocol under Vienna Convention to ozone-depleting substances other than CFCs)
July 9-11	G-7 Economic Summit - Houston
August	Final IPCC Plenary Session - Stockholm
November 12-13	Second World Climate Conference - Geneva
[December 1990-Early 1991]	First Negotiating Session for Framework Convention on Global Change

White House Conference on Science and Economics Research on the Environment

The general purpose of the conference, which will be co-chaired by Drs. Bromley and Boskin, will be to advance the quality and understanding of the analytical tools and data necessary to confront international environmental problems, primarily global change. Analytical techniques and research will be shared in an effort to develop a common integrated approach that takes a balanced account of scientific, economic and environmental factors. National delegations attending the conference will be comprised of the senior scientist, the senior economist and the senior environmentalist in the governments of the participants.

A. Timing of Conference

In his announcement of the conference, the President simply specified that the meeting would be held next spring. To avoid conflicts with the various events already on the international and domestic environmental calendar (Appendix A), and to take advantage of the worldwide attention on environmental issues that will accompany the 20th anniversary of Earth Day (April 22), the conference should be held near Earth Day.

B. Participants at Conference

The conference was announced by the President as international in nature, without any elaboration as to invitees. It bears emphasis from the outset that it will be a scientific and economic conference focusing on problems of the environment. To that end, it will be important to bring together nations and organizations that have internationally recognized expertise and have developed data relevant to the required analysis of the available tools for confronting the scientific and economic aspects of the global change issue. It will also be critical to include nations or representatives of nations that, because of their land masses, large populations or heavy future energy needs, will be compelled to deal with environmental problems having a global magnitude and impact. Finally, in order to avoid duplicating the work of the IPCC, a smaller number of participants is more appropriate.

Based on these criteria, the following nations and organizations will be invited: the G-7 nations, China, Brazil, India, the Soviet Union, Australia, Nigeria (or another African nation), Mexico, the European Community and the Organization for Economic Cooperation and Development (OECD).

C. Objectives of Conference

The objectives of the conference are both general and specific:

General Objectives

o To identify gaps and uncertainties in the science and economics relating to environmental matters, particularly the scientific gaps that impact economic analysis and vice versa, and establish priorities for compiling specific data and information to resolve these uncertainties.

o To ensure that the conference supports the work of the IPCC and that it does not conflict with the efforts currently underway in the IPCC working groups.

o To review actual products and deliverables, including real data and models, in both science and economics.

o To raise the level of attention given by the major scientific, economic and environmental policy makers to the problems posed by global change and to foster a more inclusive dialogue leading up to negotiations of a framework convention.

o To seek agreement on common assumptions (e.g., CO2 equivalencies) that can be used when making decisions regarding responses to global change.

o To provide background and guidance for the Second World Climate Conference, to be held in Geneva in November, and other international meetings.

o To increase general awareness of the scientific and economic parameters that impact national and international environmental policy-making.

Specific Objectives

Science. The scientists will focus on the largest gaps and uncertainties in the current understanding of global warming and greenhouse phenomena and on such topics as:

o The range of predicted temperature changes under the current major world climate models, the uncertainties in these predictions and the primary sources of these uncertainties. This will yield greater awareness of these uncertainties among the participant economists and environmentalists.

o The relative sensitivity of the climate models to their input parameters and the most critical new experimental measurements required to address existing gaps and uncertainties.

o The expected global impacts from different global warming scenarios in such areas as agricultural and oceanic productivity, sea level change, vegetation patterns and migration, changes in storm patterns and severity and occurrence of droughts.

o The availability and inter-comparability of national data bases pertinent to environmental research.

o Improvement of current climate and weather models to begin to address regional changes on a larger time horizon than is currently possible.

o The possibility of developing an integrated, coherent international plan of research to build upon the expertise, experience and relevant data available in the participant countries. This plan could form a structure within which the contributions of all interested nations could be used with greatest effectiveness and form the basis for coordinated resource allocation and implementation.

o The development of greater awareness on the part of participating scientists of the economic aspects of global change and the relative economic value of improved understanding and predictive capability in different areas.

Economics. The participation of economists should enhance four useful information flows:

o Best-practice methods of estimating the costs of action, including adaptation and mitigation costs, and the methods and costs of transferring or aiding in the development of technology. Discussions of this topic should serve to advance the state of the art, to lead to a greater standardization of methods and to enhance awareness of robust results.

o Greater familiarity on the part of economists with the actual state of scientific knowledge, increasing their ability to render it more faithfully in their modeling.
o Greater awareness on the part of environmentalists of the benefits to both the economy and the environment of adopting flexible, market-based response strategies.

o Greater interaction among economists with scientists working in areas where resolution of scientific uncertainties will have the greatest impact on economic

modelling and costs.

Environment. With a great deal of work on environmental effects, particularly in the area of global change, already underway, the primary objective with respect to the environmental officials at the conference will be to engage them in a dialogue on scientific and economic issues, thus providing them with greater familiarity with and sensitivity to those factors as they consider environmental policies and response options.

D. Structure

Pre-Conference Actions

o To give greater visibility to the conference, the invitations to government officials will come directly from the President.

o To refine the scope of the conference, a questionnaire requesting specific information (e.g., major uncertainties in the areas, major gaps in existing information, new developments, activities in both science and technology relating to the environment in the recipient country, and identification of the proposed national delegation members) will be sent to all participants.

o Assignments for the preparation of a limited number of short papers will be made, with the authors presenting these papers at the conference.

o To finalize the presentations and preparations for the conference, a pre-meeting of a limited number of scientists and economists will be held.

Conference Activities

o To ensure full discussion of the issues, the conference will extend over three days.

o The conference, which should be open to the media, will begin with an opening plenary session, a key portion of which will be keynote addresses pulling together the current state of the science and economics on global change and highlighting the uncertainties and gaps in current knowledge. The responses to the questionnaires circulated prior to the conference will serve as the basis for these keynote addresses and the initial discussions. The participants will then break into mixed groups of science, economic and environmental officials, ensuring that representatives of each of the disciplines is sufficiently exposed to the others. At the end of each day's

proceedings, all participants will reconvene in plenary session for summary discussions.

o Presidential involvement will be a key factor in heightening the visibility of the conference. The President should address the opening plenary session, participate in the concluding session, and host the conference reception and banquet at the State Department.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

January 3, 1990

MEMORANDUM FOR DISTRIBUTION

FROM: Jack Fellows

SUBJECT: U.S. Global Change Research Program Review

Attached is the final version of the review letter and TOR that will be faxed to the Academy this afternoon. See you tommorrow at the Academy (10:00 a.m. room 280 2101 C Street, NW). Note: the room has changed.

DISTRIBUTION

Nancy Maynard
John Houghton
Pete Worden
Len Fisk
Shelby Tilford
Bob Corell
Dallas Peck

Global change file

Attachment

1-3-90 DRAFT

Date

Dr. Frank Press
NAS

Dear Dr. Press:

The President's FY 1991 budget proposes a major initiative focused on improving our understanding and predictive capabilities related to global change issues. Specifically, the budget requests $____ million for the U.S. Global Change Research Program (USGCRP), an increase of ____ percent over the FY 1990 enacted level. A major element of this effort is a proposed new start for NASA's Earth Observing System (EOS). EOS is part of the Mission to Planet Earth concept announced by the President on July 20, 1989.

The FY 1991 USGCRP budget and research plan is the product of a major interagency planning effort coordinated by the Committee on Earth Sciences (CES). This effort was reviewed within the Executive Office of the President and approved as a major Administration initiative. Because of the importance and magnitude of this initiative, I believe it is critical that this proposal be thoroughly reviewed, understood, and supported within the scientific community. To this end, I would like to request that the National Research Council review the interagency USGCRP, as described in the President's FY 1991 budget, to ensure that this research effort represents a sound approach to reducing the scientific uncertainties associated with global change issues.

In particular, I am requesting that the review address several specific issues regarding EOS, including the environmental parameters to be measured, the requirement for simultaneity of data collection, and the optimal configuration of the EOS platform and instruments. Unlike the general USGCRP review, I believe the EOS questions will require carefully selected representatives from within and beyond the earth sciences research community.

It is important that the results of this review be available prior to the beginning of FY 1991 and the final development of the FY 1992 budget. This review is critical to the CES planning and implementation of the USGCRP. It is also important to OSTP and OMB in exercising their oversight responsibilities, and to the National Space Council which plans to review the role of the USGCRP space components relative to national space policy.

Enclosed please find a proposed Terms of Reference for the review. Please let me know if this review is possible and what additional steps I might need to take to ensure its timely completion.

Sincerely,

D. Allan Bromley

U.S. Global Change Research Program (USGCRP) Review
Terms of Reference

- The President's Science Advisor will submit to the National Research Council (NRC) for its review on January 29, 1990, a report entitled, "Our Changing Planet: The FY 1991 U.S. Global Change Research Program" which outlines the FY 1991 USGCRP research plan.

- The purpose of this review is to examine if the research plan represents the highest priority research activities (i.e., the research, data collection, and modeling programs) needed to reduce the scientific uncertainties associated with related global change issues.

- NASA's Earth Observing System (EOS) is an integral part of the total USGCRP. As part of the overall review, there are several issues related specifically to EOS that the review should address:

  1. Does EOS collect the environmental parameters that are reflected in the USGCRP research priority framework and related policy issues described in "Our Changing Planet"?

  2. EOS is premised on the assumption that it is essential to collect global data on various environmental parameters simultaneously. How important is data simultaneity to the ultimate utility of the data? Can the requirement of simultaneity be applied more narrowly that proposed?

  3. Depending on the outcome on the question of simultaneity, are the EOS platforms, as currently configured, the optimum means for collecting this data or are there better alternatives that are more cost effective or timely. These alternatives could include, for example, smaller multiple platforms flying in formation or additional near term precursor missions that are capable of flying subsets or preliminary versions of EOS instruments.

  4. Does the proposed EOS Data Information System represent the appropriate approach to support this long-term data collection and modeling effort?

- As it did with the FY 1990 USGCRP Plan, the NRC Committee on Global Change (CGC) will review the FY 1991 USGCRP Plan. In performing the review, the CGC should call upon any recent and current work in the NRC related to this request, for example, the current assessment of EOS now being conducted by the Committee on Earth Studies of the Space Studies Board. It is also recognized that the review may require additional experts with experience in developing and procuring complex remote sensing spacecraft, instruments, and data management systems.

- At the request of the NRC Executive Officer, the President's Science Advisor will provide support and any additional information pertinent to the review either directly or via the Committee on Earth Sciences and its member agencies.

- The NRC will provide a progress report on the review by April 1, 1990, with a final report due no later than July 1, 1990.

9020088

U.S. Department of Justice

Land and Natural Resources Division

Office of the Assistant Attorney General — *Washington, D.C. 20530*

January 5, 1990

MEMORANDUM

TO: Hon. D. Allan Bromley
Assistant to the President
for Science and Technology
Chairman, Domestic Policy Council Working Group
on Global Change

C. Boyden Gray
Counsel to the President

FROM: Richard B. Stewart
Assistant Attorney General

SUBJECT: Follow-up Work on Our RSWG Submissions

As a follow-up to our recent submissions to the Response Strategies Working Group ("RSWG") of the Intergovernmental Panel on Climate Change ("IPCC"), I believe that we should begin preparing a pamphlet of materials elaborating on the "comprehensive" and "international emissions trading" approaches that we have recommended for IPCC/RSWG consideration, explaining how they might work in the context of policy responses to global climate change and discussing empirical experience with such approaches in other contexts. This pamphlet could be provided to those attending the February, 1990 meetings of the IPCC in Washington, D.C. The pamphlet could be followed by appropriate presentations and workshops.

As part of the educational effort, it would also be useful to draw on the resources and support of other nations who share our views. I am informed that Great Britain, Norway, and New Zealand are likely prospects, as well as the OECD. We might also enlist non-governmental organizations ("NGOs") who share our views, such as the Environmental Defense Fund, an advocate of trading programs like the one for acid deposition in the Administration's proposed Clean Air Act amendments. Attached please find a copy of EDF's recent submission to the IPCC, explaining via a concrete example how a trading program might function. The EDF paper limits itself for the sake of simplicity to carbon dioxide emissions and to one main example of trading,

but the concepts could be expanded to embrace our comprehensive approach and to treat the issues with more consideration of options, advantages and disadvantages.

I believe that the Administration should also promptly begin internal study of the scientific, institutional, monitoring and economic issues that would be presented in implementing the approaches that we have recommended for IPCC/RSWG consideration.

If you agree that these efforts are desirable, an early decision should be made on how to organize and staff them.

ENVIRONMENTAL DEFENSE FUND

257 Park Avenue South
New York, NY 10010
(212) 505-2100

COMMENTS OF THE ENVIRONMENTAL DEFENSE FUND ON THE IPCC WORKING GROUP III ECONOMIC MEASURES PAPER

by

James T. B. Tripp, Counsel
and Daniel Dudek, Ph.D.

The IPCC Working Group III (Response Strategies Working Group) has revised its paper entitled "Implementation Measures As A Response To Climate Change" as a result of its October 1989 meeting in Geneva. Among other things, that paper presents criteria to be used in the evaluation of national policy measures designed to control and reduce greenhouse gases and criteria applicable to any international institutional measure incorporated into any convention or protocols.

One of the economic instruments considered as an alternative or supplement to national or international regulations is a system of tradeable emission permits. This paper assesses the benefits and difficulties of a national and international system of tradeable emission permits. A major benefit is that such a system provides manufacturers with an economic incentive to develop and use technology that uses fossil fuel energy more efficiently than national regulations (promulgated to be consistent with an international allocation formula) alone would provide or that relies on renewable sources of energy. It could also provide large industrial or commercial users of energy systems with incentives to make efficiency investments. The reason for this is that such a manufacturer may be able to sell (or large users may be able to earn credits) based on this added efficiency. The ability to sell CO2 emission credits produces economic value for the more efficient technology. Internationally, a potential benefit of a trading program is that, if properly designed, it could promote transfer of energy efficiency technologies from highly industrialized to less developed countries.

A major drawback, according to the paper, is the extremely limited experience with tradeable emission permits at the national level, and lack of experience at the international level other than provisions for economic rationalization allowed under the Montreal Protocol. Since the discussion of tradeable permit or credits systems in the IPCC paper is general and abstract, these comments are intended to provide some illustration of how such a system could work at both the national and international levels. It is important to point out that a tradeable permit system is a supplement to a regulatory program that establishes overall limits on emissions of CO2 or, as a surrogate, limits on combustion of fossil fuel. The trading system is designed to introduce flexibility in economic

decisionmaking by allowing regulated sources to increase emissions above regulatory limits through the purchase of emission credits or to acquire income from the sale of such credits when they emit regulated pollutants below prescribed limits while encouraging investment in pollution reductions beyond minimum requirements.

Before describing a trading program at either a national or international level, we must therefore initially describe the regulatory framework. Initially, as a simplifying assumption, we will look at one greenhouse gas - carbon dioxide.

1. A regulatory framework for allocating CO2 emission loadings

If, through an international convention or even a series of bilateral conventions, nations want to achieve controls on emissions of CO2, one approach, based on the Montreal Protocol experience, would be for those countries to establish goals and then allocate the total loadings authorized by the goals among the cooperating nations. These goals and allocation system must take into account environmental objectives, economic efficiency needs and international equity concerns.

The discrepancy in per capita use of fossil fuels among the world's largest countries varies by more than a factor of 10. According to Slowing Global Warming: A Worldwide Strategy, Worldwatch Paper 91, Christopher Flavin, October 1989 (hereafter Wooorldwatch Paper 91), Table 7 p. 69, North America emitted 1,379 million tons of carbon in 1988, or 5.07 tons per capita. Centrally planned Asia (China) emitted 774 million tons of carbon in 1988, at a rate of 0.66 tons per capita. India's per capita rate was below 0.5 tons. Per capita rates in the USSR and Eastern Europe were 3.55 tons of carbon per person; in Western Europe, 2.03; in Japan, about 2.1; in Latin America, 2.09; in Africa, 0.86. According to Worldwatch Paper 91, world emissions of carbon totalled 7,319 million tons in 19881, at a worldwide per capita average of 1.42 tons.

Current projections are that the developing countries intend to increase their use of fossil fuels significantly in coming decades. In view of the fact that many of these countries today are using these fuels significantly below the worldwide per capita average, it should be clear that the industrialized countries will have to phase down their emissions of CO2 in a major way if the build up of CO2 in the atmosphere is to be slowed. It is also assumed that growth in the demand for energy reviews will outstrip efficiency improvements in the LDCs.

A number of proposals have been made for allocating CO2 loadings among the industrialized and developing countries of the world to meet global CO2 emission goals. These include proposals by a) Florentin Krause, Energy Policy in the Greenhouse, Vol. One, From Warming Fate to Warming Limit: Benchmarks for a Global Climate Convention, IPSEP (September 1989) (funded by the Dutch Ministry of Housing, Physical Planning and Environment and published in conjunction with the European Environmental Bureau); b) Christopher Flavin, Worldwatch Paper 91; and c)

David Wirth and Daniel Lashof, A Global Greenhouse Gas Convention: Recomendations on Structure and Substance, NRDC (October 2, 1989). These three proposals all call for proportionately higher rates of reduction in CO2 emissions by the industrialized countries and, among the industrialized countries, by the United States, and substantial reductions in the predicted rates of increase in CO2 emissions by most developing countries. Any convention will have to deal with the issue of establishing global and national baselines, i.e., overall levels of global emissions and separate national allocations.

For an international agreement to achieve limits on global CO2 emissions, it must establish overall emission and/or fossil fuel use reduction goals, reduction schedules or formulae, allocation formulae, monitoring, reporting and enforcement provisions and mechanisms for financing and technology transfer. Such an agreement must do all of these things whether or not it provides a mechanism for trading of CO2 emission or energy efficiency credits among sources in different nation states. We will now attempt to describe how a national trading program could work and then how sources in two or more nations could trade emission or energy efficiency credits.

2. A national trading program

To simplify this illustration, let us look at how an international agreement could affect the energy efficiency of, initially, one major appliance, namely, refrigerators, and, then, a broader range of fossil fuel energy systems. Furthermore, by way of illustration, let us assume that the industrialized countries of the world are required by such an international agreement to reduce their emissions of CO2 by prescribed amounts annually or in multi-year phases, that countries with high rates of forest loss would have to reduce their rates of CO2 growth modestly and that many developing countries, such as India and China, with very low but growing per capita rates of CO2 emissions would be authorized to increase those rates modestly for some period of time. The CO2 control/reduction schedule should be pre-announced both in the convention and each national program so that firms and government agencies can plan and make their investments accordingly.

For the U.S., or any other industrialized country, to meet internationally prescribed CO2 reduction goals, it would have to consider a range of strategies, including adoption of progressively more stringent energy efficiency standards for vehicles, building heating, ventilation and air conditioning (HVAC) and lighting systems and major appliances (CHVAC), such as refrigerators. Under the National Appliance Energy Conservation Amendments of 1988, the U.S. Department of Energy (DOE) has the authority to promulgate energy efficiency standards for many household appliances, including refrigerators. DOE has in fact recently promulgated new energy efficiency standards for refrigerators and freezers to take effect January 1, 1993, 54 Fed. Reg. 47916 (Friday, Nov. 17,

1989). In announcing these new rules, DOE has claimed that they will improve overall refrigerator/freezer energy efficiencies by 25% compared to products on the market today. Each nation could translate CO2 emission controls in percentage improvements in energy efficiency for all industrial sectors.

For the U.S. to meet CO2 reduction goals of the magnitude suggested in the above-described reports, the energy efficiency of new refrigerators and freezers would have to improve substantially before the end of the century. Furthermore, energy efficiency standards for refrigerators and freezers to be sold towards the end of the century would have to take into account energy efficiency requirements for the early years of the 21st century.

To take advantage of a trading program, the DOE standard-setting program for appliances such as refrigerators could be revised along the lines of the Department of Transportation's Corporate Average Fuel Efficiency (CAFE) standard-setting program for automobiles. A car manufacturer complies with the applicable CAFE standard if the average fuel economy of its entire fleet sold in a given year meets the mandated fuel efficiency level. Energy efficiency standards for refrigerators could be similarly set so that the average refrigerator made and sold by a manufacturer complied with the standard in effect in a given year.

Under a trading program, a manufacturer (or importer of a foreign-made refrigerator) that produced and sold in the U.S. refrigerators the average energy efficiency of which was better than the applicable product standard could obtain energy efficiency (surrogates for CO2 emission) credits. These can be statistically translated into CO2 equivalents using average lifetimes of appliances, etc. DOE or some other agency would have to certify the issuance of these credits based on reliable information supplied by the manufacturer. Similarly, a manufacturer whose average refrigerator did not meet the prescribed energy efficiency standard for the applicable year would have to purchase credits. Manufacturers of refrigerators and freezers could therefore buy and sell credits amongst themselves. The end result would be that the average refrigerator/freezer manufactured and/or sold in the U.S. would meet the efficiency standard although the average appliance of any single manufacturer need not.

If well-designed, administered and enforced, this arrangement would give all manufacturers of refrigerators/freezers added flexibility in planning and timing the making of investments to increase the energy efficiency of these appliances. This added flexibility would provide cost savings and therefore afford economic efficiencies to the overall program. In addition, one or more manufacturers might find the economic incentive provided by the potential to earn and sell efficiency credits great enough to invest larger sums in conducting research on and developing even more efficient technologies than the applicable standards prescribe. So long as at least one manufacturer takes advantage of these incentives, the introduction of improved

technologies would occur at a faster pace than otherwise.

Domestically, in the framework of a U.S. program designed to meet CO2 emission goals, this kind of approach could be expanded such that efficiency standards applied to all products that utilize energy, and the manufacturers/importers of those products - be they cars, lighting systems or industrial boilers - could obtain credits if their average products were more efficient (or emitted no CO2 because they used solar energy) than a prescribed baseline and could purchase credits if the contrary were the case. Such credits could be fungible and could be bought and sold among manufacturers of all products subject to the overall program. Further, energy suppliers could directly bundle CO2 credits along with their fuel. In effect, the use of that part of the sector's fuel would be CO2 neutral. That is, permits could be held by energy companies as well as sources. Third parties could also participate in this program. For example, a supplier of energy efficient systems for commercial buildings or industrial plantss would have an incentive to retrofit such buildings or plants for a share of teh CO2 credits.
For this program to function effectively, manufacturers would have to furnish reliable information about the energy efficiency of their products to the responsible agency that in turn would certify the issuance of credits and report any trades. However, most of this information would have to be gathered and reliably reported, stored and analyzed for a national program designed to meet CO2 emission goals even in the absence of a trading feature.

3. Bi-lateral trading

Other industrialized countries might adopt similar kinds of regulatory and economic incentive programs to comply with their allocated energy efficiency/CO2 emission targets. If such programs included, among other things, a procedure for generating and certifying efficiency credits for refrigerators and freezers, the U.S. and such other industrialized countries could enter into bi-lateral agreements whereby manufacturers of those appliances could buy and sell credits on the same basis as described above.

To give a more concrete example, let us assume that western European countries or the EC as a whole would have to reduce their CO2 emissions by rates or amounts prescribed in an international convention. Those rates may be different from those applicable to the U.S. annually. The EC as a whole could establish effiency standards for refrigerators and freezers. The efficiency standards in force in those countries or throughout the EC in any particular year might be different from those in the U.S., in part reflecting differences in applicable national goals or, within those countries or groupings, differences in allocating responsibilities for meeting national goals amoung different sectors of their economies.

With a bi-lateral agreement in place, a manufacturer of refrigerators/freezers selling in both the North American and

western European markets might produce and sell appliances which on average were not as efficient as required in one market but more efficient than required in another market. That manufacturer would be eligible for credits in the latter market (i.e., the market where the appliances were sold). It could then use those credits to compensate for its failure to meet the applicable standard in the former market. Or, pursuant to contract, a more energy efficient manufacturer in the latter market could sell or transfer credits to a manufacturer in the former market.

We have limited our discussion to manufacturers of refrigerators and freezers to present a concrete example of how a bi-lateral credit transfer system could operate. As with any national program, such a bi-lateral arrangement could be designed to cover other appliances or all energy-consuming systems. Under such an arrangement, energy efficiency baselines for such systems would be set by the participating countries. Those baselines could be modified in accordance with a prescribed schedule. Energy efficiency or equivalent CO2 emission credits could be traded, bought or sold amongst all manufacturers/ importers of such systems. The arrangement would set forth the procedures for monitoring, certification of credits, reporting of transfers and enforcement. It could also authorize participation in the market for credits by third parties. If planting of trees as a sink of CO2 were included in the national program, the energy efficiency credits would have to be denominated in CO2 equivalents as well.

Such bi-lateral agreements expand the universe of manufacturers who could benefit from the investment and design flexibility provided by such trading arrangements. CO2 concentrations in the atmosphere are a function of global loadings and are not affected by the geographic distribution of individual sources. The fact, therefore, that one industrial country emits a smaller total load in a given year than an international convention/protocol prescribes while another one emits a concomitantly larger total load due to trading among sources in those countries is irrelevant in terms of environmental protection.

4. Industrialized-developing country trading

Bi-lateral or international agreements that authorize trading of energy efficiency/CO2 emission credits between an industrialized country, and a developing country, could also be considered. A major objective here would be to design the international allocation system so that firms that decided to take advantage of the trading program would indirectly be contributing to the kinds of technology transfer and financing goals described in the Report of the Second Session of IPCC Working Group III/Response Strategies Working Group, Geneva, 2-6 October 1989, in particular, "Implementation Measures on Technology Development and Transfer Measures" and "Implementation Measures on Financial Measures". Criteria number 8 applicable to any international measure, as proposed in "Implementation Measures on Economic Measures as a Response to Climate Change", states

that "the measures should be compatible with support principles of international technology transfers and financial support discussed in other papers."

To show how this might work, let us hypothesize an example using a highly industrialized country that is a large em itter of CO2 toady (HIC) and a less developed country (LDC) that is a low emitter of CO2. Let us assume that the LDC intends to increase its coal-fired electrical generating capacity substantially over the next 10 years. Some part of this capacity is to be used to generate electrical power for a rapidly increasing number of refrigerators and freezers in that country. Under an international convention/protocol, the LDC would be allowed, for many years, to increase its total CO2 emissions but at a lower rate than otherwise projected.

One way for the LDC to decrease its projected CO2 emissions growth rate as mandated by an international agreement would be to set efficiency standards for refrigerators and freezers. While those standards may require production and use of more efficient refrigerators and freezers than might be the case absent an international agreement, those standards might not be as stringent as those which the HIC (any hypothetical highly industrialized country) would have to adopt to meet its CO2 reduction obligations.

Under this example, a firm located in the HICmight find it economically attractive to enter into a joint venture with a firm manufacturing refrigerators/freezers in the LDC. Pursuant to such a joint venture, the HIC firm could provide the know-how and right to use the more energy efficiency technology to the LDC firm. That firm would then be able to manufacture more efficient refrigerators/freezers than the LDC regulations required. In turn, taking advantage of that advanced technology, the LDC firm would obtain credits which it would then transfer to the HIC firm pursuant to the terms of the joint venture. The HIC firm could then use those credits to permit it to manufacture and/or sell in the HIC's market refrigerators/freezers that were less efficient than the HIC's standards otherwise prescribed. Alternatively, depending on the law of the host country, the HIC firm might simply invest in new plant capacity in LDC to manufacture more efficient refrigerators/freezers than LDC regulations mandate and obtain credits accordingly for its use in the HIC.

The HIC firm (any firm in any industrialized country) might find this arrangement to be economically attractive if it could save significant funds by posponing investments necessary to meet the domestic standards. Because the A firm would be obtaining credits under this scheme from a firm in a less developed country, it would be willing to lease or transfer the refrigeration technology at lower cost than it would otherwise. In turn, the LDC firm could make and sell the more efficient refrigerators at less cost than it would otherwise.

Under this example, the potential to obtain credits in a developing country from investments that increased the energy

efficiency of appliances made there would create an economic incentive on the part of a firm in an industrialized country to transfer technology and, in effect, to finance the transfer of that technology beyond what otherwise would be the case. The point is that a well-designed protocol that encourages such international trading of energy credits could promote least cost energy efficiency investments (as well as renewable energy investments) on an international basis that would accomplish international equity and technology transfer objectives as well.

As a general proposition, the tougher the CO2 reduction goals that industrialized countries must meet, the more their manufacturing firms might be inclined to look for such joint venture opportunities in less developed countries as a source of credits. In addition, so long as developing countries face constraints on the rate of growth of their CO2 emissions, firms there have an incentive to enter into such joint or contractual arrangements as well. A major point is that starting with this control program sooner rather than later avoids the need for reductions at a later date and the potential for ruinous environmental effects.

5. Creation of carbon sinks

The economics measures paper includes as a criteria applicable to any international institutional measure incorporated into any convention or protocol the degree to which that measure encourages utilization or creation of sinks, as well as alternative, less polluting technology. Since tropical forests are a major sink for carbon and their burning or destruction at current rates constitutes some 15% of global CO2 loadings, the question is how an international agreement can promote the retardation of the destruction or the re-establishment of any forests and whether a trading program can facilitate attainment of those goals.

The destruction and burning of tropical forests in countries such as Brazil and Indonesia contribute a significant fraction of their CO2 budgets. Thus, if such countries allocated their CO2 emissions targets proportionately to the forest sector and fossil fuel sectors, Indonesia would have to take steps to prevent any increase in the destruction of its forests; Brazil would have to implement a program to decrease the rate of loss of its forests by 2% per year.

If tropical forest acres can be converted into CO2 and energy efficiency equivalents, countries like Brazil and Indonesia might find it economically attractive, as well as environmentally sound, to retard the destruction of their forests even faster or to implement restoration programs where, in the process, they can earn CO2 credits which their own industry could use or which they could sell to foreign firms or governments. Those countries in turn could use the revenues from the sale of such credits to finance programs to retard forest loss. A trading program authorized under an international convention/protocol could therefore provide such countries with substantial economic incentives to protect their

forests over and above the regulatory mandates of such a convention.

While a convention should encourage the creation and protection of carbon sinks, such as forests, defining quantitatively the magnitude, size and rates of loss of those sinks is an enormous undertaking. Satellite monitoring is a critical tool. But this effort must be made whether or not international trading of credits involving sinks is authorized so long as CO2 emissions from destruction or creation of such sinks is incorporated into a convention.

6. International institutional arrangements

For an international convention that imposes limits on emissions of CO2 from burning of fossil fuels and destruction of forests to function effectively, the participating nation states must be willing to and be able to obtain and report reliable information about fuel use and forest loss. The convention must also provide for a credible enforcement mechanism and the establishment or strengthening of an international agency to receive and assimilate data and to assure compliance.

If the convention authorizes bi-lateral or multi-national trading of CO2 emission credits, that international agency or some international body would have an additional role to play. More specifically, at the national level, any country with a domestic trading program would have to have in place an administrative mechanism for certifying that individual firms were entitled to credits or had to acquire credits to comply with standards. If those credits were to be tradeable to a source in another country, some international agency should have the authority to record those credits and to assure that the national credit certification program was viable and accurate. Since a country might have an incentive to inflate its eligibility for credits, this international agency would need additional resources to assure reliable national reporting of information and valid credit issuance programs.

A trading system can also help to assure the integrity of any system of emissions limits. As industrial enterprises -- or even governments -- attempt to comply with CO2 limits, technical or economic factors will inevitably prevent some from complying at some times. Without a trading system, a variance system (formal or simply by non-enforcement) will inevitably develop. A formal system will in turn require technical or economic criteria for evaluating variance requests and bureaucracies to apply those criteria. In a comprehensive, worldwide system for regulating CO2 emissions, the variance bureaucracy may become comparably massive. Inevitably also, those bureaucracies will not close needed economic enterprises for the sake of what may appear "temporary" violations of CO2 limits. The problem could lead to distrust between nations and diminishing willingness to make needed sacrifices.

A trading system should eliminate the need for variances by allowing industries and nations that cannot comply with limits

to purchase credits. No criteria would be necessary to evaluate variance requests, and the sole task for bureaucracies would be the registration and verification of the transfer. Enforcement officials would not need to negotiate complex compliance orders, but simply to order the purchase of credits. Enforcement could also be more credible because the purchase of credits should often be less draconian than shutdown of enterprises. In addition, the failure of some enterprises to comply with initially set limits should always be matched by compensating reductions. And because a market mechanism will replace bureaucratic judgment, those enterprises that do not comply with initial limits should do so because of real economic needs not political influence.

Conclusion

Since there has been virtually no experience with international pollution credit trading programs, it is difficult to assess their utility in attaining the goals of an international convention designed to limit emissions of CO2 and perhaps other greenhouse gases. It is particularly so at this stage when the international community has not agreed on goals, a reduction schedule or any formula for allocating CO2 emission limits among the nation states of the world. Nevertheless, the potential benefits of trading programs within nation states are such that they should consider the potential benefits of transboundary trading of CO2 emission or energy efficiency credits are such in terms of promoting economic efficiency, technology transfer and financing goals that the IPCC should explore these mechanisms in detail.

1/9/90

Dr. Bromley —

I thought you might be interested in seeing how the DPC (OPD, et al?) staff (principals?) view long range planning. This is evidentally an attempt to develop an administration "workplan" on global change - done last year sometime. I think this is as far as it got. The DPC WGGC must have replaced this.

Interesting.

?

N.

Absolutely Inedible!

Keep fr em pounds

Don B.

Bob Dawson

JLC

WORKPLAN FOR DEVELOPING
U.S. GLOBAL CLIMATE CHANGE POLICY, FY-1989-1990

assessments

Purpose: To provide a plan, including a series of ~~studies~~ and assessments, to develop and refine an Administration global climate change policy over the next two and one half years. This policy will recognize current scientific understandings and uncertainties, and will include identification of added research needs required for developing further the policy. Policies developed by the process described in the workplan will form the basis of Administration representations on this subject. The policy development process will consider international developments, and be consistent with the Global Climate Protection Act (GCPA) and other statutory/policy mandates. Further, the plan will include identification of response areas that cannot be addressed effectively without added information.

The U.S. is working with other nations on the Intergovernmental Panel on Climate Change (IPCC) to review the international scientific understanding on climate change and to consider the need for policy options to help adapt to climate change or to limit emissions affecting climate change. If needed, the control of emissions affecting global climate change can be fully successful only if implemented on a global basis.

Timing: By November 1988, the DPC will review and approve the work plan and the position paper for the U.S. delegation to use at the meeting of the IPCC sponsored by UNEP and WMO. Subsequent timing of reports is to be responsive to the DPC or its successor organization providing options and supporting analyses that allow the Administration to meet the Congressional mandate in the GCPA and to develop policy options, including research and analysis needs, for consideration of the Administration by the ~~end of CY-1990~~. These ~~efforts will~~ also provide available information as needed by the DPC prior to that report and meet continuing requirements of the U.S. delegation activities within the IPCC. At the minimum, annual summary reports will be provided to the DPC by the end of 1989 and 1990.

Elements:

- o Review Data and Identify Research Needs
  - Science Assessment
  - Effects Assessment
  - Emissions Assessment
  - Technology Assessment
  - Information Transfer Assessment
- o Design Policy Questions
- o Conduct Policy Analysis
- o Analyze Implementing Mechanisms
- o Develop Options Paper

The work plan and subsequent reporting efforts will also include a regular review of the gaps and uncertainties in the knowledge needed for the development and evaluation of global climate change policy. The review will be available to the DPC so that the character and uncertainties of the knowledge base which exists to support decisions will be fully understood by those decision-makers. This review will also be available to the FCCSET so that its work in planning and coordinating scientific research on global change will be fully informed about the information needs of policy ~~developers~~ analysts and policy makers. The work plan will serve as the basis for communications to the public and to the Congress to explain scientific views on the research results, areas where further research results are needed for policy formulation, the need for the actions being taken by the Executive Branch, and to provide justification for areas requiring further action or areas where policies appear sufficient.

Review Data and Identify Research Needs:

In each of the assessment areas the scope will be defined and reviewed by the DPC in order to assure the results will have maximum value in policy formulation.

Science Assessment - Critical to developing policy is consideration of our knowledge and identification of areas of uncertainties and

information gaps of the physical, chemical and biological sciences associated with climate change. Projections of possible climate changes will be based upon models with inherent uncertainties and assumptions and are limited by our current understanding of scientific processes. As knowledge grows through data collection and research, the uncertainties will be reduced. The science assessment of this work plan represents development of a current state of knowledge plus identification of needed areas of further study and monitoring. A plan for assessment of the science issues associated with climate change is being developed by NOAA, NASA, NSF, EPA, DOE and USGS and will be carried out to meet requirements of the IPCC and the GCPA. A report on the status of the science assessment will be provided by December 1989. The assessment for the IPCC is scheduled for completion in December 1990.

Assessment

Effects ~~Studies~~ - A series of studies will be conducted to determine potential impacts of climate change on U.S. and selected foreign countries, including impacts on agriculture (e.g., drought), wetlands, forests, water resources, sea level rise, human health, biodiversity, infrastructure, industry and trade. The studies will include review of available methodologies and data, discussion of limitations of results due to uncertainties and levels of confidence of the data, and identification of needed methods and data development. The EPA report to Congress (December 1988) will be the ~~initial~~ reference document, supplemented by additional products from other agencies. EPA and DOE will lead this effort with participation by at least DOI, USDA, DOC, State, Treasury, CEA and USTR.

Emissions Assessments - An understanding of the historical, present and projected levels of major ~~greenhouse gases is necessary~~. Measures of natural variability in the concentrations of these gases, their sources, and the contributions attributed to man's activities are fundamental to understanding the global climate change issue. The gases to be included in the assessments will be determined in conjunction with the science assessments and will include at a minimum, CO_2, CFC's, N_2O, and CH_4. A series of studies will be conducted by EPA, DOE, and other agencies, to

inventory worldwide sources and project likely ranges of future trends of principal greenhouse gases. These estimates should consider energy sources, agricultural sources, deforestation and natural sources. The EPA Report to Congress (December 1988) will be the initial reference document, supplemented by products by other agencies. A subsequent report will be prepared by DOE and EPA.

(and sinks.)

Technology Assessment - A series of studies, to be conducted by DOE (with the assistance of NAS), EPA, and other agencies, to assess the current state of research and development activities in alternative energy sources, including energy conservation and energy efficiency, nuclear, solar, and renewable energy sources, and improved methods of employing fossil fuels. DOE will lead the interagency effort. Technology assessments will be conducted by appropriate agencies (DOE, USDA, EPA, DOC) in areas of CFC substitutes and agricultural practices. In order to consider adaptive strategies, including those for agricultural and forestry practices, technology assessments will be conducted taking into consideration the range of conditions described by the science assessment and the estimated time scales for potential responses.

Information Transfer Assessment - The current status of data and information available to support public understanding and decision making will be developed periodically. In each of the elements described above, studies and papers produced will fully describe, in terms useful to the public, policy analyst and policy maker, the assumptions, knowledge gaps, and uncertainties which limit our ability to make the projections and evaluations needed for making policy decisions.

Design Policy Questions: Policy questions will be developed across a spectrum of possible actions. Policy options will be developed for improving the climate change information bases, for improved forecasting capabilities, and for other scientific and technological aspects. Policies for adaptation, emission limiting, and other strategies will be considered. Three time periods for policy/technology development will be addressed:

- o Near-term (until 2000)
- o Midterm (2000 -2025)
- o Long-term (beyond 2025)

Policies for the U.S., other developed and developing countries will be identified in general terms. For the U.S., more quantitative results will be provided including social and economic consequences. An array of policies including those needed to meet a Congressional requirement (a near-term 20 percent reduction in U.S. CO_2 emissions and a midterm 50 percent reduction) will be addressed. A much broader set of stabilization/reduction goals with families of proposed responses will be analyzed for the study report. An explicit set of policy issues relevant to ~~adaptive~~ strategies will also be identified. Examples of ~~adaptive~~ strategies will include deforestation and reforestation practices, resource pricing policies, agricultural policies, CFC emission reduction steps, trade ~~and credit~~ policies, and other policies as appropriate. EPA and DOE will jointly lead these interagency activities, producing a draft set of policy issues and options.

Conduct Policy Analysis: For each policy option for adaptation and emission limiting strategies, total costs (for the set of responses) will be estimated, as well as the distribution of those costs within the U.S. society. Various measures of physical benefits will be estimated, e.g., temperature and physical effects. To the extent practicable, costs and benefits measures will be monetized and relevant underlying uncertainties will be identified. Impacts on the economy and on trade will be identified. Quantitative analyses of options will be conducted where possible. Where relevant, information developed by other countries/international organizations will be considered. The analysis will be done as an interagency effort led by DOE and EPA with at least State, DOI, DOC, USDA, Treasury, CEA and USTR participating.

Analyze Implementing Mechanisms: Analysis of a variety of implementing mechanisms will be useful in defining U.S. climate change policy. Domestically, mechanisms to facilitate adaptation will include information dissemination/technical assistance to public and private managers involved in the management of potentially vulnerable resources (e.g., forests, agriculture, water resources). Financial incentives and disincentives and the use of targeted R&D in these areas will also be explored. To limit emissions, a variety of incentives/disincentives, (e.g., stimulation of R&D and of technology modernization, energy and natural resources pricing, tax mechanisms, energy efficiency requirements, international aid and technology transfer) plus targeted R&D will be considered. Internationally, the requirements for the cost, and the feasibility of coordinated emission reductions will be analyzed. The limitations of unilaterally undertaking identified implementation mechanisms will be included. The interagency group noted above will be used for developing this and the subsequent task.

Developing Options Paper: An options paper of a full set of potential elements -- research, technology development, mitigation steps and emissions stabilization responses -- with proposed implementation elements, costs, and timing will be drafted for discussion by the Domestic Policy Council. Inasmuch as a significant fraction of the research, data collection, and analyses referenced above will still be in progress at the end of 1990, it is anticipated that the process of developing U.S. policy on global climate issues will be iterative for several years; hence, this first effort establishes an initial information base and sets out follow-on requirements for the next iterations. Initial policy directions are likely to be influenced and modified by any emerging consensus in the science area, Congressional reaction, and the direction of IPCC activities, as well as technology, economic and other considerations.

Products: In November 1988, the work plan and the position paper for the delegation to the IPCC will be developed. ~~These papers should outline~~ uncertainties, limitations and gaps in our present knowledge and research activities, ~~plus identify~~ some initial activities that could be

	1988	Interim Products 1989	Final Products 1990
Review Workplan	November		
Review IPCC Position Papers	November		
> Uncertainties	December		
Review data		x	x
Design Policy Questions		x	x
Conduct Policy Analysis		x	x
Analyze Implementing Mechanism		x	x
Prepare Annual Report		December	December
Develop Options Papers			December

limit

undertaken initial

~~studied~~ as ~~potential early~~ responses to global climate change.

A first summary report reflecting all interim results will be completed by December 1989. This report will summarize activities, including any conclusions reached at that time, and relevant uncertainties.

By the end of 1990, a more detailed report summarizing all results will be provided to the DPC. This will include detailed findings on the understanding of the science, proposals for additional research and monitoring, proposal for adaptation and emissions limiting responses, and proposed research and study efforts post 1990.

The attached table provides timing and scope of the major reports. Updating of these elements will be done as needed to meet DPC and Administration requirements.

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

January 23, 1990

To: D. Allan Bromley

From: N. G. Maynard

Subject: NAS/NAE/IOM Panel on Policy Implications of Greenhouse Warming

I. Background

As you know, there was a Congressional directive to EPA to commission the Academy to evaluate policy options for mitigating and responding to climatic change. It also asked the Academy to "establish the scientific concensus on the rate and magnitude of climatic change". In response, the NAS Panel on Policy Implications of Greenhouse Warming, chaired by the Honorable Daniel J. Evans, set up a discussion of the scientific controversies surrounding the "greenhouse effect" to be held at study panel at the Academy on January 24, 1990.

II. Selection of the Panel

Since the reputation, strength, and pride of the Academy rests on absolute fairness and equal representation of all points of view on any issue, bias or unfairness is simply never a real issue. However, because of the scientific importance and political sensitivity of the greenhouse warming issue, it is my impression that the Academy was even more diligent than usual in attempting to insure fairness and balance in setting up this panel. I am aware of the following specific actions which would support this impression:

1. Dr. Robert White, President of the NAE and Dr. Frank Press, President of NAS were both directly involved in trying to provide the best representation on the panel. This included (among many other similar efforts with other scientists) many calls trying to entice one of the authors of the Marshall Institute Report to appear on the panel. Evidentally, Drs. Nierenberg, Seitz, and Jastrow were all inextricably involved in other activities and, despite considerable attempts to rearrange their schedules, they were not able to participate.

2. The Marshall Institute Report authors did provide several names of possible alternatives for their own viewpoints, including, Lindzen and Newell, among others.

3. Lindzen was chosen based upon his ability to supply information to the discussions on a much broader background relevant to global change.

4. Nierenberg approved of this choice and, in fact, wrote a letter containing some of his views, as well as confirming his approval of Lindzen to represent his point of view.

5. Staff at NAS was not aware that there was ny feeling that Newell or any other person or point of view considered themselves underrepresented.

6. Later in the process, NAS felt that since solar variation, which comprised an important component of the Marshall Institute discussions, was so critical to the discussions, they added a person with a strong background in this area to the attendees who would be prepared to address uncertainties in the area as well as present status of knowledge. (Dr. Sally Balunis, Harvard)

Having worked as a staff directer of the Ocean Studies Board at the National Academy of Sciences for 2 years, I can personally assure you that staff, officers, and members of committees of the Academy insist upon absolute fairness and complete lack of bias as a routine matter. I can not conceive of the Academy ever doing business in any questionable way. It is, after all, the very factor upon which the reputation of the Academy rests.

Wall Street Journal
1/26/90

No Pap From NAPAP

The following editorial contains the results of scientific research and so may be inappropriate or offensive to those who conduct environmental policy in Washington, D.C. Reader discretion is advised.

The results of the National Acid Precipitation Assessment Program are trickling into public view. Science now knows more about acid rain than it used to. NAPAP is a 10-year-long, government-sponsored study involving hundreds of scientists and costing more than $500 million. It is the definitive statement on the acid-rain problem. Its report is not final and has not been released but some of its conclusions are circulating through the press and scientific community.

It appears, for instance, that except for red spruces high in Northeastern mountains, acid rain does not directly harm trees or other vegetation. Acid rain does impose indirect stress on trees, but that stress is minor compared with that caused by other factors, such as temperature, insects, root diseases and ozone. Nor does acid rain reduce crop yields.

Acid rain does affect lakes, though exactly how much is not completely understood. Many lakes have been naturally acidic since prehistoric times. In Florida, for example, 22% of the lakes are acidic, but Florida has little or no acid rainfall.

Nevertheless, in many areas where soils are naturally acidic, the organic sulfates that are produced by burning fossil fuels do further reduce the pH level, sometimes significantly. A separate section of the report, still under review, indicates that putting lime into lakes is the most effective way to neutralize the acid. It is certainly the cheapest.

Senator Daniel Moynihan, who wrote the bill creating the NAPAP study in 1979, summarized the study's results this way: "To me, it's reassuring, because it shows that the sky is not falling."

The NAPAP results expose the irresponsible hysteria fomented by environmental groups, and encouraged in hyperventilating media reports. A lot of people have a lot of explaining to do about their statements on the severity of the problem, not least EPA head William Reilly and other authors of the Bush Clean Air Bill who produced their legislation before the NAPAP results were released.

The Bush acid-rain provisions would cost the U.S. at least $4 billion a year, according to the EPA. Can this spending be justified in light of the NAPAP findings? For millions, not billions, it would be possible to lime all the artificially acidified lakes in the country. Wouldn't this be the more financially prudent course, until the NAPAP folks have nailed down the full acid-rain story? Assuming, of course, that anyone in Washington can still think in terms of financial prudence on environmental issues.

Voters outside the Beltway should certainly hope so. Under the acid-rain provision of the House bill, which is substantially the same as the Bush bill, Ohioans will have to pay an extra $898 million in their utility bills. Georgians will have to pay an extra $396 million, West Virginians will pay $417 million. These figures come from the Edison Electric Institute and, even allowing for the fact that they may be high-end estimates, the costs are surely staggering.

In addition, the acid-rain provision would add $5 a ton to the price of domestically made steel, and 4 cents a pound to domestically made aluminum, thus damaging the competitive posture about which such men as Rep. Gephardt and Sen. Mitchell profess concern. Immediate capital costs required by the legislation would also divert investment from efforts to modernize industrial plants.

The kicker is that the bill will have only a slight effect on acidified lakes. NAPAP Director James Mahoney recently testified that the Bush bill emissions cap would mean that after 20 years, 25 lakes in the Northeast would be deacidified—a cost of more than $3 billion to deacidify each lake. Sen. Mitchell and the environmental acolytes who staff the Senate environmental committee have written an even more expensive acid-rain provision. The Senate bill would move up compliance dates, demand stricter nitrogen-oxide reductions and reduce allowances for new power plants.

The White House could achieve any immediate pay-back on the public's investment in the environment by announcing an immediate program to begin liming the lakes, based on the NAPAP results. It would constitute a rational, interim acid-rain policy, spare Congress a tumultuous debate over costs, save the American people billions of dollars a year in needlessly higher utility costs, and, though this may seem trivial in Washington, the lakes actually would be enhanced.

Noordwijk

<DIST>SIT: VAX

<PREC> IMMEDIATE<CLAS> UNCLASSIFIED<OSRI> RUEHC<DTG> 241456Z APR 90
<ORIG>FM SECSTATE WASHDC
<TO>TO RUFHOL/AMEMBASSY BONN IMMEDIATE 0000
RUFHLD/AMEMBASSY LONDON IMMEDIATE 0000
RUEHOT/AMEMBASSY MTAWA IMMEDIATE 0000
RUFHOS/AMEMBASSY OSLO IMMEDIATE 0000
RUFHSK/AMEMBASSY STOCKHOLM IMMEDIATE 0000
RUFHTH/AMEMBASSY THE HAGUE IMMEDIATE 0000
RUFHFR/AMEMBASSY PARIS IMMEDIATE 0000
RUEHRO/AMEMBASSY ROME PRIORITY 0000
RUEHMO/AMEMBASSY MOSCOW PRIORITY 0000
RUEHWR/AMEMBASSY WARSAW PRIORITY 0000
INFO EC COLLECTIVE PRIORITY
RUEHGV/USMISSION GENEVA PRIORITY USUN NEW YORK PRIORITY 0000
RUEHBS/AMEMBASSY BRUSSELS PRIORITY 0000
RUEHBY/AMEMBASSY CANBERRA PRIORITY 0000
RUEHKO/AMEMBASSY TOKYO PRIORITY 0000
RUEHWL/AMEMBASSY WELLINGTON PRIORITY 0000

<SUBJ>SUBJECT: BERGEN ECE CONFERENCE: ISSUES TO RESOLVE

<TEXT>
UNCLAS STATE 130989
E.O. 12356: N/A
TAGS: SENV, ECE
SUBJECT: BERGEN ECE CONFERENCE: ISSUES TO RESOLVE
REF: A) STATE 84222
1. THIS IS AN ACTION MESSAGE.
~BEGIN SUMMARY~
2. SUMMARY: THREE IMPORTANT ISSUES IN DRAFT MINISTERIAL DECLARATION REQUIRE RESOLUTION BEFORE USG CAN CONSIDER JOINING IN ECE CONSENSUS AT BERGEN CONFERENCE. ACTION ADDRESSEES ARE REQUESTED TO CONVEY USG POINT OF VIEW TO HOST GOVERNMENT OFFICIALS AND SEEK TO DETERMINE LIKELIHOOD THAT HOST GOVERNMENT WILL JOIN USG IN SEEKING LANGUAGE WHICH WILL ALLOW ECE-WIDE CONSENSUS. OTHER POINTS IN GENEVA PREPCOM DRAFT WHICH USG BELIEVES NEED TO BE IMPROVED ARE ALSO DISCUSSED BELOW. REPRESENTATIONS SHOULD INCLUDE FOREIGN AND ECONOMICS MINISTRIES AS WELL AS ENVIRONMENT MINISTRIES. END SUMMARY.
~END SUMMARY~
3. DRAFT MINISTERIAL DECLARATION WAS SIGNIFICANTLY IMPROVED AT MARCH 5-9 GENEVA PREPCOM, BUT THREE ISSUES REMAIN ON WHICH WE CLEARLY NEED TO GET FURTHER MOVEMENT IN ORDER TO CONSIDER JOINING A CONSENSUS ON THE DECLARATION.
THE PRECAUTIONARY PRINCIPLE
---,---
4. EXISTING PARA 7, WHICH IS UNACCEPTABLE TO US READS AS FOLLOWS:
"POLICIES MUST BE BASED ON THE PRECAUTIONARY PRINCIPLE. ENVIRONMENTAL MEASURES MUST THEREFORE ANTICIPATE, PREVENT AND ATTACK THE CAUSES OF ENVIRONMENTAL DEGRADATION, EVEN IF FINAL SCIENTIFIC PROOF IS LACKING. DOUBT SHOULD NOT BE USED AS A REASON FOR POSTPONING MEASURES TO PREVENT ENVIRONMENTAL DEGRADATION."
5. BACKGROUND: THIS PRINCIPLE HAS BEGUN TO APPEAR IN A NUMBER OF DOCUMENTS INTRODUCED AT INTERNATIONAL ENVIRONMENTAL MEETINGS, PARTICULARLY THOSE DEALING WITH MARINE POLLUTION. THE NORDICS, THE FRG, AND MEXICO ARE STRONG ADVOCATES. AT THE GENEVA PREPCOM, THE USG WAS

ALONE IN OBJECTING TO THE INCLUSION OF THIS PARAGRAPH IN

THE MINISTERIAL DECLARATION, BUT WE HOPE THIS WAS BECAUSE SOME DELEGATIONS MAY HAVE BEEN WITHOUT INSTRUCTIONS ON THIS POINT. SOME ANALYSTS DESCRIBE THE PRINCIPLE AS EXPRESSING THE GENERAL NOTION THAT IT IS DESIRABLE TO PREVENT POLLUTION. OTHERS HOWEVER, INTERPRET IT AS MEANING THAT BEFORE AN ACTIVITY CAN BE UNDERTAKEN IT MUST BE AFFIRMATIVELY PROVED BY THE ACTIVITY'S PROPONENT THAT THE ACTIVITY WILL NOT HARM THE ENVIRONMENT. THE USG STRONGLY BELIEVES THAT WE CANNOT COMMIT OURSELVES TO "ANTICIPATE, PREVENT, AND ATTACK THE CAUSES OF ENVIRONMENTAL DEGRADATION, EVEN IF FINAL SCIENTIFIC PROOF IS LACKING." USG HAS ALWAYS TAKEN INTERNATIONAL UNDERTAKINGS SERIOUSLY, INCLUDING THOSE REFLECTED IN MINISTERIAL DECLARATIONS, AND DOES NOT BELIEVE--AS APPARENTLY SOME DO--THAT WE CAN LIGHTLY ACCEPT ABOVE LANGUAGE IN THE EXPECTATION THAT IT WILL BE FORGOTTEN WITH THE PASSAGE OF TIME.

6. USG POSITION IS TO SEEK DELETION OF PARAGRAPH 7 FOR THE FOLLOWING REASONS:

--THE PRECAUTIONARY PRINCIPLE DOES NOT HAVE AN AGREED DEFINITION INTERNATIONALLY.

--THE DRAFT DECLARATION LANGUAGE IS TOO BROAD AND OPEN-ENDED.

--IT POSES A "SINGLE-CRITERION" DECISION RULE FOR MAKING POLICY JUDGMENTS ON COMPLEX ISSUES WITH MANY ECONOMIC, SOCIO-CULTURAL, AS WELL AS SCIENTIFIC ASPECTS. THE APPROACH IS IMPRACTICAL IN THAT IT DOES NOT ALLOW SUFFICIENT LATITUDE FOR TAKING INTO ACCOUNT THE PARTICULAR ACTIVITY IN QUESTION, NOR THE LIKELIHOOD, NATURE, OR MAGNITUDE OF POTENTIAL HARM.

--A STRICT APPLICATION OF THE PRECAUTIONARY PRINCIPLE IMPLEMENTING MEASURES TO PREVENT ENVIRONMENTAL DEGRADATION EVEN WHERE THE THREAT IS IN DOUBT WOULD CAUSE SOCIETIES TO USE SCARCE RESOURCES OR COSTLY REGULATORY MEASURES IN WAYS THAT MIGHT LATER BE FOUND NOT TO ATTACK THE REAL PROBLEM. INVESTMENTS TO REDUCE UNCERTAINTY (E.G. IN RESEARCH) CAN IN MANY CIRCUMSTANCES BE MORE COST-EFFECTIVE MEASURES TO PREVENT ENVIRONMENTAL DEGRADATION THAN A FRONTAL ATTACK ON THREATS WHICH MAY BE POORLY UNDERSTOOD. INDEED, COSTLY ASSAULTS ON PROBLEMS LATER SHOWN NOT TO EXIST COULD UNDERMINE CREDIBILITY AND PUBLIC SUPPORT FOR WELL-FOUNDED PROGRAMS OF ENVIRONMENTAL PROTECTION.

CO2 LEVELS

--,-------

7. PARA 12C OF PREPCOM DRAFT NOW CONTAINS TWO BRACKETED VERSIONS. ONE REPEATS THE COMMITMENT ENTERED INTO AT NOORDWIJK:

QZTO RECOGNIZE THE NEED TO STABILIZE, WHILE ENSURING STABLE DEVELOPMENT OF THE WORLD ECONOMY, CO2 EMISSIONS AND EMISSIONS OF OTHER GREENHOUSE GASES NOT CONTROLLED BY THE MONTREAL PROTOCOL. THE INDUSTRIALIZED NATIONS AGREE THAT SUCH STABILIZATION SHOULD BE ACHIEVED BY THEM AS SOON AS POSSIBLE, AT LEVELS TO BE CONSIDERED BY THE IPCC AND THE SECOND WORLD CLIMATE CONFERENCE."

THE SECOND BRACKETED VERSION WOULD COMMIT GOVERNMENTS:

"TO TAKE OTHER ACTIONS TO STABILIZE THE OVERALL CO2 EMISSIONS AT PRESENT LEVELS BY THE YEAR 2000. THIS IS A PRELIMINARY TARGET WHICH HAS TO BE CONSIDERED IN THE LIGHT OF THE RECOMMENDATIONS FROM THE IPCC

AND THE SECOND WORLD CLIMATE CONFERENCE."
EVEN WITH SECOND SENTENCE, USG REGARDS THE FORMULATION

IN THIS SECOND BRACKET AS AN ATTEMPT TO PREJUDGE THE OUTCOME OF THE IPCC PROCESS, AN ATTEMPT UNACCEPTABLE TO USG. FOCUSSING ATTENTION SOLELY ON CO2 EMISSIONS IS ALSO UNACCEPTABLE TO USG.

8. BACKGROUND: COUNTRIES WHICH WISH TO GO BEYOND NOORDWIJK AND COMMIT TO STABILIZING CO2 EMISSIONS AT PRESENT LEVELS BY THE YEAR 2000 INCLUDE THE FRG, THE NETHERLANDS, BELGIUM, FRANCE, DENMARK, NORWAY, AND SWEDEN. COUNTRIES AT GENEVA SUPPORTING THE US POSITION OF NOT EXCEEDING THE NOORDWIJK COMMITMENT INCLUDED THE UK, CANADA, AND THE USSR. IT WOULD SEEM TO US THAT FIRM AGREEMENT BY THE US AND THESE THREE COUNTRIES NOT TO EXCEED NOORDWIJK SHOULD PREVAIL AT BERGEN. LONDON, OTTAWA, AND MOSCOW SHOULD SEEK CONFIRMATION THAT HOST GOVERNMENTS ARE FIRMLY COMMITTED TO INSISTING ON NOORDWIJK LANGUAGE IN FIRST BRACKET AND MAY CONVEY ASSURANCE THAT IT IS FIRM USG POSITION NOT TO GO BEYOND NOR BACKWARD FROM THIS COMMITMENT. OTHER POSTS SHOULD UNDERLINE US POSITION ON THIS ISSUE AND MAKE IT CLEAR THAT USG WILL NOT ASSOCIATE ITSELF WITH LANGUAGE WHICH GOES BEYOND NOORDWIJK.

PHASING OUT OF TOXIC SUBSTANCES

9. PARA 13B, IN THE SECTION OF THE DRAFT DEVOTED TO SUSTAINABLE INDUSTRIAL ACTIVITIES, READS AS FOLLOWS: (ECE COUNTRIES SHOULD FURTHER DEVELOP COST-EFFECTIVE BILATERAL AND REGIONAL STRATEGIES FOR PREVENTING POLLUTION) (B) "TO ENCOURAGE THE SAFE AND APPROPRIATE USE AND DISPOSAL OF HAZARDOUS SUBSTANCES. TO ACCELERATE WORK ON REDUCING THE USE AND EMISSION OF HAZARDOUS SUBSTANCES THAT ARE TOXIC, PERSISTENT, AND BIOACCUMULATIVE (BRACKET) WITH THE ULTIMATE AIM OF PHASING THEM OUT. (END BRACKET). (BEGIN NEW BRACKET) PREPARE REGIONAL TIMETABLES BY 1992 FOR PHASING-OUT THE MOST ENVIRONMENTALLY DAMAGING SUBSTANCES. (END BRACKET)."

10. BACKGROUND: A SIGNIFICANT NUMBER OF ECE MEMBERS, WITH SWEDEN THE MOST VIGOROUS ADVOCATE, WANT TO COMMIT TO PHASING OUT TOXIC SUBSTANCES. THESE ARE NOT FURTHER DEFINED IN PARA 13B. BUT THE JOINT AGENDA FOR ACTION--THE OTHER DOCUMENT WHICH WILL COME OUT OF THE BERGEN PROCESS--MAKES EXPLICIT REFERENCE TO THE "BLACK LIST" OF THE PARIS CONVENTION FOR THE PREVENTION OF MARINE POLLUTION FROM LAND-BASED SOURCES, A LIST OF ABOUT 1000 TOXIC SUBSTANCES INCLUDING THE HEAVY METALS MERCURY AND CADMIUM. THESE SUBSTANCES ARE ALSO SOMETIMES REFERRED TO AS THE "SUNSET LIST" IN REFERENCE TO PROPOSALS TO PHASE OUT THEIR USE. AT A RECENT APRIL OECD MEETING IN STOCKHOLM. PARTICIPANTS AGREED ON A MORE COMPREHENSIVE APPROACH INCORPORATING THE CONCEPT OF TOTAL RISK REDUCTION WHICH MAY MODERATE SOMEWHAT PREVIOUS INSISTENCE ON TOTAL PHASE-OUT AS A GOAL.

11. USG POSITION IS AS FOLLOWS:

--PRIMARY USG CONCERN IS THE PROTECTION OF THE PUBLIC HEALTH. WE STRONGLY SUPPORT WORK TO REDUCE THE RISKS ASSOCIATED WITH THE USE OF HAZARDOUS SUBSTANCES. CONCEPTUALLY, THIS COMMITMENT ALLOWS FOR THE PHASE-OUT OF SOME CHEMICALS BUT LEAVES OPEN THE CONSIDERATION OF FACTORS SUCH AS THE AVAILABILITY OF SUBSTITUTES, ECONOMIC CONSIDERATIONS, AND RISK ASSESSMENTS.

--WE CANNOT REPEAT CANNOT COMMIT OURSELVES TO "PHASE OUT" ALL TOXIC SUBSTANCES, REGARDLESS OF NEEDS, COSTS, OR OTHER BENEFITS FROM THEIR USE.

--USG FAVORS DROPPING ALL BRACKETED LANGUAGE IN PARA 13B, PLACING PERIOD AFTER "BIOACCUMULATIVE." (FYI WE HAVE FALL-BACK LANGUAGE FOR USE AT BERGEN BUT PREFER AT THIS POINT TO SEEK TO CONVINCE OTHER ECE GOVERNMENTS THAT EVEN WITH BOTH EXISTING BRACKETS DROPPED PARA 13B STILL CONTAINS A SIGNIFICANT COMMITMENT WHICH CAN BE REGARDED WITH SATISFACTION.)

12. SATISFACTION ON ABOVE ISSUES IS ESSENTIAL IF USG IS TO CONSIDER JOINING IN A CONSENSUS DOCUMENT. FURTHER, THERE ARE ADDITIONAL ISSUES WHERE USG BELIEVES IMPROVEMENTS ARE NEEDED. MOST IMPORTANT OF THESE ARE:

A.."BEST AVAILABLE TECHNOLOGY"(BAT)/"CRITICAL LOADS": THESE ARE COMPLEX ISSUES WHICH ARE INTERTWINEE IN PARA 12F OF THE DRAFT DECLARATION, WHICH PROPOSES THREE DIFFERENT BRACKETED STATEMENTS ON ABATEMENT STRATEGIES, TWO OF WHICH RELY ON USE OF THESE TWO CONCEPTS. THEY APPEAR AGAIN IN OPENING OF PARA 13. WITHOUT ENTERING INTO THE VARIOUS NUANCES OF THIS ARGUMENT BY CABLE, DEPARTMENT WISHES EMBASSIES TO CONVEY FOLLOWING MAIN POINTS:

--THOUGH WE BELIEVE IT IS THE BEST OF THE OPTIONS PRESENTED, THE USG COULD NOT ACCEPT THE FIRST OF THREE BRACKETED OPTIONS ("THE ESTABLISHMENT OF ADEQUATE ABATEMENT STRATEGIES SHOULD BE GUIDED BY THE PRINCIPLE OF PREVENTION AND MINIMIZATION OF EMISSIONS IN THE MOST COST-EFFECTIVE WAY.") AS WRITTEN THIS CALLS FOR AN ACCEPTANCE OF THE PRINCIPLE OF PREVENTION AND MINIMIZATION OF EMISSIONS IN THE MOST COST-EFFECTIVE MANNER. USG POSITION IS THAT COSTS OF PREVENTION MUST ALWAYS BE WEIGHED AGAINST THE ECONOMIC CONSEQUENCES. THE TEST MUST COME BEFORE THE COMMITMENT TO PREVENTION AND MINIMIZATION, NOT AFTER THE DECISION IS MADE.

--US EXPERIENCE WITH THE "BEST AVAILABLE TECHNOLOGY" STANDARD HAS CONVINCED US THAT THE USE OF THIS CONCEPT AS A TOUCHSTONE STANDARD CAN RESULT IN UNDESIRABLE AND PERVERSE CONSEQUENCES, BOTH ENVIRONMENTAL AND ECONOMIC.

--BAT IMPOSES A STAGNANT TECHNOLOGY STANDARD CHOSEN BY GOVERNMENTS RATHER THAN TECHNOLOGY CHOSEN BY EXPERT ENGINEERS AND SCIENTISTS IN THE FIELD. ONCE THE TECHNOLOGY IS INSTALLED, A FIRM HAS NO FURTHER INCENTIVE TO DEVELOP NEW AND BETTER TECHNOLOGY OR OTHERWISE TO CONTROL POLLUTION FURTHER UNTIL GOVERNMENTS IMPOSE NEW STANDARDS.

--INCENTIVE-BASED APPROACHES ARE PREFERABLE BECAUSE THEY PROVIDE CONTINUING MOTIVATION FOR FIRMS TO DEVELOP BETTER POLLUTION CONTROL METHODS AND TO USE RESOURCES EFFICIENTLY.

--IN ATTEMPT TO FIND ACCEPTABLE MIDDLE GROUND WHICH INCORPORATES IN THE LEAST OBJECTIONABLE WAY THE MOST IMPORTANT CONCEFTS FOUND IN EACH OF THE THREE BRACKETED VERSIONS, USG WOULD OFFER FOLLOWING ALTERNATIVE IF HOST GOVERNMENTS FIND IT HAS MERIT:

"ESTABLISHMENT OF ABATEMENT STRATEGIES SHOULD BE BASED ON ADEQUATE INFORMATION ON THE NEED FOR AND CONSEQUENCES OF THE PROPOSED ACTIONS. STRATEGIES SHOULD TAKE INTO ACCOUNT, AS APPROPRIATE: LOCAL, REGIONAL, NATIONAL, OR GLOBAL CRITICAL LOADS; COST-BENEFICIAL PREVENTION/MINIMIZATION; THE DESIRABILITY OF INCENTIVE-BASED POLICY TOOLS; AND

THE AVAILABILITY OF BEST AVAILABLE TECHNOLOGIES NOT ENTAILING EXCESSIVE COST. TO THE EXTENT POSSIBLE, ABATEMENT STRATEGIES SHOULD BE CHOSEN TO MAXIMIZE NET BENEFITS AND SHOULD UTILIZE THE MEANS INVOLVING

THE LEAST NET COST."

B. TARIFF AND NON-TARIFF BARRIERS TO TRADE: PARA 11E CALLS FOR ACCELERATING THE DIALOGUE ON LINKAGES BETWEEN ENVIRONMENTAL AND TRADE POLICIES (WITH WHICH WE HAVE NO PROBLEM) BUT CONCLUDES BY INCLUDING AS A SUBJECT FOR DIALOGUE (BRACKET) "THE REDUCTION OF TARIFF AND NON-TARIFF BARRIERS ON THE IMPORTS OF GOODS FROM DEVELOPING COUNTRIES." (END BRACKET)

--USG SUPPORTS THE RECIPROCAL REDUCTION OF TARIFFS AND NON-TARIFF BARRIERS, BUT DOES NOT NECESSARILY SUPPORT THE ASSYMETRICAL REDUCTION AS SUGGESTED IN THE DRAFT DECLARATION. WE NOTE ECE DESIRE TO RECOGNIZE SPECIAL NEEDS OF DEVELOPING COUNTRIES, HOWEVER, AND PROPOSE THAT THIS CAN BE ACCOMPLISHED BY REVISING BRACKETED LANGUAGE TO READ "AND THE REDUCTION OF TARIFF AND NON-TARIFF BARRIERS WHICH HINDER SUSTAINABLE DEVELOPMENT."

C. ENERGY-EFFICIENT CARS: WE BELIEVE THE STATURE OF THE MINISTERIAL DECLARATION WILL BE IMPROVED IF THE BRACKETED LANGUAGE IN PARA 12G WHICH REFERS TO CARS "WHICH HAVE ACHIEVED 2 TO 4 LITERS PER 100KM UNDER SPECIAL CONDITIONS." IS DROPPED.

D. "CHARTER OF ENVIRONMENTAL RIGHTS AND OBLIGATIONS": THE CONFERENCE SECRETARIAT HAS CIRCULATED A DRAFT "ENVIRONMENTAL RIGHTS CHARTER" DRAWN UP BY A GROUP OF "EXPERTS" HOSTED BY THE DUTCH GOVERNMENT. A BRIEFING ON THIS CHARTER WAS PRESENTED TO THE GENEVA PREPCOM IN MARCH BUT NO THOROUGH DISCUSSION TOOK PLACE. WE UNDERSTAND THAT THIS "CHARTER", WHICH HAS THE SUPPORT OF SOME NGOS MAY BE PRESENTED FOR CONSIDERATION AT BERGEN, PERHAPS TO THE WORKING SESSIONS DEVOTED TO THE JOINT AGENDA FOR ACTION, BUT ALSO PERHAPS TO THE MINISTERIAL SESSIONS. THE LONG-RANGE OBJECTIVE OF THIS EFFORT SEEMS TO BE THE ADOPTION OF A DOCUMENT ON ENVIRONMENTAL RIGHTS BY THE 1992 UN CONFERENCE ON ENVIRONMENT AND DEVELOPMENT.

--USG FIRMLY SUPPORTS POLITICAL AND CIVIL RIGHTS BUT DOES NOT BELIEVE THAT ENVIRONMENTAL "RIGHTS" SHOULD BE THE SUBJECT OF AN INTERNATIONAL "CHARTER".

--WE RECOGNIZE THAT ONE OF THE OBJECTIVES OF SUFPORTERS OF AN ENVIRONMENTAL CHARTER IS TO PROMOTE CITIZENS' RIGHTS TO PARTICIPATE IN THE POLICY FORMULATION PROCESS. WE BELIEVE THIS ISSUE WAS SQUARELY ADDRESSED IN THE NOVEMBER 1989 SOFIA CSCE CONFERENCE DECLARATION, AND THAT IT WOULD BE A MISTAKE FOR THE ECE TO TAKE ANY ACTION WHICH WOULD DIVERT ATTENTION FROM THE IMPORTANT COMMITMENTS AGREED UPON AT THAT TIME. FOR EMBASSIES' REFERENCE, OPERATIVE PARAGRAFH READS:

> "THE PARTICIPATING STATES REAFFIRM THEIR RESPECT FOR THE RIGHT OF INDIVIDUALS, GROUPS, AND ORGANIZATIONS CONCERNED WITH ENVIRONMENTAL ISSUES TO EXPRESS FREELY THEIR VIEWS, TO ASSOCIATE WITH OTHERS, TO PEACEFULLY ASSEMBLE, AS WELL AS TO OBTAIN, PUBLISH AND DISTRIBUTE INFORMATION ON THESE ISSUES, WITHOUT LEGAL AND ADMINISTRATIVE IMPEDIMENTS INCONSISTENT WITH THE CSCE PROVISIONS. THESE INDIVIDUALS, GROUPS AND ORGANIZATIONS HAVE THE RIGHT TO PARTICIPATE IN PUBLIC DEBATES ON ENVIRONMENTAL ISSUES AS WELL AS TO ESTABLISH AND MAINTAIN DIRECT AND

INDEPENDENT CONTACTS AT NATIONAL AND
INTERNATIONAL LEVEL.
THE PARTICIPATING STATES WILL ALSO ENCOURAGE
EDUCATION AND INSTRUCTION ON ENVIRONMENTAL
PROTECTION, PROMOTE THE REPRODUCTION,

CIRCULATION AND EXCHANGE OF INFORMATION AND
DATA, AS WELL AS OF AUDIOVISUAL AND PRINTED
MATERIAL, ON ENVIRONMENTAL ISSUES, AND
ENCOURAGE PUBLIC ACCESS TO SUCH INFORMATION,
DATE AND MATERIAL."

ACTION ADDRESSEES ARE REQUESTED TO REPORT HOST GOVERNMENTS' ATTITUDES TOWARD PROPOSED "ENVIRONMENTAL RIGHTS CHARTER."

E. OTHER POINTS WILL BE DEALT WITH AT BERGEN. THIS WILL INCLUDE A FEW MINOR EDITORIAL OR SYNTACTICAL CHANGES, OUTSIDE THE BRACKETS.

13. DEPARTMENT ENCOURAGES POSTS TO CONVEY REPRESENTATIONS NOT ONLY TO ENVIRONMENT MINISTRY BUT ALSO TO FOREIGN AND APPROPRIATE ECONOMICS MINISTRIES. WE BELIEVE THAT IN NUMEROUS CASES ECE REPRESENTATIVES AT PREVIOUS MEETINGS IN THE PRE-BERGEN PROCESS HAVE CONVEYED VIEWS WHICH REFLECT THE CONCERNS OF ENVIRONMENTAL ADVOCATES IN THEIR COUNTRIES WITHOUT ALWAYS GIVING DUE WEIGHT TO CONCERNS OF OTHER MINISTRIES FOR COSTS AND ECONOMIC IMPACT OF PROPOSED MEASURES.

--USG SEES BERGEN AS IMPORTANT OPPORTUNITY FOR ECE COMMUNITY AS A WHOLE TO DEMONSTRATE TO OTHER REGIONS THAT THE INDUSTRIALIZED NATIONS OF THE WORLD ARE PREPARED AND CAPABLE OF WORKING TOGETHER TO ADDRESS COMMON ENVIRONMENTAL THREATS. BERGEN CAN BE AN EXCELLENT EXAMPLE TO OTHER REGIONS OF A PRODUCTIVE CONSULTATIVE PROCESS BETWEEN GOVERNMENTS AND PRIVATE SECTOR NGOS AS WE ALL PREPARE FOR 1992 UN CONFERENCE ON ENVIRONMENT AND DEVELOPMENT. THIS CAN BEST BE ACHIEVED BY AVOIDING CONTENTIOUS DEBATE AT BERGEN ON CONTROVERSIAL ISSUES WHERE CONSENSUS DOES NOT YET EXIST.

14. FOR INFO ADDRESSEES: INFO ADDRESSEE GOVERNMENTS HAVE NOT BEEN PARTICULARLY ACTIVE IN PRE-BERGEN PROCESS, BUT IF EMBASSIES BELIEVE REPRESENTATIONS WOULD BE USEFUL WE WOULD WELCOME ANY ADDITIONAL SIGNS OF SUPPORT FOR USG POSITIONS AT BERGEN. BAKER

<SECT>SECTION: 01 OF 01<SSN> 0989<STOR> 900424110947 MSG000262264186
<TOR>900424112022

"CORRESPONDENCE TRACKING"

TYPE: Information DOCUMENT NUMBER: 9020785

****

FROM: C. Boyden Gray, Counsel to the President

TO: Bromley

DATE OF CORRESPONDENCE: 02/02/90

SUBJECT: Revised executive order on global change

****

ASSIGNED TO:

ACTION REQUIRED:

****

SENDER'S DUE DATE: OSTP DUE DATE:

DATE COMPLETED:

****

COPIES TO: Thomas Ratchford
James Wyngaarden
Dr. Phillips
Dr. Wong

****

WHITE HOUSE TRACKING #: CONTACT PERSON:

REMARKS:

DATE RECEIVED: FILE: NEOB

THE WHITE HOUSE
WASHINGTON

February 2, 1990

TO: Allan Bromley

FROM: **C. BOYDEN GRAY** CBG/105
Counsel to the President

Attached is Dick Stewart's Draft Executive Order on Global Climate Change. It incorporates the changes I had recommended and I believe it is now ready for you to staff as appropriate.

U.S. Department of Justice

Land and Natural Resources Division

Office of the Assistant Attorney General

Washington, D.C. 20530

January 10, 1990

MEMORANDUM

TO: C. Boyden Gray
Counsel to the President

FROM: Richard B. Stewart RS
Assistant Attorney General

SUBJECT: Revised Draft of Executive Order on Global Climate Change

In response to the issues that you raised regarding our Draft Executive Order on Global Environmental Change, we have revised the attached "Draft Executive Order -- Evaluation of federal programs relating to global climate change." This memorandum highlights the revisions we have made in the Draft EO and discusses our thinking on several points. A Revised Draft EO is attached. It has not received formal approval as to form and legality within the Justice Department. We have not yet redrafted the cover letter to Dr. Bromley (originally provided to you along with the Draft EO on December 22, 1989), but we can do so promptly to reflect these or other revisions.

SUMMARY OF REVISIONS

The revised draft:

- Deletes ozone depletion from the list of issues to be evaluated, in order to narrow and focus the evaluations on the greenhouse climate issue. The title and operative language in the EO are accordingly revised to address "global climate change" instead of "global environmental change."[1]

---

[1]It should be noted that the narrowed focus on global climate change (as opposed to global environmental change) may be in tension with the broader approach of Dr. Bromley and the DPC

(continued...)

- Adds the idea in § 1(b)(iv) that, at the margin with other things equal, agency policy should redress the adverse effects of climate change.

- Refines the definitions section to clarify terms used in discussion of global climate change.[2]

- Reorganizes § 3 by separating the evaluations of effects, in § 3(b), from the evaluations of policy responses, now in § 3(d).

- Requires prior discussion with OMB and/or CEA of suggested policy responses, careful and explicit accounting of the costs and benefits, and efforts toward cost-effectiveness, in §§ 3(b)(ii), 3(e), and 3(f).

- Adds OMB and/or CEA as cooperating agencies (along with DOJ) in § 4.

---

[1](...continued)
Working Group on Global Change. Such a broad scope, however, may be unwieldy or otherwise inappropriate for the specific purpose of the present EO. There remains flexibility in § 2(a)(ii) of the present Revised Draft EO to include additional global environmental changes.

[2]Note that the definition of "agency" has been left unchanged, except to exclude the GAO. It continues to include the military agencies because of their programs' likely relevance to global climate change (e.g., the Army Corps of Engineers, which conducts coastal construction projects). Yet there may be difficulties in requiring climate analysis of certain military activities (e.g. military warfare planning, which could raise questions about climate such as "nuclear winter" scenarios; and activities involving confidential information). These difficulties could be addressed in guidance to be issued under the EO.

Further refinement of the definition of "agency" may be required to avoid including agencies that are deemed inappropriate subjects of this EO. An example of a more elaborate definition that effects such selective exclusions is provided by 44 U.S.C. 3502(1). In addition, some treatment of the special status of the independent agencies will be necessary, whether through refining § 2(e) of the EO, through guidance under the EO, or possibly through a legal opinion accompanying the EO, because the independent agencies may not be susceptible to direct Presidential edict regarding substantive policy decisions. These questions are under review at the Justice Department.

- Notes that the scenarios of global climate change to be developed in § 4(a)(i) (in order to provide a consistent basis of discussion among the various responding agencies) are planning tools and are not necessarily confident or authoritative forecasts.

- Adds direction to CEQ regarding NEPA regulations, in § 4(d).

- Emphasizes the exclusively managerial and executive branch purpose of the EO, in § 5.

REQUIRING POLICY RESPONSE SUGGESTIONS FROM AGENCIES

The Draft EO submitted on December 22, 1989 required agencies to suggest possible policy responses they might take to prevent, mitigate or adapt to global environmental change. The Revised Draft EO retains those provisions, but instructs agencies to distinguish policy responses available under existing legal authority from those that would require new authority. It also bolsters the instructions to agencies to attend to the costs and benefits of their suggested policy responses, and requires prior consultation with OMB and/or CEA on these issues.

There is a substantial question whether agencies should be required to study possible policy responses relating to global climate change for which they currently lack statutory authority. The study of policy responses (in addition to study of likely impacts) may be valuable because it could encourage forward-looking thinking within agencies, generate innovative brainstorming, tap the expertise of agency personnel intimately familiar with their own programs and options (in a way that centralized planners could not be), and demonstrate that the Administration is moving ahead and not simply conducting a survey.

On the other hand, the request for suggested policy responses may be burdensome on the responding agencies, may generate subjective agency views rather than objective proposals, and may be premature given that the science is evolving and that we are just now assembling the data. Further, the request for suggested policy responses may evoke a cacophony of opposing agency views (though that cacophony could arise regardless of the EO). In order to try to prevent such outcomes, the Revised Draft EO requires consultation with OMB and/or CEA before final publication; but such prior consultation may add to any burden on the agencies by turning the brainstorming process into a more deliberate, bureaucratized process.

One option is to delete the sections calling for policy responses (and the accompanying OMB/CEA review) altogether. This would leave the EO with a simpler, more streamlined, more manageable set of activities aimed at documenting impacts. Good ideas may crop up anyhow without being demanded by the EO.

Another option is to delete only the broadest requirement of policy response suggestions: § 3(d)(iv) of the Revised Draft EO, requiring identification of policies which would need expansion of existing legal authority. This would leave only the request for policy responses "under existing authority."

These narrowing options leave the EO more open to the criticism that it will achieve little. On the other hand, they may in fact achieve more, more quickly, and with fewer drawbacks, by being more focussed.

TREATMENT OF NEPA

Our draft cover letter to Dr. Bromley, submitted to you with the original Draft EO on December 22, 1989, expressed our views about the differing but potentially complementary roles of an EO and regulations under the National Environmental Policy Act ("NEPA") in dealing with climate change. We continue to believe that an EO is likely to be a superior first step in addressing the relationship between federal programs and global climate change, but that CEQ guidance or regulations under NEPA will be desirable after the EO is issued.

In contrast to a process of NEPA reviews conducted in diverse and sporadic litigation and according to judicial interpretation of a Congressional statute, issuance of an EO would:

- achieve prompt, consolidated action, involving all agencies at once, to gather a baseline inventory;

- demonstrate Presidential initiative;

- permit Executive definition, direction and management of the evaluation process without judicial supervision;

- generate proposals for policy improvement;

- address both the effects of government programs on climate and the effects of climate on government programs (whereas NEPA addresses only the former effects);

- rely on uniform scenarios, methodologies, and output formats; and

- leave undisturbed already-completed environmental impact statements (whereas CEQ's proposed NEPA guidance threatened to render vulnerable such EISs).[3]

In addition, we note that the EO could assist the Administration in fending off legislation being proposed on these topics in Congress (e.g., H.R. 3332).

On the other hand, CEQ issuance of guidance or regulations under NEPA in conjunction with the EO could be very helpful. As we pointed out in our earlier draft cover letter to Dr. Bromley, such guidance could:

- apply to future federal actions not covered by the EO;

- help agencies defend their failure to analyze the climate impacts of their ongoing programs in EAs or EISs, by providing guidance for such analyses (e.g., stating that climate impacts need not be studied because they are not "reasonably foreseeable" impacts of any specific project or program; or stating that compliance with the EO may satisfy NEPA requirements), to which guidance courts will generally defer; and

- defuse the threat that evaluations conducted under the EO will serve as evidence of impacts triggering NEPA review.

The suggestion has been made that the EO itself require or contain reference to issuance by CEQ of NEPA guidance or regulations on global climate impacts. Although the connection between the EO and such guidance may be an important reason for issuing the EO, we do not believe that explicit mention of that connection in the EO will necessarily advance the goals of either the EO or NEPA guidance. Indeed, too strong a directive in the EO could frustrate both the EO and the NEPA process.

There are several ways in which the EO might attend to NEPA directly. One suggestion is to include in the EO a section providing that its evaluations satisfy NEPA. A second suggestion is to include in the EO a section instructing CEQ that any guidance it issues under NEPA shall provide that compliance with the EO ordinarily satisfies NEPA.

---

[3]These seven items summarize the discussion in our earlier draft of the cover letter to Dr. Bromley.

These two suggestions are, in our view, potentially counterproductive. First, tying the EO to NEPA may forfeit independent Executive control of the EO process. The EO is intended to be an Executive Branch management tool, not an exercise of statutory authority. The courts will treat the EO differently depending on its relation to statutory authority: if it is an Executive management tool, the Executive shapes and manages it unfettered by judicial review; but if it implements a statutory duty or authority, the EO and compliance with it may both be vulnerable to attack in court. See In re Surface Mining Regulation Litigation, 627 F.2d 1346, 1357 (D.C. Cir. 1980) (EOs issued without specific statutory foundation are intended to manage the affairs of the executive branch and are not judicially enforceable in private civil suits); Independent Meatpackers v. Butz, 526 F.2d 228, 234-36 (8th Cir. 1975) (similar; EOs as "managerial tool[s]" are not "legal framework[s] enforceable by private civil action"), cert. denied 96 S. Ct. 1461 (1976); Manhattan- Bronx Postal Union v. Gronouski, 350 F.2d 451, 456 (D.C. Cir. 1965) (EOs issued for Presidential direction and improvement of executive branch activities, without specific statutory foundation, are not judicially reviewable). Instructing that the EO serve as means to meet NEPA duties may jeopardize the independence and flexibility of the EO.[4] Courts

---

[4]The history of the EO issued by President Nixon pursuant to the National Historic Preservation Act suggests the hazards in mingling EO and statutory directives. The NHPA, 16 U.S.C. 470f, required that federal agencies take account of the impacts of agency undertakings on properties "included in" the National Register of Historic Places, and afford the Advisory Council on Historic Preservation an opportunity for comment on such undertakings. Executive Order 11593, 36 Fed. Reg. 8921 (1971) made reference to its basis in the NHPA, and instructed federal agencies to "locate, inventory and nominate" to the National Register properties within their jurisdictions that were eligible for the Register. In 1976 Congress broadened the NHPA to require agencies to take account of the impacts of their undertakings on properties "included in or eligible for inclusion in" the National Register, with accompanying opportunity for comment by the Advisory Council. Plaintiffs seeking to block federal military projects on the island of Vieques then sued federal agencies for failure to comply with the EO, that is, for failure to inventory and nominate properties that were eligible for inclusion in the National Register. The district court ruled that EO 11593 "was issued pursuant to statutory authority and has the force of law. Violation of this order may be privately enforced," Romero-Barcelo v. Brown, 478 F. Supp. 646, 694 (D.P.R. 1979) (citations omitted). Finding that the effort to "locate, inventory and nominate" eligible properties had been inadequate,

(continued...)

may rule that the EO derives its basis from NEPA, or at least that the criteria for EO evaluations are to be judged under NEPA standards. If we say in the EO that CEQ must interpret NEPA to make the EO satisfy it, courts may decide that that is the same as saying the EO is written to satisfy NEPA. Or, at least, courts may infer that the EO's real or substantial purpose is to substitute for NEPA regulations, or for compliance with NEPA. In each case the result will be that the EO and/or the evaluations prepared pursuant to it are vulnerable to judicial review. Section 5 of the EO accordingly says the EO is an Executive management tool and is not issued to implement any statutory requirement or duty.

Second, writing the EO either to say it satisfies NEPA, or to tell CEQ to issue regulations to the effect that the EO evaluations satisfy NEPA, may not yield the benefits such approaches seek. Either approach would probably fail to obtain the deference for the CEQ regulations (or for the EO's blunt command) that courts traditionally accord to CEQ interpretations of NEPA, and would thereby be unlikely to persuade courts that the EO should in fact satisfy Congress' NEPA requirements. Each approach tells CEQ what regulations to issue under a statute, whereas normally CEQ issues the regulations after its own process of deliberation. The deference that courts accord to CEQ regulations derives mainly from CEQ's expertise and from its exercise of powers delegated by Congress in NEPA. See Andrus v. Sierra Club, 442 U.S. 347, 358 (1979) (CEQ regulations are accorded deference because Congress provided that role for CEQ); Warm Springs Dam Task Force v. Gribble, 417 U.S. 1301, 1309-10 (1974) (Douglas, J., in chambers) (CEQ regulations under NEPA are due deference because Congress in NEPA directed CEQ to issue such regulations, and because CEQ's members are required by NEPA to be experts in the field). While CEQ is of course part of the Executive Office of the President and subject to his direction, directing that the EO will satisfy NEPA arguably circumvents the legislative delegation to an expert body that fosters judicial confidence in CEQ's regulations. The better route may be for CEQ to issue these regulations independent of any direct published command from the President to reach a certain result in advance.

Third, tying the EO evaluations to NEPA in the EO itself may tend to result in the EO evaluations being written to adhere to CEQ's NEPA regulations. If the EO says it is to satisfy NEPA, agencies and courts may infer that NEPA guidelines

---

[4](...continued)
the court ordered the government to complete that process, id. at 708. The Court of Appeals remanded for an even larger survey of potentially eligible properties. Romero-Barcelo v. Brown, 643 F.2d 835, 858-60 (1st Cir. 1981), aff'd on other grounds sub nom. Weinberger v. Romero-Barcelo, 456 U.S. 305 (1982).

govern the way the EO evaluations are prepared. This could again subject the EO evaluations to judicial review, reducing Executive flexibility in managing the EO evaluations. (If, on the other hand, CEQ issued regulations of its own accord indicating that the EO evaluations -- prepared according to the EO's direction -- would satisfy NEPA, this problem would be substantially avoided.)

Fourth, if our view is that NEPA is not applicable to federal projects' impacts on climate change because the science of climate change is too uncertain to link any project with climate change (put a slightly different way, too uncertain to render impacts on climate "reasonably foreseeable"), then mentioning NEPA in the EO may undercut our later argument in NEPA cases that global climate change issues are generally not appropriate for NEPA review.

A different suggestion is to include in the EO a section instructing CEQ that any NEPA guidance it issues must consider the EO evaluations and if appropriate set criteria for when the EO evaluations will satisfy NEPA. (This the way § 4(d) of the attached Revised Draft EO has been written.) This more cautious approach probably avoids most of the problems just described. On the other hand, it generates only a modest increase in the likelihood that CEQ guidance or regulations will in fact determine that the EO evaluations satisfy NEPA requirements. Meanwhile, it continues to suggest to courts that NEPA may provide part of the authority for the EO, and that NEPA's strictures may be relevant to interpretation of the EO.

A variant on the cautious provision just described would be for the EO to provide that:

> (a) Within [90] days, CEQ shall promulgate Interim Guidance under NEPA, setting forth
> (i) the list of federal programs falling within the limited category of programs so clearly related to global climate change that analysis of their significant effects on global climate change is required by NEPA for future major federal actions; and
> (ii) whether evaluations prepared pursuant to this Order would satisfy the requirements of NEPA.
> (b) After completion of the evaluations required by this Order, CEQ shall consider whether to modify the determinations made pursuant to subsection (a) above.

This approach has several advantages: first, it may provide more immediate relief to most agencies threatened with challenges to their failure to include global climate impacts in their NEPA

statements. Once CEQ has issued the Interim Guidance, agency programs not included in its (a)(i) list may be protected from NEPA challenge by CEQ's determination that those programs' impacts on global climate need not be analyzed under NEPA, at least not until the EO evaluations are completed. That determination will be entitled to deference from the courts. Second, this approach would likely be more defensible against judicial review. It would remain consistent with the presentation of the EO as an Executive management tool, not a substantive direction pursuant to (or implementing) a statutory duty. It could be explained as a technique for Executive branch coordination, providing a process for the timing of Executive decisionmaking and not affecting CEQ's substantive role under NEPA. It merely requires some action in the short run by CEQ, followed by additional action later; it does not determine what that action should be. Third, in general, it puts the burden on CEQ to include programs on the (a)(i) list requiring NEPA statements, rather than putting the burden on other agencies to get their programs on a list of programs not requiring NEPA statements. This may tend to keep limited the set of programs requiring NEPA statements. Fourth, by use of the term "future," subsection (a)(i) suggests that CEQ's guidance not render already-completed NEPA statements vulnerable to challenge. Fifth, subsection (a)(ii) incorporates the essence of the cautious approach now embodied in § 4(d) of the Revised Draft EO.

On the other hand, the Interim Guidance approach just described affirmatively calls for some CEQ action on NEPA guidance or regulations pertaining to global climate change. It does link the EO in some fashion to NEPA, and it does bear the risk of attracting judicial review under NEPA. Yet given its potential to shield agencies from NEPA review, it may on balance be a worthwhile risk.

An even more muted option is to delete current § 4(d) and to add to the disclaimer section of the EO, § 5, a line saying that the EO and its required evaluations shall not establish any duty under NEPA (in addition to the broader disclaimer already present in § 5).[5] Although courts might accept this disclaimer as a matter of law, they could still be persuaded that the information generated by the EO -- the evaluations of agencies' impacts on climate change -- support

---

[5]Variations on the disclaimer language are possible. For example, it might provide that the description of a relationship between an agency program and global climate change in an evaluation under the EO shall not constitute an admission of a "reasonably foreseeable" or "significant" impact under NEPA. But these variations are still subject to the criticism in the text, and in any event we would recommend the broadest disclaimer language available.

factual allegations of NEPA violations when the evaluations do not conform strictly to NEPA standards or are not included in relevant NEPA statements. This problem raises again our suggestion that some NEPA guidance may be valuable to protect agencies against NEPA challenges.

A final option is to avoid any mention of NEPA in the EO. As CEQ is part of the Executive Office of the President, the policy choice of what NEPA guidance or regulations to issue (if any) could be made within the White House.

To collect suggestions that have been made in this memorandum and in our earlier draft cover letter, if CEQ is to issue NEPA guidance or regulations, CEQ could:

- tell agencies that no NEPA statements are required for climate impacts because the science is too uncertain (at least at the level of linking individual projects, or even programs, to climate), relying on the "reasonably foreseeable" or "significant" hooks in NEPA;

- say that an otherwise insignificant impact under NEPA analysis is not made significant (i.e. deserving of a NEPA statement) merely by virtue of the impact having been reported pursuant to the EO;

- allow agencies to incorporate their EO evaluations into whatever NEPA statements they are required to submit (Finding Of No Significant Impact, Environmental Assessment, EIS);

- give agencies criteria for preparing NEPA statements of the impacts of their programs on climate;

CEQ's guidance or regulations should not make already-prepared EISs vulnerable to legal challenge for failure to consider global climate issues.

In sum, a dual track, consisting of a carefully tailored Executive Order, managed by the Executive without judicial interference, and a modicum of NEPA guidance from CEQ to shield agencies from unwarranted NEPA attacks, may be superior to a single track approach that attempts to resolve both sets of issues via Executive Order.

Revised Draft 1/9/90
(doc. "Climate.EO.3")

Draft Executive Order -- Evaluation of federal programs relating to global climate change

By virtue of the authority vested in me as President by the Constitution and statutes of the United States, and to further social, economic, environmental, and national security objectives consistent with the domestic and foreign policies of the United States, it is ordered as follows:

SECTION 1. Policy.

(a) It is the policy of the Federal Government to protect and enhance the social, economic and environmental well-being and national security interests of the United States, to preserve world stability and sustainable development of the global economy and environment, to prevent unintended harm to other nations, and to assist other nations of the world in meeting the challenges of the next century.

(b) Purpose and scope.

(i) In furtherance of that policy, and in recognition that global climate change is an emerging issue of potentially great significance to the Nation's social, economic and environmental well-being and national security interests, this Order is issued to direct a coordinated analysis of the relationship between Federal Government activities and global climate change.

(ii) Uncertainties surround the nature of global climate change, the timing of such change, and even the likelihood of its occurrence. Nonetheless, the potential impact of such change requires evaluation now of the potential effects of Federal activities on global climate change, the potential impacts of global climate change on Federal activities, and the possible Federal responses to such change.

(iii) This Order is issued to require each Federal agency to evaluate, on a programmatic basis, and to the extent permitted by law, its activities in relation to global climate change. These evaluations will permit a government-wide baseline analysis of the relationship between government and global climate change.

(iv) Where other social and economic considerations do not justify a contrary result, it is the goal of the United States to adopt policy responses that help prevent, mitigate and adapt to the adverse effects of global climate change. This Order will facilitate achievement of that goal by helping to develop possible responses to such change, within existing authority,

both domestically and internationally; by identifying areas showing the greatest need or promise for possible future initiatives outside existing authority; and by giving careful and explicit consideration, to the extent permitted by law, to the full costs and benefits of each policy response or initiative.

(v) In addition, this Order will assist the Nation's ability to negotiate and implement an international agreement on global climate change.

SEC. 2. Definitions. As used in this Order:

(a) "Global climate change" refers to:

(i) Changes in global and regional climatic conditions that have been hypothesized to result from increasing global atmospheric concentrations of "greenhouse gases";

(ii) Other global environmental changes as may be elaborated in guidance issued under Section 4 of this Order.

(b) "Greenhouse gases" are substances that when released into the atmosphere may act to trap insolation or other energy reradiated from the earth's surface, thereby warming the atmosphere. Examples of greenhouse gases may include carbon dioxide, carbon monoxide, methane, chlorofluorocarbons, and nitrogen oxides.

(c) "Sources" of greenhouse gases are any activities, processes, or other phenomena (whether chemical, biological, physical, mechanical, or other, and whether anthropogenic or other) that emit greenhouse gases into the atmosphere.

(d) "Sinks" of greenhouse gases are any activities, processes, or other phenomena, (whether chemical, biological, physical, mechanical, or other, and whether anthropogenic or other) that remove greenhouse gases from the atmosphere.

(e) "Agency" has the same meaning as the term "Executive agency" in Section 105 of Title 5 of the United States Code, and includes the military departments and the United States Postal Service; but does not include the General Accounting Office.

SEC. 3. Agency evaluations of global climate change.

(a) Each agency shall submit to the Assistant to the President for Science and Technology, and to the Chairman, Council on Environmental Quality (CEQ), an evaluation of the relationship between global climate change and its statutory, regulatory, and administrative programs, by _____.

(b) In preparing its evaluation, each agency shall:

(i) evaluate its activities according to a scenario or set of scenarios of global climate change provided or approved by the Office of Science and Technology Policy (OSTP) and CEQ;

(ii) recognize, in identifying response strategies, the need both to achieve goals at least cost and to retain flexibility to respond to new information, changing circumstances, and diverse local conditions, and consult with the Office of Management and Budget (OMB) **[* and/or the Council of Economic Advisers (CEA) *]** on the best means to achieve benefits at least cost; and

(iii) cooperate with the lead agencies identified in Section 4 of this Order in compiling and exchanging relevant data and information concerning global climate change.

(c) Each agency's evaluation shall include:

(i) analysis of the potential direct or indirect effects of the agency's activities on global climate change, including the effects of its activities on both sources and sinks of greenhouse gases; and

(ii) analysis of the potential direct or indirect effects of global climate change on the agency's activities, including consideration of the broad range of possible social, economic, environmental, and national security consequences of such change.

(d) Each agency's evaluation shall also include:

(i) analysis of possible responses by the agency under existing authority that might be taken to prevent or mitigate adverse effects of the agency's activities on global climate change;

(ii) analysis of possible responses that might be taken by the agency under existing authority to prevent or mitigate adverse effects of global climate change on the agency's activities;

(iii) analysis of possible responses that might be taken by the agency under existing authority to assist adaptation of the agency's activities to global climate change; and

[* (iv) identification of specific changes in regulatory, administrative or legislative authority which could facilitate prevention or mitigation of, or adaptation to, adverse effects of global climate change. ***]**

(e) Portions of the evaluation required under section 3(d)

above shall:

(i) take care to describe the extent to which the proposed action(s) are possible under existing authority **[* or would require new regulatory, administrative or legislative authority *]**;

(ii) take care to describe the extent to which proposed action(s) would require additional budgetary outlays or would conserve budgetary resources;

(iii) provide explicit and detailed consideration of the economic, social, environmental, and other costs and benefits of the proposed action(s); and

(iv) include a comparative analysis of the cost-effectiveness of alternative proposed actions for preventing or mitigating adverse effects of global climate change.

(f) Prior to inclusion and publication of the portions of the evaluation required by section 3(d) above as part of the full evaluation required by section 3(a) above, each agency shall:

(i) submit those portions required by section 3(d) above for analysis and comment to OMB **[* and/or CEA *]**;

(ii) in consultation with OMB **[* and/or CEA *]**, fashion each response or proposal developed under section 3(d) above to achieve the greatest benefit for the least cost, and to achieve the best use of innovative cost-effective government-initiated response measures, innovative cost-effective private response measures, market-based regulatory mechanisms, and other alternatives to command and control regulatory mechanisms.

SEC. 4. Lead responsibility. OSTP and CEQ shall be the lead agencies supervising the conduct of this government-wide evaluation; OMB **[* and/or CEA *]** shall assist the lead agencies with respect to issues of costs and benefits and the economic aspects of evaluations, and the Department of Justice shall assist the lead agencies with respect to legal issues. To effectuate this Order, the lead agencies shall:

(a) Issue guidance on preparation of the evaluations directed by this Order to the agencies, by _____, which:

(i) establishes a scenario or set of scenarios of global climate change through identification of the possible sources and effects of such change, so as to better inform those preparing the evaluations (with the explicit understanding that such scenarios are planning tools which depict possible global climate changes and do not necessarily reflect confident or authoritative

predictions of the future); and

(ii) establishes a standard format for preparation of the evaluations and presentation of assumptions, data, methods, and conclusions. Agencies conducting evaluations shall be afforded an opportunity to comment on the proposed format.

(b) Develop and maintain, with the cooperation of other interested agencies and to be made available to interested agencies, a compilation of data and information relevant to global climate change.

(c) Advise and assist the agencies in the preparations of their evaluations.

[** (d) In issuing any guidance, regulations, or other instructions regarding agencies' compliance with section 102 of the National Environmental Policy Act (NEPA), CEQ shall take into account the evaluations required by this Executive Order and, if appropriate, shall establish criteria for the use of the evaluations prepared pursuant to this Executive Order in satisfying the requirements of NEPA section 102. **]

[* See cover memo for discussion of above provision. *]

SEC. 5. General provision. This Order is issued solely as a managerial tool within the Executive Branch for the purpose of conducting an evaluation of the relationship between governmental activities and global climate change. This Order is not issued to implement or effectuate any statutory requirement or duty, and nothing in this Order shall create any right or benefit, substantive or procedural, enforceable by a party against the United States, its agencies, its officers, or any person.

U.S. Department of Justice
Land and Natural Resources Division

Office of the Assistant Attorney General
Washington, D.C. 20530

February 16, 1990

COVER MEMORANDUM

TO: Hon. D. Allan Bromley
Assistant to the President
for Science and Technology
Chairman, Domestic Policy Council Working Group
on Global Change

CC: C. Boyden Gray
Counsel to the President

FROM: Richard B. Stewart
Assistant Attorney General

SUBJECT: Action to be Taken on Draft Executive Order on Global Climate Change

Attached please find a copy of the Draft Executive Order and a Memorandum discussing it. We recommend that a small task group, consisting of the six offices most directly involved in the Order, be formed to refine the Order and present it for full interagency review. As we have discussed, this task group should be called together by you for a meeting in the near future.

The attached Draft Executive Order and discussion Memorandum have not yet been provided to any other agencies. In advance of the meeting of the small task group, these materials should be provided to the other offices involved in the task group, namely Mike Deland at CEQ, Dick Schmalensee at CEA, and Bob Grady at OMB. We would be happy to provide copies to these offices on your behalf.

Because the Order is in Draft form, and because the Draft Order and the discussion Memorandum address certain sensitive issues currently in litigation, we would ask that these materials be closely held and that additional photocopies be kept to a minimum.

February 14, 1990

DISCUSSION MEMORANDUM

SUBJECT: Draft Executive Order on Global Climate Change

As requested, we have prepared a draft of an Executive Order that might be issued by the President to direct federal agencies to evaluate their programs in relation to potential global climate change. Later parts of this memorandum discuss several salient features of the attached Draft Executive Order.

1. Recommended Action.

The attached Draft includes the main features of such an Executive Order. As described further below, policy choices still need to be made about several aspects of the Draft. These choices include how to define "agency," whether and how to treat NEPA, and how to fashion the requirement that agencies identify policy response proposals and assess their costs and benefits.

These policy choices, and other refinements, could be undertaken by a task group of the agencies most directly involved in the Executive Order, namely the Counsel to the President, the Office of Science and Technology Policy, the Council on Environmental Quality, the Office of Management and Budget, the Council of Economic Advisers, and the Department of Justice.

This task group could then present the Draft for interagency comment, perhaps through the Domestic Policy Council Working Group on Global Change. The present Draft has not been circulated for comment by other agencies, and has not received formal approval as to form and legality within the Justice Department. In the past, draft executive orders have received interagency comment before final issue. For example, Executive Order 12630, directing agencies to assess the impacts of their activities on "takings" concerns, was circulated for comment. Coupled with the technical nature and potential burden on agencies of the present Draft Executive Order, this experience suggests that circulation for interagency comment would be desirable.

2. Purpose of the Draft Executive Order.

Potential global climate change has emerged as an important issue with implications for both domestic and international policy. Although the scientific understanding of global climate phenomena is less than complete and continues to evolve, such phenomena may have sufficient primacy in both expert and public opinion, and their effects may ultimately prove sufficiently significant, to warrant inquiry now into the relationship between federal programs and potential global climate change.

Issuance of the attached Executive Order ("EO") would be a proactive measure which would provide a solid and useful informational base for future policy initiatives. It would also assist the President in taking the initiative on the nation's environmental agenda. The Draft EO compiles information about the relationship of federal programs and potential climate change, and about possible policy responses. At the same time, the attached Draft EO does not direct agencies to change the substance of their programs. Such changes might be made after an informational base is collected under the present Order.

The Draft EO directs a comprehensive analysis of the relationship between Federal Government activities and potential global climate change.[1] Each federal agency is required promptly to evaluate its activities, on a programmatic basis, in relation to global climate change. These evaluations will permit a government-wide inventory of the relationship between government and global climate change, assist the development of a broad portfolio of possible responses to such change, and identify areas showing the greatest need or promise for innovative future initiatives. In combination, these results may substantially improve our ability to make intelligent policy choices on potential global climate change, and our ability to support these choices with informed analysis.

3. Scope of the Draft Executive Order.

The evaluations ordered by the Draft EO are programmatic, not project-specific. That is, agencies are directed to review their broad programs, not each project separately. This choice is made largely on the ground that the science of global climate phenomena is at present rarely

---

[1]The Draft EO is focused on potential climate change. It does not directly attend to other global environmental issues, such as stratospheric ozone depletion and biodiversity.

sufficiently precise to pinpoint the relationship between a specific federal project and global changes. Additionally, a project-specific review could be too time-consuming, and too burdensome, to achieve the pragmatic goals of the Draft EO in the near term.

The analysis ordered by the Draft EO is intended to provide information on two aspects of the relationship between federal programs and global climate change: the potential impacts of federal programs on such change, and the impact such change may have on federal programs. The first aspect involves federal programs' possible contributions to the causes of potential global climate change. Agencies are directed to assess the impacts of their programs on the "net emissions" of a set of greenhouse gases identified by the lead agencies. "Net emissions" is the aggregate of sources that add these gases to the atmosphere, such as fossil fuel combustion and certain agricultural practices, and sinks that remove them from the atmosphere, such as plant photosynthesis. The focus on net emissions of a set of gases is intended to correspond to the fact that it is currently scientifically uncertain whether emissions of greenhouse gases will actually influence such environmental variables as atmospheric temperature. This language thus relieves agencies of the scientific challenge and administrative burden of connecting gas emissions to climate change, leaving such determinations to concentrated climatological study.[2] It also assures that agency responses to the EO will constitute an inventory of federal program influences on net greenhouse gas emissions, expressly identifying the emissions factors subject to policy manipulation.

The second aspect involves the potential vulnerability of federal programs to global climate change, and the potential for federal programs to exacerbate or ameliorate the impacts of climate change on related resources. For example, such federal programs as management of public lands, water supplies, forests, and coastal facilities, and federal construction programs, could be affected by climate change.

In addition, the Draft EO directs agencies to identify opportunities for improved policy responses to the problems posed by global climate change. Agencies are directed to identify whether policy proposals are within existing authority, and to evaluate the socioeconomic costs and benefits of policy proposals. The Draft EO directs agencies to consult with the Office of Management and Budget (OMB) and/or the Council of

---

[2]As described below, this language also thereby avoids instructing agencies to admit environmental impacts directly. Such direct admissions could pose liability concerns under the National Environmental Policy Act (NEPA).

Economic Advisers (CEA) regarding the latter evaluations. These features are discussed further below.

The Draft EO contemplates that "lead agencies" -- identified to be the Office of Science and Technology Policy (OSTP) and the Council on Environmental Quality (CEQ) -- will assist the responding agencies in carrying out the terms of the EO. The lead agencies are to issue guidance and provide assistance to the responding agencies. For example, OSTP and/or CEQ would identify a set of greenhouse gases, and develop a set of scenarios for potential global climate change. All agencies would then assess their program impacts and vulnerabilities relying on the same set of greenhouse gases and the same forecasts of what global climate changes may occur. The lead agencies are to be assisted on legal issues by the Land & Natural Resources Division of the Justice Department, and on economic issues by OMB and/or CEA.

The proposed order does not require agencies to evaluate all the effects that private activities -- for example, the agency's regulated community -- may have on global climate change (or all the effects that global climate change may have on private activities). A requirement that federal agencies study the global climate implications of all private activities regulated or otherwise influenced by federal programs could be too broad and too burdensome. Because some agency programs may significantly influence private activities in ways directly relevant to potential climate change, evaluation of those agency programs, as required by the Draft EO, inherently contemplates an assessment of the response of the regulated community. For example, EPA's air quality program, the Army Corps of Engineers' coastal construction program, or DOE's energy development strategies, might be said to influence or be interrelated with private activity in ways that are directly relevant to, and important factors in, potential climate change. Guidance issued by the lead agencies under the EO could assist agencies in defining the extent to which the response of private activities to such programs should be evaluated. Such a definition might be developed through the process of agency comment on the Draft EO.

4. Definition of "Agency."

The Draft EO defines the term "agency" broadly, to include all executive agencies, including the independent regulatory agencies and the military services. A broad definition has been chosen initially in order to include all federal activities potentially related to climate change. For example, the definition currently includes the military agencies because of their programs' likely relevance to global climate

change (e.g., the Army Corps of Engineers' coastal construction projects).

Further refinement of the definition of "agency" may be required to avoid including agencies and activities that are deemed inappropriate subjects of this EO.[3] Sensitive categories of information could be afforded protection in the EO or in guidance issued under the EO; and special circumstances of certain agencies could be addressed in the guidance. For example, guidance might be issued to make clear that responses to the EO are not to reveal classified information, nor to compromise national security interests. In addition, some treatment of the special status of the independent agencies may be necessary, whether through refining the definition of "agency" in the EO, through guidance under the EO, or possibly through a legal opinion accompanying the EO, because the independent agencies may not be susceptible to direct Presidential edict regarding substantive policy decisions. These questions are under review at the Justice Department.

5. Relationship of Executive Order and Issuance of NEPA Guidance.

The Council on Environmental Quality ("CEQ") is currently reviewing agency comments on a draft guidance issued by CEQ in June 1989 on the treatment by federal agencies of global climate change issues in reviews required by the National Environmental Policy Act ("NEPA"). The Draft EO we recommend could largely, although not entirely, serve instead of such NEPA guidance, at least in the near term. It is our view that the EO should be issued first, before any NEPA guidance on the subject is issued. It is also our view that there may remain an important role for NEPA guidance after issuance of the EO; NEPA guidance could then be issued, if desired, in a format which complements the EO directives and the guidance to be issued under the EO. In addition, NEPA guidance could be based on the information produced by agencies under the EO. As described below, we caution against expressly or implicitly rooting the EO in authority granted under NEPA.

Meanwhile, our Draft EO incorporates an important advantage of the NEPA guidance route: expert coordination by CEQ. CEQ's advice and direction to agencies will be crucial to the success of the EO. The EO itself leaves open the specific scientific bases for agency evaluations to follow, preferring to refer that question to guidance issued by OSTP and CEQ.

---

[3]An example of a more elaborate definition that effects such selective exclusions is provided by 44 U.S.C. 3502(1).

A. Advantages of the EO.

We recommend adoption of the Draft EO before any NEPA guidance for several reasons.

(i) The EO is a prompt, consolidated, short-term action involving all agencies at once. It will gather information which can be used promptly and compared across agencies. In contrast, NEPA guidance would come into play only as new decisions on programs or large projects are made. The NEPA route is largely ad hoc, while the EO route is a comprehensive baseline inventory.

(ii) The EO is a Presidential directive and initiative taking a proactive stance. NEPA guidance by CEQ is likely to be seen as an agency interpretation of a Congressional enactment. The results of NEPA guidance will be occasional reports issued by diverse agencies, often under the pressure of litigation. In contrast, the results of the EO will be a set of companion reports, relying on the same scenarios for change and employing the same format, capable of being released simultaneously at a predetermined date, and ready for announcement and presentation by the Administration.

(iii) The EO permits the Administration to direct the agency activities and to define the parameters of the evaluations conducted. It does not depend, as NEPA guidance does, on the edicts of a statute designed to serve purposes not entirely matching the goals of the EO, and on case law developed by courts in years of litigation. Nor would the EO be as vulnerable to interpretation by courts, since it is crafted by the President for managing the Executive Branch and since it expressly provides that it creates no rights enforceable by others. Furthermore, structuring the conduct and content of the evaluations (and managing budgetary resources) can be more finely tuned and accurately handled by the Administration under an EO than in a NEPA process.

(iv) The EO addresses programs with an eye to identifying prospective areas for improvement, including potential changes in policy and law. Thus, the information collected under the EO could be used as the basis for Administration proposals for administrative, legislative or international action to address the problems of global climate change. In contrast, assessments performed under NEPA must consider the environmental impacts of the proposed action and its alternatives, but they typically are restricted to a relatively narrow range of alternatives and do not generally consider long-range policy directions.

(v) The EO will address both the effects of government programs on the factors influencing global climate, and the effects of global climate change on the conduct of federal programs. There is a serious question whether the latter effect is within the scope of the review required by NEPA, since the NEPA statute refers to assessment of the impacts of federal action on the environment.

(vi) The EO will rely on scenarios for describing global climate change, and guidelines for conducting evaluations and presenting output, that are uniform across agencies, rather than leaving such decisions up to individual agencies and individual judges. Although NEPA guidance could provide standards to help achieve uniform methods and assumptions, it is more likely than the EO to be subject to diverging methods and assumptions.

(vii) The NEPA guidance proposed by CEQ last spring potentially rendered already-completed Environmental Impact Statements (EISs) legally vulnerable for failure to consider global change impacts. The EO avoids that question by making its evaluations prospective, and by creating no rights enforceable against any project or other agency decision.

B. Continued role for NEPA guidance.

Although the EO is the logical first step in addressing the relationship of federal programs to global climate change, there are reasons why some NEPA guidance may still be desirable after the issuance of the EO.

(i) The EO does not call for future updates of the evaluations agencies are directed to conduct. NEPA guidance could be made applicable to future programmatic decisions, enabling periodic update of the same review requested by the EO.

(ii) Agencies are already beginning to face court challenges arguing that the failure to evaluate the impacts of federal programs on global climate change violates NEPA. See Foundation on Economic Trends v. Watkins, (Civ. No. 89-1483-GHR, D.D.C.) (challenging programs of Departments of Energy, Interior and Agriculture) (motion to dismiss on grounds of, inter alia, ripeness and standing, denied Feb. 14, 1990). NEPA guidance from CEQ would help agencies to know when they should perform analyses of such impacts and when not, and would thus give the agencies CEQ standards -- entitled to deference by the courts -- to rely on in defense of their impact statements. For example, CEQ could issue guidance stating that NEPA does not require agencies to assess the impacts on global climate change of some kinds of individual projects because such micro-level relationships with

global phenomena are not ascertainable or foreseeable. Or CEQ could issue guidance directing agencies to employ certain technical methodologies, or to rely on certain scenarios, in assessing the impacts of their projects on global climate change pursuant to NEPA.

(iii) There is a possibility that agency evaluations under the EO might be used by a plaintiff to claim that the agency is violating NEPA by not assessing the same impacts under NEPA. For example, an agency responding to the EO might forthrightly explain the impact of its programs on potential climate change, and the plaintiff might attempt to use that explanation as an admission of NEPA liability. As described above, the Draft EO minimizes this risk by directing agency evaluations to address influences on net emissions of a set of greenhouse gases, rather than to address influences on climate change itself. Thus, the EO does not require agencies to admit to environmental impacts triggering NEPA obligations; and given the scientific uncertainties of linking climate change to emissions of greenhouse gases, this distinction seems reasonable. NEPA guidance could go further to explain how the one-time EO reviews differ from those mandated by NEPA, and point out that some of the factors analyzed under the EO are not required to be considered under the NEPA statute.

On the other hand, the EO itself may assist agencies in complying with NEPA requirements. Complying with the EO could generate information necessary to comply with NEPA. In addition, depending on the specific circumstances, the program or project challenged under NEPA, and the extent of analysis undertaken by the agency, certain agencies might be able to submit their EO responses should a NEPA document on global climate change be required, or even argue that compliance with the EO is the "functional equivalent" of NEPA review.

If CEQ is to issue NEPA guidance or regulations, several options are available that complement the EO. For example, CEQ could:

- tell agencies that NEPA statements are not required for climate impacts because the science is too uncertain (at least at the level of linking individual projects, or even programs, to climate change). CEQ could, for example, determine that such impacts are not "reasonably foreseeable" or "significant" under NEPA;

- say that an otherwise insignificant impact under NEPA analysis is not made significant (i.e. deserving of a NEPA statement) merely by virtue of the impact having been reported pursuant to the EO;

- allow agencies to incorporate their EO evaluations into whatever NEPA statements they are required to submit (Finding Of No Significant Impact, Environmental Assessment, EIS, etc.);

- identify the category of programs so clearly related to the causal factors of potential climate change that those programs do require NEPA statements, and state that other programs and projects do not;

- give agencies criteria for preparing NEPA statements on the impacts of their programs on climate.

CEQ's guidance or regulations should not make already-prepared EISs vulnerable to legal challenge for failure to consider global climate issues.

C. Possible reference to NEPA in the EO.

The suggestion has been made that the EO itself require or contain reference to issuance by CEQ of NEPA guidance or regulations on global climate impacts, and the present Draft EO tentatively includes in § 4(d) a reference to development of NEPA guidance. Although the connection between the EO and such guidance may be an important reason for issuing the EO, we do not believe that explicit mention of that connection in the EO will necessarily advance the goals of either the EO or NEPA guidance. Indeed, too strong a directive in the EO could frustrate both the EO and the NEPA process.

(i) There are several ways in which the EO might attend to NEPA directly. One suggestion is to include in the EO a section providing that its evaluations satisfy NEPA. A second suggestion is to include in the EO a section instructing CEQ that any guidance it issues under NEPA shall provide that compliance with the EO ordinarily satisfies NEPA.

These two suggestions are, in our view, potentially counterproductive. First, tying the EO to NEPA may forfeit independent Executive control of the EO process. The EO is intended to be an Executive Branch management tool, not an exercise of statutory authority. The courts will treat the EO differently depending on its relation to statutory authority: if it is an Executive management tool, the Executive shapes and manages it unfettered by judicial review; but if it implements a statutory duty or authority, the EO and compliance with it may both be vulnerable to attack in court. See In re Surface Mining Regulation Litigation, 627 F.2d 1346, 1357 (D.C. Cir. 1980) (EOs issued without specific statutory foundation are intended to manage the affairs of the executive branch and are not judicially

enforceable in private civil suits); Independent Meatpackers v. Butz, 526 F.2d 228, 234-36 (8th Cir. 1975) (similar; EOs as "managerial tool[s]" are not "legal framework[s] enforceable by private civil action"), cert. denied 96 S. Ct. 1461 (1976); Manhattan-Bronx Postal Union v. Gronouski, 350 F.2d 451, 456 (D.C. Cir. 1965) (EOs issued for Presidential direction and improvement of executive branch activities, without specific statutory foundation, are not judicially reviewable). Instructing that the EO serve as means to meet NEPA duties may jeopardize the independence and flexibility of the EO.[4] Courts may rule that the EO derives its basis from NEPA, or at least that the criteria for EO evaluations are to be judged under NEPA standards. If we say in the EO that CEQ must interpret NEPA to make the EO satisfy it, courts may decide that that is the same as saying the EO is written to satisfy NEPA. Or, at least, courts may infer that the EO's real or substantial purpose is to substitute for NEPA regulations, or for compliance with NEPA. In each case the result will be that the EO and/or the evaluations prepared pursuant to it are vulnerable to judicial review. Section 5 of the EO accordingly says the EO is an Executive

---

[4]The history of the EO issued by President Nixon pursuant to the National Historic Preservation Act suggests the hazards in mingling EO and statutory directives. The NHPA, 16 U.S.C. 470f, required that federal agencies take account of the impacts of agency undertakings on properties "included in" the National Register of Historic Places, and afford the Advisory Council on Historic Preservation an opportunity for comment on such undertakings. Executive Order 11593, 36 Fed. Reg. 8921 (1971) made reference to its basis in the NHPA, and instructed federal agencies to "locate, inventory and nominate" to the National Register properties within their jurisdictions that were eligible for the Register. In 1976 Congress broadened the NHPA to require agencies to take account of the impacts of their undertakings on properties "included in or eligible for inclusion in" the National Register, with accompanying opportunity for comment by the Advisory Council. Plaintiffs seeking to block federal military projects on the island of Vieques then sued federal agencies for failure to comply with the EO, that is, for failure to inventory and nominate properties that were eligible for inclusion in the National Register. The district court ruled that EO 11593 "was issued pursuant to statutory authority and has the force of law. Violation of this order may be privately enforced," Romero-Barcelo v. Brown, 478 F. Supp. 646, 694 (D.P.R. 1979) (citations omitted). Finding that the effort to "locate, inventory and nominate" eligible properties had been inadequate, the court ordered the government to complete that process, id. at 708. The Court of Appeals remanded for an even larger survey of potentially eligible properties. Romero-Barcelo v. Brown, 643 F.2d 835, 858-60 (1st Cir. 1981), aff'd on other grounds sub nom. Weinberger v. Romero-Barcelo, 456 U.S. 305 (1982).

management tool and is not issued to implement any statutory requirement or duty.

Second, writing the EO either to say it satisfies NEPA, or to tell CEQ to issue regulations to the effect that the EO evaluations satisfy NEPA, may not yield the benefits such approaches seek. Either approach would probably fail to obtain the deference for the CEQ regulations (or for the EO's blunt command) that courts traditionally accord to CEQ interpretations of NEPA, and would thereby be unlikely to persuade courts that the EO should in fact satisfy Congress' NEPA requirements. Each approach tells CEQ what regulations to issue under a statute, whereas normally CEQ issues the regulations after its own process of deliberation. The deference that courts accord to CEQ regulations derives mainly from CEQ's expertise and from its exercise of powers delegated by Congress in NEPA. See Andrus v. Sierra Club, 442 U.S. 347, 358 (1979) (CEQ regulations are accorded deference because Congress provided that role for CEQ); Warm Springs Dam Task Force v. Gribble, 417 U.S. 1301, 1309-10 (1974) (Douglas, J., in chambers) (CEQ regulations under NEPA are due deference because Congress in NEPA directed CEQ to issue such regulations, and because CEQ's members are required by NEPA to be experts in the field). While CEQ is of course part of the Executive Office of the President and subject to his direction, directing that the EO will satisfy NEPA arguably circumvents the legislative delegation to an expert body that fosters judicial confidence in CEQ's regulations. A better route would be for CEQ to issue any regulations independent of any direct published command from the President to reach a certain result in advance.

Third, tying the EO evaluations to NEPA in the EO itself may tend to result in the EO evaluations being written to adhere to CEQ's NEPA regulations. If the EO says it is to satisfy NEPA, agencies and courts may infer that NEPA guidelines govern the way the EO evaluations are prepared. This could again subject the EO evaluations to judicial review, reducing Executive flexibility in managing the EO evaluations. (If, on the other hand, CEQ issued regulations of its own accord indicating that the EO evaluations -- prepared according to the EO's direction -- would satisfy NEPA, this problem might be substantially avoided.)

Fourth, if our view is that NEPA is not applicable to federal projects' impacts on climate change because the science of climate change is too uncertain to link any project with climate change (put a slightly different way, too uncertain to render impacts on climate "reasonably foreseeable" or "significant"), then mentioning NEPA in the EO may undercut our later argument in NEPA cases that global climate change issues are generally not appropriate for NEPA review.

(ii) A different suggestion is to include in the EO a section instructing CEQ that any NEPA guidance it issues must consider the EO evaluations and if appropriate set criteria for when the EO evaluations will satisfy NEPA. This is the way § 4(d) of the attached Draft EO has been written. This more cautious approach probably avoids many of the problems just described. On the other hand, it generates only a modest increase in the likelihood that CEQ guidance or regulations will in fact determine that the EO evaluations satisfy NEPA requirements. Meanwhile, it continues to suggest to courts that NEPA may provide part of the authority for the EO, and that NEPA's strictures may be relevant to interpretation of the EO. On balance, the risks posed by this approach may not be justified by its limited value.

(iii) A variant on the cautious provision just described would be for the EO to provide that:

> (a) Within [90] days, CEQ shall promulgate Interim Guidance under NEPA, setting forth:
> (i) the list of federal programs falling within the limited category of programs that CEQ finds are so clearly related to potential global climate change that analysis of their significant effects on global climate change is required by NEPA for future major federal actions; and
> (ii) whether evaluations prepared pursuant to this Order would satisfy the requirements of NEPA.
>
> (b) After completion of the evaluations required by this Order, CEQ shall consider whether to modify the determinations made pursuant to subsection (a) above.

This approach has several advantages: first, it may provide more immediate relief to most agencies threatened with challenges to their failure to include global climate impacts in their NEPA statements. Once CEQ has issued the Interim Guidance, agency programs not included in its (a)(i) list may be protected from NEPA challenge by CEQ's determination that those programs' impacts on global climate need not be analyzed under NEPA, at least not until the EO evaluations are completed. That determination will be entitled to deference from the courts. Second, this approach would likely be more defensible against judicial review. It would remain consistent with the presentation of the EO as an Executive management tool, not a substantive direction pursuant to (or implementing) a statutory duty. It could plausibly be explained as a technique for Executive branch coordination, providing a process for the timing of Executive decisionmaking and not affecting CEQ's substantive

role under NEPA. It merely requires some action in the short run by CEQ, followed by additional action later; it does not determine what that action should be. (Indeed, the above language does not legally constrain CEQ from issuing such other NEPA guidance as it may deem appropriate.) Third, in general, it puts the burden on CEQ to include programs on the (a)(i) list requiring NEPA statements, rather than putting the burden on other agencies to have their programs placed on a list of programs not requiring NEPA statements. This may tend to keep more limited the set of programs requiring NEPA statements. Fourth, by use of the term "future," subsection (a)(i) suggests that CEQ's guidance not render already-completed NEPA statements vulnerable to challenge. Fifth, subsection (a)(ii) incorporates the essence of the cautious approach now embodied in § 4(d) of the Draft EO.

On the other hand, the Interim Guidance approach just described affirmatively calls for some CEQ action on NEPA guidance or regulations pertaining to global climate change. It does link the EO in some fashion to NEPA, and it does bear the risk of attracting judicial review under NEPA. If explicit attention to NEPA in the EO is necessary, this language may on balance be a worthwhile risk.

(iv) An even more muted option is to delete current § 4(d) and to add to the disclaimer section of the EO, § 5, a line saying that the EO and its required evaluations shall not establish any duty under NEPA (in addition to the broader disclaimer already present in § 5).[5] Although courts might accept this disclaimer as a matter of law, they could still be persuaded that the information generated by the EO -- the evaluations of agencies' impacts on climate change -- supports factual allegations of NEPA violations when the evaluations do not conform strictly to NEPA standards or are not included in relevant NEPA statements. This problem raises again our suggestion that some NEPA guidance may be valuable to protect agencies against NEPA challenges.

(v) A final option is to avoid any mention of NEPA in the EO. As CEQ is part of the Executive Office of the President,

---

[5]Variations on the disclaimer language are possible. For example, it might provide that the description of a relationship between an agency program and global climate change in an evaluation under the EO shall not constitute an admission of a "reasonably foreseeable" or "significant" impact under NEPA. But these variations are still subject to the criticism in the text, and in any event we would recommend the broadest disclaimer language available.

the policy choice of what NEPA guidance or regulations to issue (if any) could be made within the White House.

In sum, a dual track, consisting of a carefully tailored Executive Order, managed by the Executive without judicial interference, and a modicum of NEPA guidance from CEQ to shield agencies from unwarranted NEPA attacks, may be superior to a single track approach that attempts to resolve both sets of issues via Executive Order.

6. Requiring Policy Response Suggestions from Agencies.

The Draft EO requires agencies to suggest possible policy responses they might take to prevent, mitigate or adapt to global environmental change. It instructs agencies to distinguish policy responses available under existing legal authority from those that would require new authority. It also instructs agencies to attend to the costs and benefits of their suggested policy responses, and requires prior consultation with OMB and/or CEA on these issues.

There is a question whether agencies should be required to study possible policy responses relating to global climate change for which they currently lack statutory authority. The study of policy responses (in addition to study of likely impacts) may be valuable because it could encourage forward-looking thinking within agencies, generate innovative brainstorming, tap the expertise of agency personnel intimately familiar with their own programs and options (in a way that centralized planners could not be), and demonstrate that the Administration is moving ahead and not simply conducting a survey.

On the other hand, the request for suggested policy responses may burden the responding agencies, may generate subjective agency views rather than objective proposals, and may be premature given that the science is evolving and that we are just now assembling the data. Further, the request for suggested policy responses may evoke a cacophony of opposing agency views (though that cacophony could arise regardless of the EO).

In order to try to solicit useful policy ideas while avoiding the drawbacks just mentioned, the Draft EO requires attention to the costs and benefits of policy proposals, and consultation with OMB and/or CEA before final publication. Such prior consultation may add to any burden on the agencies by turning the brainstorming process into a more deliberate,

bureaucratized process. Guidance under the EO could attempt to keep this process effective and streamlined.

One option is to delete the sections calling for policy responses (and the accompanying OMB/CEA review) altogether. This would leave the EO with a simpler, more streamlined, more manageable set of activities aimed solely at documenting impacts. Good ideas may crop up anyhow without being demanded by the EO.

Another option is to delete only the broadest requirement of policy response suggestions: § 3(d)(iv) of the Draft EO, requiring identification of policies which would exceed existing legal authority. This would leave only the request for policy responses "under existing authority."

These narrowing options could have the advantage of concentrating the EO more closely on the limited, manageable task of collecting relevant information. On the other hand, they may leave the EO more open to the criticism that it will achieve little. The present language of the Draft EO attempts to strike a middle ground, soliciting policy ideas that might otherwise go unexpressed while assuring attention to the costs and benefits of each policy idea.

Revised Draft 2/13/90
(doc. "Climate.EO.4")

Draft Executive Order -- Evaluation of federal programs relating to global climate change

By virtue of the authority vested in me as President by the Constitution and statutes of the United States, and to further social, economic, environmental, and national security objectives consistent with the domestic and foreign policies of the United States, it is ordered as follows:

SECTION 1. Policy.

(a) It is the policy of the Federal Government to protect and enhance the social, economic and environmental well-being and national security interests of the United States, to preserve world stability and sustainable development of the global economy and environment, to prevent unintended harm to other nations, and to assist other nations of the world in meeting the challenges of the next century.

(b) Purpose and scope.

(i) In furtherance of that policy, and in recognition that global climate change is an emerging issue of potentially great significance to the Nation's social, economic and environmental well-being and national security interests, this Order is issued to direct a coordinated analysis of the relationship between Federal Government activities and global climate change.

(ii) Uncertainties surround the nature of global climate change, the timing of such change, and even the likelihood of its occurrence. Nonetheless, the potential impact of such change requires evaluation now of the potential effects of Federal activities on global climate change, the potential impacts of global climate change on Federal activities, and the possible Federal responses to such change.

(iii) This Order is issued to require each Federal agency to evaluate, on a programmatic basis, and to the extent permitted by law, its activities in relation to global climate change. These evaluations will permit a government-wide baseline analysis of the relationship between government and global climate change.

(iv) Where other social and economic considerations do not justify a contrary result, it is the goal of the United States to adopt policy responses that help prevent, mitigate and adapt to the adverse effects of global climate change. This Order will facilitate achievement of that goal by helping to develop possible responses to such change, within existing authority,

both domestically and internationally; by identifying areas showing the greatest need or promise for possible future initiatives outside existing authority; and by giving careful and explicit consideration, to the extent permitted by law, to the full costs and benefits of each policy response or initiative.

(v) In addition, this Order will assist the Nation's ability to negotiate and implement any international agreement on global climate change.

SEC. 2. Definitions. As used in this Order:

(a) "Global climate change" refers to:

(i) Changes in global and regional climatic conditions that have been hypothesized to result from increasing global atmospheric concentrations of "greenhouse gases";

(ii) Other global environmental changes as may be elaborated in guidance issued under Section 4 of this Order.

(b) "Greenhouse gases" are substances that when released into the atmosphere may act to trap insolation or other energy reradiated from the earth's surface, thereby warming the atmosphere; and substances that, by interacting in the atmosphere, may prolong the residence times or otherwise increase the concentrations of such greenhouse gases. Examples of greenhouse gases may include carbon dioxide, methane, nitrous oxide, chlorofluorocarbons and related halons, tropospheric ozone, and carbon monoxide.

(c) "Sources" of greenhouse gases are any activities, processes, or other phenomena (whether chemical, biological, physical, mechanical, industrial, or other, and whether anthropogenic or other) that emit greenhouse gases into the atmosphere.

(d) "Sinks" of greenhouse gases are any activities, processes, or other phenomena, (whether chemical, biological, physical, mechanical, industrial, or other, and whether anthropogenic or other) that remove greenhouse gases from the atmosphere.

(e) "Net emissions" denotes the aggregate emissions resulting from the operation of both sources and sinks of greenhouse gases.

(f) "Agency" has the same meaning as the term "Executive agency" in Section 105 of Title 5 of the United States Code, and includes the military departments and the United States Postal Service; but does not include the General Accounting Office.

SEC. 3. Agency evaluations of global climate change.

(a) Each agency shall submit to the Assistant to the President for Science and Technology, and to the Chairman, Council on Environmental Quality (CEQ), an evaluation of the relationship between global climate change and its programs, including its statutory, regulatory, and administrative programs, by _____.

(b) In preparing its evaluation, each agency shall:

(i) evaluate its programs according to the scenario or set of scenarios of global climate change designated by the Office of Science and Technology Policy (OSTP) and CEQ, and employing the set of greenhouse gases identified by OSTP and CEQ;

(ii) recognize, in identifying response strategies, the need both to achieve goals at least cost and to retain flexibility to respond to new information, changing circumstances, and diverse local conditions, and consult with the Office of Management and Budget (OMB) **[* and/or the Council of Economic Advisers (CEA) *]** on the best means to achieve benefits at least cost; and

(iii) cooperate with the lead agencies identified in Section 4 of this Order in compiling and exchanging relevant data and information concerning global climate change.

(c) Each agency's evaluation shall include:

(i) analysis of the potential direct or indirect effects of the agency's programs on net emissions of the set of greenhouse gases identified by the lead agencies; and

(ii) analysis of the potential direct or indirect effects of global climate change, as described by the scenarios designated by the lead agencies, on the agency's programs, including consideration of the broad range of possible social, economic, environmental, and national security consequences of such change.

(d) Each agency's evaluation shall also include:

(i) analysis of possible responses by the agency under existing authority that might be taken to prevent or mitigate adverse effects of the agency's programs on global climate change;

(ii) analysis of possible responses that might be taken by the agency under existing authority to prevent or mitigate adverse effects of global climate change on the agency's programs;

(iii) analysis of possible responses that might be taken by the agency under existing authority to assist adaptation of the agency's programs to global climate change; and

[* (iv) identification of specific changes in regulatory, administrative or legislative authority which could facilitate prevention or mitigation of, or adaptation to, adverse effects of global climate change. ***]**

(e) Portions of the evaluation required under section 3(d) above shall, to the extent permitted by law:

(i) take care to describe the extent to which the proposed action(s) are possible under existing authority **[* or would require new regulatory, administrative or legislative authority *]**;

(ii) take care to describe the extent to which proposed action(s) would require additional budgetary outlays or would conserve budgetary resources;

(iii) provide explicit and detailed consideration of the economic, social, environmental, and other costs and benefits of the proposed action(s); and

(iv) include a comparative analysis of the cost-effectiveness of alternative proposed actions for preventing, mitigating or adapting to adverse effects of global climate change.

(f) Prior to inclusion and publication of the portions of the evaluation required by section 3(d) above as part of the full evaluation required by section 3(a) above, each agency shall, to the extent permitted by law:

(i) submit those portions required by section 3(d) above for analysis and comment to OMB **[* and/or CEA *]**;

(ii) in consultation with OMB **[* and/or CEA *]**, fashion each response or proposal developed under section 3(d) above to achieve the greatest benefit for the least cost, and to achieve the best use of innovative cost-effective government-initiated response measures, innovative cost-effective private response measures, market-based regulatory mechanisms, and other alternatives to command and control regulatory mechanisms.

SEC. 4. Lead responsibility. OSTP and CEQ shall be the lead agencies supervising the conduct of this government-wide evaluation. OMB **[* and/or CEA *]** shall assist the lead agencies with respect to issues of costs and benefits and the

economic aspects of evaluations, and the Department of Justice shall assist the lead agencies with respect to legal issues. To effectuate this Order, the lead agencies shall:

(a) Issue guidance, by _____, on preparation of the evaluations directed by this Order:

(i) designating a scenario or set of scenarios of global climate change through identification of the possible causes and effects of such change, for use by agencies preparing evaluations required under this Order (with the explicit understanding that such scenarios are planning tools which depict possible global climate changes and do not necessarily reflect confident or authoritative predictions of the future);

(ii) identifying a set of greenhouse gases to be addressed by agencies' evaluations as required under this Order, including for each such gas suggestions as to its sources and sinks; and

(iii) establishing a standard format for preparation of the evaluations and presentation of assumptions, data, methods, and conclusions. Agencies conducting evaluations shall be afforded an opportunity to comment on the proposed format.

(b) Develop and maintain, with the cooperation of other interested agencies and to be made available to interested agencies, a compilation of data and information relevant to global climate change.

(c) Advise and assist the agencies in the preparations of their evaluations.

[(d) In issuing any guidance, regulations, or other instructions regarding agencies' compliance with section 102 of the National Environmental Policy Act (NEPA), CEQ shall take into account the evaluations required by this Executive Order and, if appropriate, shall establish criteria for the use of the evaluations prepared pursuant to this Executive Order in satisfying the requirements of NEPA section 102. **]**

[* See cover memo for discussion of above provision. *]

SEC. 5. General provision. This Order is issued solely as a managerial tool within the Executive Branch for the purpose of conducting an evaluation of the relationship between governmental activities and global climate change. This Order is not issued to implement or effectuate any statutory requirement or duty, and nothing in this Order shall create any right or benefit, substantive or procedural, enforceable by a party against the United States, its agencies, its officers, or any person.

From the Desk of
CLAYTON YEUTTER
Secretary of Agriculture

FEB 23 1990

February 12, 1990

TO DAVID BATES

FYI.

THE WHITE HOUSE
WASHINGTON

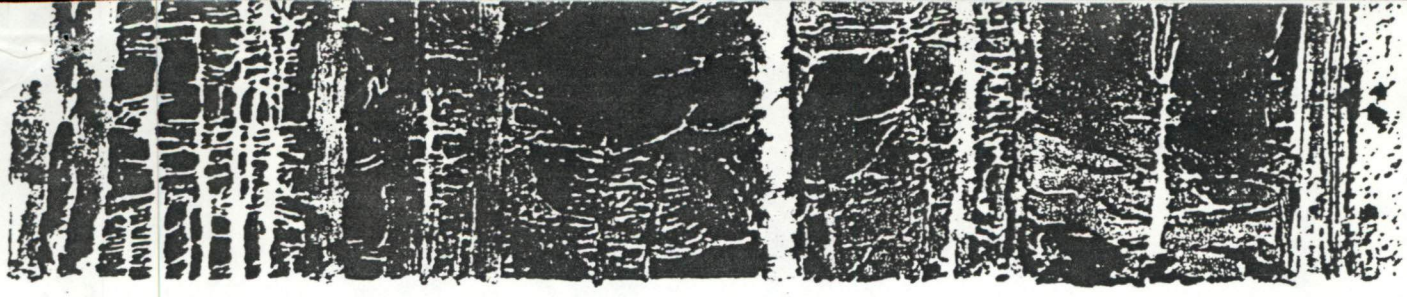
TO: ALLAN BROMLEY

FROM: **DAVID Q. BATES**

☒ FYI

☐ Action

☐ Comment



Six Steps Toward Environmental Security

By James Gustave Speth

IF 1989 was a year of impressive public speech about the global environment, 1990 will test whether political leaders here and abroad are prepared to back up their words with action.

The communique that emerged from the Group of Seven summit in Paris last July – the so-called "Green Summit" – was powerful and even eloquent. At the end of the meeting, President Bush called for "decisive action to preserve the Earth." The reconvening of the G-7 heads of state in Texas this summer is one of 10 major events already scheduled for 1990 at which President Bush and other leaders will be judged by what they do and not by what they say (see box).

These opportunities come not a moment too soon, for a new kind of international security threat is advancing on us. The world's geopolitical systems may be faring better, but its ecological systems are in trouble.

The buildup of carbon dioxide and other "greenhouse" gases in the atmosphere threatens far-reaching climate change. One class of these gases – chlorofluorocarbons – is also depleting the Earth's ozone layer, which shields us from the sun's ultraviolet radiation. Over large areas of the globe, urban air pollution is assaulting the countryside hundreds of miles away, damaging aquatic life, forest, and crops.

In the developing world, pressures on natural resources intensify daily. Hundreds of millions of people living in poverty destroy the environmental resources on which their future depends because they have no alternative means of support. The deserts expand while the forests, with their wealth of life forms, retreat. An acre of tropical forest disappears every second; a plant or animal species dies out every 15 minutes.

Given the projected doubling of world population and fivefold increase in world economic activity in the lifetime of today's children, the natural world hasn't got much of a chance under our usual ways of doing business.

Against this backdrop, what the world community does in the 1990s is critical. Environmental deterioration will continue. But the 1990s can also be an exciting period in which nations redeploy some of the will, talent, and resources being liberated along with Eastern Europe to deal with massive environmental problems. If that happens, we can leave a legacy of hope to the new century, a gift of a planet that is on the mend.

Addressing today's environmental challenges will require action along six fronts that lie outside traditional environmental policy. We can gauge political leadership in the 1990s by whether it promotes six broad transitions – the necessary "megatrends" of global environmental protection:

1. **A demographic transition** toward stable populations before the world's population doubles again. Population size and growth rates contribute to virtually every environmental challenge societies face today. Just try to imagine a world of 10 billion people, twice today's population; then consider that some recent projections put global population at 14 billion in the next century.

A stabilization strategy should be directed at three goals: alleviating poverty, improving the status of women, and reducing both mortality and fertility rates. Specifically, we need to sharply increase access to family planning information and services, reduce the death rate by making basic sanitary services and health care widely available, and expand the educational and employment opportunities open to women.

2. **A technological transition** away from the resource-intensive, pollution-prone technologies of the 20th century to a new generation of environmentally benign technologies. Nowhere is this technological transformation more needed than in the energy sector, given the tremendous problems caused by today's extravagant fossil-fuel use. Economical technologies are available today – in transportation, housing, manufacturing, and other sectors – to achieve dramatic increases in energy efficiency and sharp reductions in fossil-fuel pollution.

3. **An economic transition** to a world economy based on reliance on nature's "income" and not depletion of its "capital." In market economies like ours, this transition requires making the market mechanism work for environmental protection, not against it. Today around the world, inappropriate subsidies encourage deforestation, excessive pesticide use, energy consumption, and water wastage. These subsidies should be eliminated, and national income accounts should reflect natural-resource deterioration as another form of capital depreciation. This transition requires honest prices – prices that include the full environmental costs of production, use, and disposal. This revolution in pricing can accompany the shifting of a fair share of the tax burden away from activities that should be encouraged, such as earning income, and onto activities that should be discouraged, such as generating pollution and waste.

4. **A social transition** to a more equitable sharing of environmental and economic benefits. In much of the world, the greatest destroyer of the environment is poverty. The third world desperately needs major new financial resources dedicated to sustainable development. Here there are two complementary needs: to increase sharply both official development assistance and private investment in developing countries, and to improve the way funds are spent.

A lasting transition out of poverty – essential both to meet basic human needs and to relieve a deteriorating resource base – won't happen in the third world if the US and other industrial countries don't strengthen their development assistance, relieve the burden of international debt, and take other major initiatives.

5. **A transition in information and awareness** that involves major gains in understanding natural systems and human effects on them, in monitoring and assessing environmental conditions and trends, and in providing indicators and measures that can help both policymakers and the public grasp important trends and gauge progress. Scientific research is needed to reduce uncertainties on global warming and other major planetary changes. Consciousness of environmental problems and the necessary directions of change must be communicated to a wider public.

6. **An institutional transition** to stronger national and international institutions that can promote the overall transition to global sustainability. The United Nations and other institutions must be able to reach a broad array of new international agreements. New arrangements are also needed to integrate environmental objectives into such other fields as trade and debt policy, agriculture, energy, transportation, foreign policy, and development policy and assistance.

For world political leaders, the challenge is to devise a system of shared international responsibility. The goal of diplomacy must shift from conflict management to common endeavor. Without this shift, the next great international crisis is likely to be environmental. Equally significant, though, will be the activity of citizen groups, nongovernmental organizations, and communities.

No one nation can solve the problem of environmental degradation. But its size and importance guarantee that the US will have a vast impact – for good or ill – on whether the world meets the environmental challenges of the 1990s. President Bush ran for office as an environmentalist and could justly claim that title if he rises to the occasion offered by the events now scheduled for 1990 and promotes the large-scale transformations that are essential to "preserve the Earth."

■ *James Gustave Speth is president of the World Resources Institute, a Washington policy-research center.*

GUY STUART - STAFF

President Bush and the Global Environment

1. President Bush's State of the of the Union Address	**January, Washington**
2. Meeting of the 60-nation Inter-Governmental Panel on Climate Change (IPCC) (meets again in Stockholm in late summer)	**February, Washington**
3. National Transportation Strategy from the Department of Transportation	**Winter, Washington**
4. National Energy Strategy from the Department of Energy (interim report; final in December)	**April, Washington**
5. Earth Day Celebration	**April, Washington**
6. High-level International Conference on Global Warming, at the White House	**Spring, Washington**
7. Treaty Negotiations on Ozone Layer Protection	**June, London**
8. G-7 Summit Meeting	**July, Houston**
9. Second World Climate Conference	**November, Geneva**
10. First Negotiating Session for Global Climate Change Convention	**late 1990, location unknown**