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Folder ID Number: 13519-005

Folder Title:
Intergovernmental Panel on Climate Change, 2/5/90 [OA 4391] [3]

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EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON ENVIRONMENTAL QUALITY
WASHINGTON, D.C. 20500

Michael R. Deland
Chairman

(202) 395-5080

February 1, 1990

MEMORANDUM TO: CHRISS WINSTON

FROM: MICHAEL DELAND

SUBJECT: IPCC SPEECH -- MONDAY, FEBRUARY 5, 1990

As we discussed, I have some policy-oriented concerns with the speech as currently drafted.

First, given that it is an IPCC meeting which the President is addressing, I think it essential that he reiterate the offer he announced in Malta with Gorbachev, namely to host the first negotiation session of the Framework Convention. Failure to make such mention would be read as a retreat by the President before the very group whose credibility we have a stake in bolstering.

Secondly, there is substantial confusion in the international community as to the purpose of the spring "White House Conference on Science and Economic Research on the Environment" which the President also announced at Malta. I think this would be an ideal opportunity to articulate the intended results of the conference.

Further, by not mentioning the "stabilization of greenhouse gases" goal as set forth at Noordwijk, we could be criticized as backing away from that position.

Finally, given the sophistication of the audience and that many have been devoting much of their professional lives to these issues, we need to be careful not to appear either arrogant or condescending.

I have attached hurried margin comments on particular wording. One phrase that leaps out is the characterization "environmental cold war" on page one. That strikes me as sending precisely the wrong signal since the U.S. and U.S.S.R., as well as many other nations, have been cooperating on environmental issues for a number of years.

I'll be in the office on Friday should you wish to discuss this further.

cc: Dr. Allan Bromley
Dr. Michael Boskin

PRESS
DEPARTMENT OF STATE

PR NO. 11
January 30, 1989

REMARKS BY
THE HONORABLE JAMES A. BAKER III
SECRETARY OF STATE
BEFORE THE
RESPONSE STRATEGIES WORKING GROUP
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
DEPARTMENT OF STATE
JANUARY 30, 1989

Thank you Fred Bernthal, Professor Bolin, ladies and gentlemen. I am very pleased to have the opportunity to join you this morning, however briefly, and to welcome you to the Department of State. You are the first official group that I've had the pleasure of welcoming to the Department.

I would also like to welcome Bill Reilly, who is here with us this morning -- President of the World Wildlife Fund and the Conservation Foundation. Bill has let President Bush talk him into becoming the nominee for the post of Administrator of the United States Environmental Protection Agency, and it's my fervent hope, Bill, that nothing you hear at this conference this morning will cause you to change your mind.

The truth is, though, as I don't need to tell those of you who are here, we face some very difficult problems. It is also true, though, that we now recognize them to be problems, and in my experience in government that is at least half of the battle.

Some months ago President Bush said, "We face the prospect of being trapped on a boat that we have irreparably damaged -- not by the cataclysm of war, but by the slow neglect of a vessel we believed to be impervious to our abuse."

The establishment of the Intergovernment Panel on Climate Change and this meeting of the Panel's Response Strategies Working Group, I think, shows beyond a doubt that this is a transnational issue. We are all in the same boat. And as I put it in my testimony to the Senate recently, "The tides and the winds can spread environmental damages to continents and hemispheres far removed from the immediate disasters."

So, if I may borrow a phrase from the environmentalists, the political ecology is now ripe for action. We know that we need to act, and we also know that we need to act together. That is what this meeting is all about.

But I would take it even a step further. One of the big advantages of being Secretary of State is that because I am not a scientist, I am, therefore, not called upon to assess the evidence, especially on global climate change. Yet it is also clear, I think, that we face more than simply a scientific problem. It is also a diplomatic problem of when and how we take action. And here, if I might, I would like to make four points.

The first is that we can probably not afford to wait until all of the uncertainties have been resolved before we do act. Time will not make the problem go away.

The second is that while scientists refine the state of our knowledge, we should focus immediately on prudent steps that are already justified on grounds other than climate change. These include reducing CFC emissions, greater energy efficiency and reforestation.

The third is that whatever global solutions to global climate change are considered, they should be as specific and cost-effective as they can possibly be.

The fourth is that those solutions will be most effective if they transcend the great fault line of our times, the need to reconcile the transcendent requirements for both economic development and a safe environment.

Without in any way downgrading the difficulty of the task, I would conclude, ladies and gentlemen, by noting that progress generally results when common interests are joined to a common understanding. This meeting and others like it will play a crucial role in moving us all toward that common understanding of what we must do to protect and to preserve our environment.

Thank you very much for having me this morning, and Godspeed.

* * * *

30-50 yrs -- we have the sci -- we should do it right

(Lange/Cawley)
February 2, 1989
2:00 P.M.
[IPCC.DOC]

1990 FEB -2 PM 5:50

PRESIDENTIAL ADDRESS: INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
GEORGETOWN UNIVERSITY
MONDAY, FEBRUARY 5, 1990
10:15 A.M.

Thank you, Dr. Bolin [Bo-leen]. Professor Obasi. Dr. Tolba. Delegates of the World Meteorological Organization, and the United Nations Environment Program. Let me commend **all** of you, for taking on an issue of such great importance. The recommendations this distinguished organization makes will have a profound effect on the world's environmental and economic policy.

By being here today, I hope to underscore concern -- my country's, and my own -- about environmental stewardship; and to reaffirm our commitment to finding solutions. It is both an honor and a pleasure to be the first American President to speak to this organization, as its work takes shape.

You are called upon to strike an unprecedented international bargain: a convergence between global <u>environmental</u> policy, and global <u>economic</u> policy, where **both** sides benefit -- and **neither** is compromised.

You understand that economic growth and environmental integrity are **not** contradictory priorities. One reinforces and complements the other.

A sound environment <u>is</u> the basis for the continuity and quality of human life and enterprise. And strong economies allow nations to fulfill the obligations of environmental stewardship.

Where there is economic strength, such stewardship is considered a necessity. But where there is poverty, it is too often a luxury.

For that reason, I believe we must do everything in our power to promote global cooperation: for environmental protection **and** economic growth. For intelligent management of industrial **and** natural resources. Above all, for **sustainable** development -- around the world.

and environmentally sensitive

The United States is strongly committed to the I.P.C.C. process of international cooperation on global climate change. We consider it vital, that the community of nations be drawn together -- in an ordered, rational way -- to assess the potential for climate change, and develop appropriate, reasoned responses.

The state of the science; the social and economic impacts; and the right response strategies: all are crucial components to a global resolution. **The stakes here are very high.**

With every word, with every decision made, we're also making a commitment that is profoundly personal. I think all of us understand, deep inside, how the actions we take now speak to the future.

Last week, in my State of the Union address, I talked of stewardship: because I believe it's something we owe our children and grandchildren. Because the earth we stand upon is only borrowed, never owned.

So the United States remains committed to aggressive and thoughtful action on environmental issues. In our domestic programs. Our work to forge international agreements. Our assistance to developing and East Bloc nations. And here, by ~~leading~~ chairing the Response Strategies Working Group.

I just proposed a budget to our Congress for fiscal 1991, with $2 billion in new spending to protect the environment. Funding for the U.S. Global Change Research Program will increase by nearly 60 percent, to over $1 billion.

That will allow NASA to move forward with its "Mission to Planet Earth," together with our international partners. And we will initiate the U.S. Earth Observing System, in cooperation with Europe and Japan, to advance the state of knowledge about the planet we share.

We've already taken many steps in our country that bring **major benefits in their own right**. Steps that make sense on their own merits, and that will **also** help reduce emissions of carbon dioxide and other gases now building up in the atmosphere. **Let me outline them very briefly:**

We want to increase the **efficiency** of our energy use, and thus reduce total emissions. So we're pursuing new **technology development**. We're creating a revised **Clean Air Act** with incentives for industry to find creative, market-driven solutions. We've launched a major **reforestation initiative** to plant a **billion** trees a year on private land across America. And we're working out a comprehensive review and revision of our

National Energy Strategy, with initiatives to increase energy efficiency and the use of renewable sources.

These initiatives, already underway, will cost our Department of Energy $336 million over the next six years, but will produce energy savings through the year 2000 of over $32 **billion** -- while achieving significant pollution reduction. Quite a return on investment.

We're also working through diplomatic channels with our colleagues in other countries, and through innovative measures like debt-for-nature swaps, to do more than simply reduce global deforestation. **We hope to reverse it** -- not unilaterally, but by working with our international neighbors.

The **economics** of our response strategies to climate change are getting intensive study in America. We are developing real data on the costs of various response strategies, assessing new measures, and encouraging other nations to follow suit. And we look forward to sharing technical support with our international colleagues.

As we work to create **policy** on CFC's, CO2 and other emissions, we want to encourage the most innovative responses. Wherever possible, we believe that market mechanisms should be applied -- and that policy must be consistent with economic growth and free market principles in **all** countries. Dialogue can help us reach effective and acceptable solutions.

That is why, in my meeting with President Gorbachev, I proposed that the United States offer a venue for the first

negotiating session for a framework convention, once the I.P.C.C. completes its work.

Much remains to be done. Many questions remain to be answered. We all know that human activities are changing the atmosphere in unexpected and unprecedented ways. But we are not yet prepared -- academically, or otherwise -- to draw conclusions.

Those who question the likelihood of climate change if the world continues on its current path ~~represent one distinct minority~~ are at one end of the spectrum. Those who see it as an imminent and irreversible threat to mankind ~~represent another~~ are at the other. And many scientists are uncomfortable claiming [with absolute certainty] that global climate change can now be detected -- or predicted. In some quarters, politics or emotion may be outstripping science and driving policy.

So the United States continues to work to improve our understanding of climate change -- to seek hard data and new ways to improve the science. ~~Because what science now knows with confidence, policy makers can't use. And what policy-makers need to make decisions,~~ And science doesn't yet conclusively know.*

We feel it is crucial to bridge that gap. So this spring, the United States will host a White House ~~Seminar~~ conference on Science and Economic Research on the Environment -- convening top officials from a representative group of nations, to bring together the three essential disciplines: science, economics, and ecology. They will share their knowledge, assumptions, and state-of-the-art research models, to outline the gaps in our understanding and

* the things policy-makers need to make sound decisions.

chart a course toward a common understanding. I look forward to participating in this seminar, and to learning from its deliberations.

While some suggest we should make significant policy now, on the chance that real climate change becomes certain, others point to the opposite edge of that sword: that any meaningful preemptive policies would bring only the certainty of prohibitive expense; conflict with Third World development; and declining standards of living, worldwide.

I believe we can do better. We must seek a reasoned middle ground, that matches policy to emerging scientific knowledge -- and reconciles environmental protection to economic development. And as Secretary Baker observed a year ago, **whatever** global solutions to climate change are considered, they should be as specific and as cost-effective as they can possibly be.

If we hope to promote environmental protection **and** economic growth around the world, it will be important to work <u>with</u>, not against industry. That will mean moving beyond the tradition of command, control, and compliance -- toward a new kind of environmental cooperation -- and toward an emphasis on pollution **prevention**, rather than mere mitigation and litigation.

Many industries, in fact, are already providing crucial research and solutions. And a few are already ahead of us.

One corporation, for example, started an in-house program called Pollution Prevention Pays, that has saved the company well over half a **billion** dollars since 1975 -- and prevented 112,000

tons of air pollutants, 15,000 tons of water pollutants, and almost 400,000 tons of sludge and solid waste from being released into the environment. And they've done it by rewarding employees for coming up with the ideas.

Where developing nations are concerned, some suggest we'll have to abandon the laissez-faire, free-market principles that allowed the industrial world to prosper. In fact, we think it's all the more crucial, in the developing countries, to harness the free enterprise system in the **service** of the environment.

To the extent we can accelerate the **advancement** of these nations, it will take **less** energy for them to produce wealth: in modern industrial countries, energy use per unit of G.N.P. has **declined** over time -- steadily, and dramatically.

So we look forward to working with the developing nations: Applying the power of the marketplace, considering technology transfer, and encouraging industry to work with them. That will allow developing nations to grow more quickly and easily -- and may help them avoid making the environmental mistakes we older nations have made.

I believe we should make use of what we know. We know that the future of the earth **cannot** be compromised. We bear a sacred trust in our tenancy here -- and a covenant with those most precious to us: our children, and theirs. We also know of the efficiency of economic incentive -- and that free markets yield the most creative solutions. We must now apply the wisdom of the market, in **defense** of the environment we share.

[You know, I recently heard from a national champion bass fisherman in America, that just downstream on the Potomac river here in Washington -- right across from Mount Vernon -- the bass fishing is as good as it is anywhere in the country. I take that as reason for optimism. Not too long ago, that river was considered a serious environmental problem. Now the story it tells, is that we are capable, not merely of halting damage done, but reversing it.]

Working together, with good faith and earnest dialogue, I believe we can reconcile economic growth with environmental protection. Let me commend you on your outstanding work -- and wish you all deliberate speed in your efforts to address a very difficult, but very important, human concern.

Thank you -- and God bless you.

# # #

Fri @ 11:30 OPC Working Group

TAB A 3

Proposal for Presidential Speech
before the
Intergovernmental Panel on Climate Control (IPCC)

1. General statement of commitment to and concern for the global environment and economic development.

   -- Reiterate determination that the President will take active role in addressing concern about global climate change.

   -- Reiterate Secretary Baker's approach (spelled out in January 1989).

   -- Reiterate Noordwijk commitment to greenhouse gas stabilization as soon as possible, consistent with the requirement for global economic growth that can enhance the quality of life for people everywhere.

   -- Stress strong U.S. commitment to environment; e.g., domestic programs, leadership in forging international agreements on environment, assistance to and cooperative efforts with developing countries and current or former centrally planned economies.

2. U.S. Supports the IPCC Process

   -- Stress need for international cooperation.

   -- Congratulations to IPCC sponsors, the United Nations Environment Program (UNEP), the World Meteorological Organization (WMO) and to Dr. Bolin of Sweden, IPCC Chairman.

   -- Establishment of the IPCC has filled the need for an orderly, intergovernmental process to assess scientific understanding, evaluate potential impacts and develop appropriate response options. to any potential climate change

   -- Welcome IPCC reports due in August.

   -- U.S. is committed to playing a leadership role through our chairmanship of the Response Strategies Working Group (RWSG) and supporting IPCC as best forum for global climate change policy development.

   -- Support for UK proposal at UN to continue IPCC.

4

3. **Past and Ongoing U.S. Contributions and Views on Key Issues of Convention and Emissions Limiting Agreements**

-- **Science**

- o **U.S. budget is the largest in the world and is rising, nearly $500 million in FY 1990 and to increase to almost $1 billion in FY 1991.**

- o Importance of all countries, no matter what their level of development or economic system, contributing to understanding of the science. This cooperation needs to take several forms:

  - cooperation in assessment of state of the science; and

  - cooperation in monitoring and analysis of climate change.

- o Periodic international reassessment of the science at fixed intervals to aid in our decision making.

-- Technology Development

- o U.S. has active technology development programs to improve the efficiency of both supply and demand side technologies, and reduce greenhouse gas emissions.

  - More efficient fossil fuel generation technologies.

  - Renewable and energy efficiency technology initiative.

  - Conservation technology: end-use efficiency.

  - Nuclear: new generation with enhanced safety features under development.

- o Any framework convention should provide for regular assessments of the state of technology development to determine the availability and cost of technologies.

-- U.S. is sensitive to the need for technology transfer to other countries.

- o Clean coal, renewable, conservation, end-use services for technology transfer, and nuclear.
- o A.I.D. appropriation bill.
- o EPA/Peace Corps agreement.
- o Change in World Bank policy.
- o EPA's IETTAB and DOE's CORECT program to examine technology transfer.
- o Policy aid package.

-- Economics

- o Follow-up on Administration commitment to develop real data on costs of various response strategies and assess new response measures.
- o Challenge others to do the same.
- o Offer technical support to those who need it.

-- Policy

- o President should encourage consideration of truly innovative responses including:
  - comprehensive approach: all major greenhouse gases are included; and
  - trading of emission permits.
- o President should define general criteria for future agreements to limit greenhouse gas emissions:
  - market mechanisms such as "integrated resource" planning and consistency with economic growth in all countries; and

6

- need to work with industry to ensure that response actions do not adversely affect economic growth around the world.

-- U.S. Clean Air Act Legislation – our ratl solution

o Encourages emissions trading.

o Use of efficiency energy supplies; e.g., new clean coal technology and conservation technologies.

-- National Energy Strategy

o Comprehensive blueprint for addressing future energy needs with consideration to climate change and other environmental issues.

o As first step, take those steps which contribute tO other goals, but also reduce greenhouse gas emissions; e.g., clean coal technology, DOE conservation programs.

-- Energy efficiency programs: lighting, appliance efficiency standards, model building codes, industrial process improvement, encouraging utilities to provide the service of electricity demand reduction, transportation research and development, etc.

-- Alternative energy sources are being developed.

o Renewables: hydro, solar, biomass, geothermal.

o Nuclear: new reactor design.

-- Reforestation: Trees for U.S. cf. '91 Budget

-- Phase-out of CFCs by 2000 providing safe substitutes are available.

o U.S. contribution to: development of safe substitutes, assessments of needs by other countries.

→ 4. Reiterate Malta Offer to Host Convention Negotiations when IPCC is Ready

-- Express commitment to finding global solutions.

@ Malta Summit, I proposed to President Gorbachev that U.S. is prepared to provide a conference next fall to negotiate a framework treaty on global climate change, after the working groups of the IPCC submit their final report. → for substantive exchange on possible elements of a framework convention in the IPCC.

7

-- Demonstrate U.S. willingness to facilitate the process.

-- To further the debate, U.S. will host international environmental meeting composed of senior science, economics and environmental officials from all nations.

Happening on Apr. 19th

8

TAB B

Issue: How to carry forward and expand in the IPCC the cost and economic impact analysis of measures to limit greenhouse gas emissions?

Discussion: The IPCC's Response Strategies Working Group (RSWG) must conclude its work in the next couple of months for its report to be written on schedule. Consequently much of the cost and economic analysis that is beginning to emerge will not be included in the report. Without an ongoing analytical effort, the international discussion of emission targets and timetables will be dominated by the countries who are prepared to make substantial political commitments without much information on how they will fulfill those commitments.

To move the debate over commitments to limit greenhouse gas emissions away from bold rhetoric to a realistic assessment of what is possible over different timeframes, the IPCC's work on cost and economic impact analysis must be continued and expanded. Furthermore, because targets and timetables, especially for CO_2 are likely to be a major focus of attention at the fourth IPCC plenary next August and at the Second World Climate Conference (SWCC) next October-November, a means must be found for an ongoing effort over the next 5-7 months.

There are three major options for proceeding. The first is to request individual countries such as the U.S., Japan and the FRG to conduct studies and continue to provide results to the IPCC even after the conclusion of the RSWG's report. A second is to instruct the RSWG's Energy and Industry Subgroup (EIS) led by Japan to continue its analyses beyond the Spring and prepare a supplemental report. The third is for the U.S. to offer to lead, under the auspices of the RSWG and perhaps in collaboration with EIS, a special effort and produce a supplemental report in time for the fourth IPCC plenary. The latter option might entail a significant commitment of resources but may be most likely to result in substantive output. The latter option also offers the possibility of bringing a number of developing countries more fully into the process, because of a cooperative project already underway in ten developing countries.

Position: The U.S. should promote an ongoing effort to analyze the costs and economic impacts of a variety of targets and timetables for limiting greenhouse gas emissions. This should include the production of a supplemental report for consideration by the fourth IPCC plenary. The U.S. should favor a leadership role for EIS but be prepared to offer to lead the effort if discussions at the February IPCC meeting suggest it would be necessary to ensure meaningful output.

United States Department of State

Washington, D.C. 20520

POLICY PLANNING STAFF

FACSIMILE COVER SHEET

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Date Sent: 1/23/90 **Number of Pages:** 10 (Excluding Cover Sheet)

Time Sent: 9:35am

S/P FAX #: 202-647-0753 **Verification #:** 202-647-1965

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TO:	NAME	AGENCY	PHONE #	FAX #
	Carolyn Cawley	WH	456-7750	456-6218

FROM: Chris Dawson **PHONE #:** 647-3638

SUBJECT: President's Speech Before IPCC

COMMENTS:

United States Department of State
Policy Planning Staff

Carolyn,

EPA has included all the comments I gave them. I know Secretary Baker believes it is particularly important to reiterate explicitly the points he made in his January, 1989, speech (I've attached a copy for your use).

I look forward to working with you on this.

Chris Dawson

647-3638

Boskin Fri said out the okay
Reilly
Hebert
Crosby

Roosevelt
Tues 2PM
to go over the speech

A. Maynard
395-3719
(FAX)

romlo
President

D. Watkins
ergy

ly
Environmental Protection Agency

SUBJECT: Presidential Speech to the IPCC

The meeting of the Intergovernmental Panel on Climate Change during the first week of February offers the President an important opportunity to reaffirm his leadership on international environmental issues. Attached is the outline of a speech that he might give (Tab A).

We believe that it is a positive statement of: (1) his concern for the environment in general and about global warming in particular, (2) his commitment to lead international efforts in these areas, (3) the significant U.S. efforts to fulfill this commitment and (4) U.S. support for the IPCC as the proper forum for addressing the climate change issue. We also believe that the statement is fully consistent with existing Administration policy.

Also attached is an issue paper outlining options for carrying forward and expanding in the IPCC the cost and economic impact analysis of measures to limit greenhouse gas emissions (TAB B). Although not linked to the speech, the issue needs to be carefully considered. Such work must be continued in the IPCC or the international debate will continue to be based more on bold rhetoric than solid information.

We have shared this outline with the State Department and believe it is, in essence, supported by them. We would like to explore these ideas with you and our colleagues in the rest of the Administration. To this end, we would appreciate your circulating these documents in preparation for a discussion which you might lead. We would welcome your advice on how to move the inter-agency review process forward expeditiously given that the date of the speech is fast approaching.

Attachments

cc: Frederick M. Bernthal, Assistant Secretary,
Oceans & International Environmental & Scientific Affairs Bureau,
Department of State

TAB A 3

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Happening on Apr. 18, 19 &

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To move the debate over commitments to limit greenhouse gas emissions away from bold rhetoric to a realistic assessment of what is possible over different timeframes, the IPCC's work on cost and economic impact analysis must be continued and expanded. Furthermore, because targets and timetables, especially for CO_2 are likely to be a major focus of attention at the fourth IPCC plenary next August and at the Second World Climate Conference (SWCC) next October-November, a means must be found for an ongoing effort over the next 5-7 months.

There are three major options for proceeding. The first is to request individual countries such as the U.S., Japan and the FRG to conduct studies and continue to provide results to the IPCC even after the conclusion of the RSWG's report. A second is to instruct the RSWG's Energy and Industry Subgroup (EIS) led by Japan to continue its analyses beyond the Spring and prepare a supplemental report. The third is for the U.S. to offer to lead, under the auspices of the RSWG and perhaps in collaboration with EIS, a special effort and produce a supplemental report in time for the fourth IPCC plenary. The latter option might entail a significant commitment of resources but may be most likely to result in substantive output. The latter option also offers the possibility of bringing a number of developing countries more fully into the process, because of a cooperative project already underway in ten developing countries.

Position: The U.S. should promote an ongoing effort to analyze the costs and economic impacts of a variety of targets and timetables for limiting greenhouse gas emissions. This should include the production of a supplemental report for consideration by the fourth IPCC plenary. The U.S. should favor a leadership role for EIS but be prepared to offer to lead the effort if discussions at the February IPCC meeting suggest it would be necessary to ensure meaningful output.

United States Department of State

Washington, D.C. 20520

POLICY PLANNING STAFF

FACSIMILE COVER SHEET

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Date Sent: 1/23/90 **Number of Pages:** 10 (Excluding Cover Sheet)

Time Sent: 9:35 am

S/P FAX #: 202-647-0753 **Verification #:** 202-647-1965

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TO:	NAME	AGENCY	PHONE #	FAX #
	Carolyn Cawley	WH	456-7750	456-6218

FROM: Chris Dawson **PHONE #:** 647-3638

SUBJECT: President's Speech Before IPCC

COMMENTS:

United States Department of State
Policy Planning Staff

Carolyn,

EPA has included all the comments I gave them. I know Secretary Baker believes it is particularly important to reiterate explicitly the points he made in his January, 1989, speech (I've attached a copy for your use).

I look forward to working with you on this.

Chris Dawson

647-3638

CLOSE HOLD

THE WHITE HOUSE

WASHINGTON

January 29, 1990

MEMORANDUM FOR THE GLOBAL CHANGE WORKING GROUP

FROM: D. ALLAN BROMLEY
Chairman

SUBJECT: Meeting of the Global Change Working Group

There will be a meeting of the Global Change Working Group on Tuesday, January 30, 1990 from 2:00 to 3:00 p.m. in the Roosevelt Room for principals only. Please call Dean Schultheiss at 456-6722 if you are able to attend.

The issues to be discussed include (1) the guidelines for the U.S. delegation to the plenary meeting of the IPCC, (2) the President's speech to the IPCC and suggestions for the text of his remarks, and (3) the dates for the White House Conference on Science and Economics Research on the Environment.

Enclosed is a copy of the guidelines to the U.S. IPCC delegation. The guidelines were prepared by an interagency working group headed by OES at the State Department and reflect consensus working level recommendations for U.S. policy. Two points warrant specific consideration as you review the document:

(1) The first is the structure of negotiations of a climate convention (see "Preparations for Negotiation of a Climate Convention" on pages 8-11). The U.S. position has consistently been that any climate convention, and the negotiation process leading thereto, would follow the model used in dealing with the stratospheric ozone problem -- a broad framework convention calling for research and the exchange of data (the Vienna Convention), followed by targeted protocols (such as the Montreal Protocol on CFCs). Alternatives to this approach are (a) the negotiation of a comprehensive framework convention that itself contains specific provisions spelling out emissions reductions or (b) the negotiation of a general framework convention accompanied by concurrent negotiation of specific protocols.

(2) The second is the future of the IPCC (see "Future of IPCC" on pages 13 and 14) and whether it should be the forum for climate convention negotiations or whether those negotiations will be conducted in another forum (e.g., the U.N. General Assembly.

Please review the guidelines carefully and be prepared to make any specific comments at Tuesday's meeting, as it is essential that the Working Group act at that time. Also please be advised that both documents are close hold. Please refrain from making additional copies.

Guidelines for U.S. Delegation to IPCC Plenary

Background:

The Third Plenary Meeting of the Intergovernmental Panel on Climate Change (IPCC) will take place in Washington from February 5-7, 1990. While the meeting will focus on the status of efforts to complete the IPCC's First Assessment Report (Annotated Provisional Agenda Item 3), a number of additional issues will also form the basis for plenary discussions. These include:

- Possible additional tasks that should be undertaken by the IPCC based on recent international meetings (e.g., Noordwijk) (Annotated Provisional Agenda Item 2.1)
- Resolution(s) of the 44th (1989) session of the United Nations General Assembly related to IPCC activities (Annotated Provisional Agenda Item 2.2)
- Preparations for the Second World Climate Conference (Annotated Provisional Agenda Item 2.3)
- Preparations for Negotiation of a Framework Climate Convention (Note: This item has been deleted from the Annotated Provisional Agenda, but we understand that Dr. Bolin will raise it in his opening remarks at the IPCC Plenary and at the RSWG Officers' Meeting on February 2)
- Report of the IPCC Special Committee on the Participation of the Developing Countries (Annotated Provisional Agenda Item 4)
- The IPCC's 1990 Budget, specifically the shortfall between anticipated expenses and funding pledged to date (Annotated Provisional Agenda Item 5)
- IPCC activities after completion of the IPCC First Assessment Report (Annotated Provisional Agenda Item 6)

In addition, the President or another high-level Administration official may address the opening plenary session and restate the President's proposal to Chairman Gorbachev at the Malta Summit (that the United States is prepared to host "a conference next fall to negotiate a framework treaty on global climate change, after the working groups of the UN-sponsored Intergovernmental Panel on Climate Change submit their final report.")

The following provides guidance to the U.S. delegation on each of the items identified.

Additional IPCC Tasks

The United States successfully steered the Noordwijk Ministerial Conference on Atmospheric Pollution and Climate Change (November 6-7, 1989) to the IPCC as the appropriate forum for international consideration of issues related to global climate change. In so doing, the Noordwijk Declaration mentions a number of issues for further consideration by the IPCC. These "remands" to the IPCC are likely first to be discussed at the RSWG officers' meeting on February 2 that will precede the plenary. At that meeting and in the plenary itself, the United States should:

1) Agree that the IPCC should examine estimates of reductions in global anthropogenic greenhouse gas (GHG) emissions, based on the best scientific knowledge as to the options for containing climate change within tolerable limits (see Noordwikj Declaration, para. 8); the United States should propose that such examination take place first by Working Groups I and II (in view of the references to "best scientific knowledge" on the one hand and "tolerable limits" on the other) and subsequently by the RSWG (all subgroups, i.e., EIS, AFOS, CZMS and RUMS);

2) Agree that the IPCC should consider the necessity and efficiency of the introduction of the concept of CO2 equivalence (see Noordwijk Declaration, para. 10) and stress that this is a high-priority task; stress also that CO2 equivalence must be based on full equivalence, i.e., on the entire life-cycle of each gas; and propose that this task be taken up by Working Group I;

3) Agree that the IPCC should investigate the feasibility of achieving targets to limit or reduce CO2 emissions including for example a 20 percent reduction of CO2 emission levels by the year 2005 (see Noordwijk Declaration, para. 16) but propose that CO2 emissions be taken to mean "net" CO2 emissions and that this investigation be extended to the feasibility of achieving such targets with respect to all GHGs; propose that "feasibility" be taken to include "technological and socio-economic feasibility and the trade-offs involved among these;" could agree that the IPCC investigate the feasibility of stabilizing net GHG emissions in various timeframes, including the year 2000; could also agree that the IPCC investigate several options for short, medium and long-term targets for limiting or controlling GHG emissions and the trade-offs involved among such targets; should propose that these investigations be undertaken by the RSWG, specifically by the EIS and the AFOS, in consultation with the CZMS and the RUMS;

4) Agree that the IPCC should consider the feasibility of achieving a world ~~net~~ forest growth of ~~12 million hectares~~ a year in the beginning of the next century as a provisional aim (see Noordwijk Declaration, para. 21); should propose that such consideration be undertaken by the RSWG, specifically by the AFOS and the RUMS;

5) Request that the RSWG develop a workplan for analysis of target options resulting from further investigation of quantitative emission targets to limit or reduce CO2 emissions (and, as will be proposed by the United States, emissions of all GHGs); the workplan should indicate what analysis can be included in the IPCC's First Assessment Report due in 1990 (see Noordwijk Declaration, para. 15), what analysis can be presented to the Second World Climate Conference in November 1990 (see Noordwijk Declaration, para. 18), and what analysis can be presented after the Second World Climate Conference.

Resolution(s) of the 44th UNGA Session

Among the resolutions adopted by the U.N. General Assembly at its 44th Session, the resolution concerning "Protection of the Global Climate for Present and Future Generations of Mankind" (adopted December 17, 1989) will be directly relevant to IPCC Plenary discussion. In addition, the resolution concerning "International Cooperation in the Field of the Environment" will also be relevant to this discussion. While both resolutions express support for the IPCC, both also contain a specific recommendation that the U.N. General Assembly should take a decision early in its 45th session "recommending ways and means and modalities for further pursuing these negotiations (negotiations on a framework convention on climate), taking into account the work of the preparatory committee for the conference on environment and development to be held in 1992...." The U.S. UNEP Mission in Nairobi has indicated (see Nairobi 01051, 11 JAN 90) that "This is clearly intended to assert General Assembly (and G-77) control over the process after the IPCC presents its report in October."

In addition, the resolution (also adopted at the 44th Session) concerning the 1992 Conference on Environment and Development will also be relevant. In that resolution, the General Assembly, inter alia:

- o Decides to convene a United Nations Conference on Environment and Development of two weeks' duration to coincide with World Environment Day, 5 June 1992;
- o accepts Brazil's offer to host the Conference;
- o affirms that protection of the atmosphere by combating climate change, depletion of the ozone layer and transboundary air polution is among the environmental issues of major concern in maintainiing the quality of the Earth's environment and especially in achieving environmentally sound and sustainable development in all countries;
- o decides to establish a Preparatory Committee of the General Assembly open to all States Members of the United Nations or members of the specialized agencies;

o decides that the Preparatory Committee shall hold an organizational session of two weeks' duration in March 1990 and a final session, both at United Nations Headquarters, in New York, and three additional substantive sessions, the first in Nairobi and the following two in Geneva, the timing and duration of which shall be determined by the Preparatory Committee at its organizational session;

o decides that the Preparatory Committee shall: (a) draft the provisional agenda of the Conference; b) adopt guidelines to enable States to take a harmonized approach in their preparations and reporting; c) prepare draft decisions for the Conference and submit them the the Conference for consideration and adoption.

While the United States joined in the consensus with respect to the resolution concerning "Protection of Global Climate for Present and Future Generations of Mankind," U.S. Special Adviser to the 44th Session of the U.N. General Assembly Edward Marks made a statement following its adoption, which reads in pertinent part:

> "We support the proposal in operative paragraph 10 that negotiations on a framework convention on climate begin as soon as possible after adoption of the interim report of the Intergovernmental Panel on Climate Change. In order to ensure that these negotiations be conducted in a focused, efficient manner. We believe that they should take place independently from the important work to be done by the Preparatory Committee for the 1992 Conference on Environment and Development."

As noted by the U.S. UNEP Mission in Nairobi, these resolutions demonstrate that an effort is underway to shift control over the process of negotiating a framework climate convention to the U.N. General Assembly.

Consequently, in IPCC plenary discussions of the U.N. resolutions adopted at its 44th Session, the United States should:

1) Reiterate the view expressed by U.S. Special Adviser Marks that "We believe that negotiations

toward a framework convention on climate should take place independently from the important work to be done by the Preparatory Committee for the 1992 Conference on Environment and Development;"

2) Alternatively, propose that work currently taking place within the IPCC and preparations being undertaken by UNEP Executive Director Tolba and WMO Secretary General Obasi in accordance with UNEP Governing Council Resolution 15/36 and WMO EC-XLI Resolution 4 (requesting them to "begin preparations for negotiations" for a framework climate convention should constitute the arm of the Preparatory Committee responsible for initiating and conducting negotiations toward a framework convention on climate (see also item 3 on page 10 of these Guidelines).

Preparations for Second World Climate Conference

Under this item, the Annotated Provisional Agenda notes that, "The Chairman of the International Organizing Committee and/or the Co-ordinator for SWCC will be invited to inform the Panel of the preparations for, and the activities planned during, the Conference." (Note: The Second World Climate Conference will take place from October 29 to November 9, 1990, in Geneva.)

WMO EC-XLI Resolution 4 and U.N. Resolution 43/53 provide that the IPCC's First Assessment Report should be provided "to the governing bodies of WMO and UNEP, through the Secretary-General and the Executive Director, not later than September 1990, be ready for its first presentation at the Second World Climate Conference in November 1990" and that the "Secretary-General and the Organizing Committee for the Second World Climate Conference, in consultation with the Chairman of the IPCC, (should) ensure that this conference provides the first international forum for discussion of the September 1990 report of the IPCC." The U.N. Secretary-General is requested "to report to the General Assembly at its 44th session on the implementation of the present resolution" (43/53).

Assuming that the IPCC's Fourth Plenary in Sweden in August 1990 adopts the IPCC's First Assessment Report by the close of the session, the final version of the First Assessment Report should be ready and printed by the end of September. The Report can be given to the WMO Secretary-General and the UNEP Executive Director by the Chairman of the IPCC at the end of

September 1990. The WMO Secretary-General and the UNEP Executive Director can then present it to the WMO President, acting on behalf of the WMO Executive Council, and the Chairman of the UNEP Governing Council for the UNEP Governing Council. The WMO President and the Chairman of the Governing Council can distribute the First Assessment Report to Members of WMO and UNEP about two to four weeks before the Second World Climate Conference begins.

The IPCC's First Assessment Report does not have to be presented by the U.N. Secretary-General to the General Assembly. The U.N. Secretary-General can report that the First Assessement Report has been distributed to WMO and UNEP Members, but he may wish to submit the report of the results of the Second World Climate Conference to the General Assembly.

There has been some discussion internationally concerning the procedures that will be followed in submitting the IPCC's First Assessment Report to the Second World Climate Conference. Since the IPCC's First Assessment Report has been requested by the WMO Executive Council and the UNEP Governing Council, it should go to these bodies through the Secretary-General of WMO and the Executive Director of UNEP. These governing bodies do not meet, however, during the period between finalization of the First Assessment Report and the Second World Climate Conference. Therefore, the WMO President and the Chairman of the UNEP Governing Council should act on behalf of their governing bodies to receive it and distribute it before the Second World Climate Conference.

In some international discussions, there have been suggestions that the IPCC's First Assessment Report should be made confidential or embargoed against release until the Second World Climate Conference. Both ideas are impractical since the final drafts as well as the text agreed at the IPCC's Fourth Plenary will have had wide prior distribution. In addition, media interest in the recommendations or conclusions of the First Assessment Report will be intense, and any effort to withhold distribution will be very difficult.

However, in keeping with the spirit of WMO EC-XLI Resolution 4, the IPCC could agree to have no press conferences or lengthy interviews or intervening meetings with respect to the First Assessment Report before the Second World Climate Conference.

It is highly desirable that the IPCC's First Assessment Report be circulated to all U.N. Members for review and internal discussion prior to the Second World ClimateConference so that scientists and ministers can discuss it knowledgeably at the Conference.

At the IPCC Plenary the United State should:

1) Support presentation of the First Assessment Report by the IPCC Chairman to the WMO Secretary-General and the UNEP Executive Director as soon as possible following the Fourth IPCC Plenary in August 1990;

2) Support presentation of the First Assessment Report by the WMO Secretary-General and the UNEP Executive Secretary to the WMO President, acting on behalf of the WMO Executive Council, and the Chairman of the UNEP Governing Council, acting on behalf of the Governing Council, respectively, for distribution to WMO and UNEP Members as soon as possible thereafter and prior to the Second World Climate Conference;

3) If proposed at the IPCC Plenary, discourage press conferences, lengthy interviews or intervening meetings after submission of the First Assessment Report and prior to the Second World Climate Conference; but

4) Oppose any effort to embargo the IPCC's First Assessment Report or classify it between its submission and the Second World Climate Conference.

Preparations for Negotiation of a Climate Convention

On November 17, 1989, UNEP Executive Director Tolba and WMO Secretary General Obasi sent a letter to foreign ministers outlining their own thoughts on possible elements of a future convention on climate change and asking for national views on this issue by January 15. The U.S. response indicated that substantive exchanges on possible elements of a framework convention should take place in the IPCC and noted that the RSWG has already begun an extensive review of this issue and is

seeking to develop an international consensus on possible elements of a convention. The U.S. response further indicated that U.S. views on this question were delivered to the RSWG last October and that additional comments were provided in December 1989.

The U.S. response to the Tolba/Obasi letter also welcomed the input that will be provided to the RSWG from the UNEP/WMO Task Group by the RSWG observers Mr. Beetham (of the U.K.) and Mr. Cordeiro (of Brazil).

At the IPCC plenary, the United States should:

1) Support the effort of IPCC Chairman Dr. Bolin to have representatives of WMO and UNEP inform the IPCC of the activities to date of the UNEP/WMO Task Group, and of their plans for further activity;

2) Encourage that the work of this Task Group be provided to the RSWG as soon as possible so that the RSWG, specifically the Topic Coordinators on Legal Measures, may take it into account in finalizing their report.

It is our understanding that the Legal Measures Topic Coordinators (the U.K., Canada and Malta) are preparing another attempt at a consensus elements paper, drawing on the October RSWG meeting. They are planning to get comments on the paper from key countries before the upcoming IPCC Plenary. Given the lack of consensus with respect to legal measures at the RSWG October Workshop in Geneva, the United States has informally encouraged efforts on the part of the Topic Coordinators to move forward on this issue.

At the RSWG Officers' Meeting, and in the IPCC Plenary, the United States should:

1) Support the efforts of the RSWG Legal Measures Topic Coordinators to refine further the Legal Measures Paper, making sure that the recent U.S. comments are included;

2) Oppose any effort to take final action on any of the RSWG October Papers at the IPCC Plenary,

especially any paper dealing with the issue of a framework convention, urging instead that final action be taken at the June RSWG meeting;

3) Seek IPCC agreement to recommend that negotiations on a framework convention take place under UNEP/WMO auspices, the first session to be held as soon as possible after submission of the IPCC's First Assessment Report;

4) Remain within the bounds of the U.S. legal measures paper prepared for the Geneva Workshop, including the U.S. position that it is currently premature to consider the subject of possible protocols and other agreed response measures, the order in which they might be taken up, and whether there will be linkage between various agreed measures.

In this latter connection, questions may arise with respect to the additional U.S. comments submitted to the IPCC Secretariat and the Topic Coordinators of the RSWG October Legal Measures Paper. In the comments, the United States proposed to add additional ticks in section 3 (General Obligations). Specifically, the United States proposed to add the following:

"-- Development as soon as possible of a ~~protocol~~ method to addressing all adequately scientifically understood greenhouse gases, their sources and sinks (with appropriate treatment of substances subject to control under the Montreal Protocol), in a comprehensive approach to controlling net emissions of greenhouse gases through national performance targets, leaving to each country the choice of domestic policy responses to achieve its net greenhouse gas emissions target; keep under continuing review the set of greenhouse gases, their sources and sinks, and revise the set, according to evolving understanding of the science, economics, and technological advancement. (This approach is further elaborated in Appendix __.)"

Should the question arise in the RSWG Officers' Meeting or in the IPCC Plenary as to whether, in light of the additional U.S. comments, the United States is now prepared to consider possible protocols, the United States should:

1) Make clear that the call for development as soon as possible of a protocol in the U.S. additional comments must be read in the context of the Legal Measures Paper that grew out of the RSWG October Workshop;

2) Indicate that, by including its proposed additional language as an additional tick in the General Obligations Section of the Legal Measures Paper, the United States sought to ~~preserve~~ the comprehensive approach to GHGs as an option for further consideration by the RSWG and the IPCC; and

3) Reiterate that the United States continues to believe that it is currently premature to consider the subject of possible protocols and other agreed response measures, the order in which they might be taken up, and whether there will be linkage between various agreed measures.

LDC Participation

At the IPCC Plenary, the Chairman of the Special Committee on the Participation of Developing Countries, Mr. Ripert (of France), will be asked to present the report of the Committee for consideration by the Panel.

The United States should:

1) Support the broadest possible participation of developing countries in the work of the IPCC, so as to make the IPCC truly representative of the world community of nations and thereby strengthen its First Assessment Report;

2) Reaffirm U.S. commitment to the two-track (phase) approach developed in Geneva and endorsed at Noordwijk on financial measures, i.e., a first stage involving assessing needs in the developing countries and the availability and potential of existing assistance mechanisms on an industry-by-industry basis, followed by consideration of a new funding mechanism as a second stage, if warranted;

3) Reaffirm U.S. belief that, before a new mechanism is created, existing institutions and mechanisms, reoriented if necessary to take account of climate change, should be utilized as fully as possible, and that use of existing institutions would make resources available more rapidly with better integration with ongoing development programs in each country;

4) Note that, if significant action is required to prevent or slow potential climate change, developed countries alone will not be able to accomplish it;

5) Emphasize the need for global action to deal with potential climate change, particularly in view of projections of likely increases in GHG emissions on the part of developing countries in the near future; and

6) Note, that the United States is committed under the Montreal Protocol to providing technical assistance, and indicate that, if significant action is ultimately required to deal with the potential for climate change, the United States will likewise undertake to provide appropriate assistance.

IPCC's 1990 Budget

The IPCC Secretariat projects 1990 expenses totaling SFR 1,363,000 (approximately $909,880 converting SFR to U.S. dollars at a rate of 1.4980 SFR to the dollar -- New York Times January 16, 1990, conversion rate). The IPCC Secretariat further projects receipts in 1990 to total SFR 864,000 (approximately $576,769). Of the receipts anticipated, SFR 538,000 (approximately $359,146) constitute pledges from members, including $150,000 from the United States.

(FYI: The United States has not yet transferred its pledged amount, but should be able to do so later this spring, both from the $100,000 that the Department of State has sought to collect from U.S. agencies to support the IPCC Trust Fund and from additional amounts contained in the International Organizations and Programs (IO and P) portion of the Foreign Assistance Appropriation. End FYI.)

The IPCC Secretariat thus anticipates a shortfall of SFR 499,000 (approximately $333,111) in 1990.

Under Revised Provisional Agenda Item 6, the Secretary of the IPCC will summarize the expenditures for 1989 and present the budget request for 1990 for the consideration of the Panel. To date, it would appear that only the United States and the following countries have made pledges to the IPCC for 1990: Japan, Italy, Finland, FRG and France.

In the plenary discussion under this item, the United States should:

1) Await indications from other members of the IPCC who may be willing to pledge amounts to help meet the 1990 budget;

2) If appropriate, point to the rather significant pledge made by the United States for 1990;

3) Make no further U.S. commitment to help meet the IPCC's 1990 budget at the plenary, although it is possible that, the United States may ultimately exceed its pledge if (for information of U.S. delegation only): (1) all U.S. agencies who have been asked to contribute to the IPCC Trust Fund by the Department of State ultimately do so; (2) the Department of State's authorization and appropriation for FY 1990 ultimately include the amount requested for the IPCC; and (3) the United States receives credit toward its pledge from providing interpretation for the IPCC plenary and subsequent meeting of the IPCC Bureau.

Future of IPCC

Under this agenda item (Annotated Provisional Agenda item 6), it is noted that "The delegations may wish to take the opportunity to express their views on the role and possible activities of the Panel after it completes its first assessment report."

In the IPCC Plenary discussion the United States should:

1) Support continuation of the work of the IPCC after submission of its First Assessment Report in the fall of 1990;

2) Provide, by way of example, a number of specific tasks that should be taken up or continued by the IPCC's Working Groups; and

3) Support efforts within the IPCC to develop a specific list of tasks and schedules (workplan) that the IPCC views as necessary to undertake or continue after October 1990.

Finally, with regard to the specific mandate of the IPCC after submission of the First Assessment Report, the United States should:

1) Note that, eventually, we anticipate that the IPCC will become the Conference of the Parties; and

2) Urge that the governing bodies of UNEP and WMO be asked to adopt resolutions at their meetings this summer specifying the IPCC's mandate after submission of its First Assessment Report.

IPCC Endorsement of President's Proposal

If appropriate in the view of the U.S. delegation, it may be useful to seek endorsement by the IPCC of the President's proposal to host "a conference next fall to negotiate a framework treaty on global climate change, after the working groups of the UN-sponsored Intergovernmental Panel on Climate Change submit their final report."

Informal reactions solicited to date from foreign governments indicate, however, that there may be some confusion with respect to the President's offer. Specifically, some countries have expressed confusion at whether the United States plans to host its own conference or simply provide a venue for the first international negotiating session. They have also indicated that it is not clear whether New York, and thus the UNGA, falls within the scope of the proposal.

In addition, at least one country (the FRG) has informally urged that the United States not seek IPCC endorsement for the President's proposal at the forthcoming plenary, since to do so would risk "politicizing" the IPCC.

At the plenary, the U.S. delegation should make clear in informal discussions with other delegations that:

1) The President has proposed simply to provide a venue (and thus support) for the first international negotiating session; and

2) That while the President's proposal did not specifically mention a site, we understand that it contemplated a location in the United States other than New York, and definitely not the UNGA.

If the President or another high-level Administration official should make opening remarks on behalf of the United States at the plenary which reiterate the President's proposal at the Malta Summit, the U.S. delegation may choose to:

Seek IPCC endorsement of the President's proposal, which endorsement should be communicated by the IPCC Chairman to the UNEP and the WMO.

DRAFT

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COVER to PAMPHLET FOR INFORMAL SEMINAR 2/3/90

DRAFT COVER LETTER

February 2, 1990

Dear Participant:

Tomorrow morning, Saturday, February 3, 1990, an "Informal Seminar" will be held to discuss approaches that might be taken to address potential global climate change. In particular, the Seminar will focus on the two approaches recently suggested by the United States for consideration by the IPCC/RSWG:

- a "comprehensive" approach in which all greenhouse gases, their sources and sinks would be treated together, leaving to each nation the choice of its internal policies to achieve its net emissions target through a mix of policies covering the various gases, sources and sinks; and

- an "emissions trading" approach in which the total amount of pollution emitted would be limited or reduced (just as in traditional regulation), in which emitters are required to hold allowances for their pollution, and in which allowances may be transferred among emitters.

Each of these approaches deserves serious consideration. Each holds the promise of important advantages in any effort to address potential global climate change. Each also raises scientific, technological, economic and environmental questions which must be explored. We hope that discussion at tomorrow's Informal Seminar and in meetings to come will advance the understanding and analysis of these approaches. Although consideration of specific protocols implementing any such approaches would be premature before the negotiation of a framework convention, informed discussion of relevant concepts

and ideas can improve our shared understanding and can help ensure that any eventual negotiations toward an international agreement incorporate the best thinking on the subject.

Tomorrow's Informal Seminar will be chaired by _____, and will begin with short presentations by _____ and _____. Audience discussion will follow. Attached please find:

- Agenda for the Informal Seminar, February 3, 1990

- Introductory Discussion Paper, with References Suggested for Further Reading

In addition, photocopies of papers on related topics will be available to you at the Informal Seminar.

These materials are provided to suggest fruitful areas of discussion; they do not necessarily represent the official views of the United States nor of the participants in the Informal Seminar. Our hope is that through these materials, and more importantly, through our conversations at the Seminar, we will be more informed about possible approaches to possible international agreement on global climate change issues, and more understanding of each others' experiences and views on these subjects.

DRAFT

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AGENDA for INFORMAL SEMINAR, 2/3/90

DRAFT AGENDA for INFORMAL SEMINAR

February 3, 1990

U.S. Department of State, Room XXXX

10:00 a.m. - 12:00 noon

SCHEDULE

10:00 a.m. Coffee

10:10 a.m. Welcome
State Dept.

10:20 a.m. Brief Presentations

Moderator: State Dept.

Remarks:

(one or two speakers; some combination of representatives from:)
Office of the White House Counsel
CEA
EPA
DOJ

11:00 a.m. Break

11:10 a.m. Audience Discussion

Moderator: State Dept.

(Additional U.S. Agencies interested in participating)

(Other nations)

(NGOs?)

(Congress?)

12:00 noon Conclusion

DRAFT

DRAFT
PAMPHLET for INFORMAL SEMINAR, 2/3/90

INTRODUCTORY DISCUSSION PAPER:

"COMPREHENSIVE" AND "EMISSIONS TRADING" APPROACHES TO GLOBAL CLIMATE CHANGE

SUMMARY

In its submission of a "Concept Paper" to the IPCC/RSWG on December 29, 1989, the United States proposed consideration of two approaches to any international agreement on potential global climate change:[1] a "comprehensive" approach and an "emissions trading" approach. This paper briefly surveys each approach.

Under a comprehensive, performance-based approach, all greenhouses gases, sources and sinks would be addressed together. Each international legal instrument produced -- whether convention or protocol -- would deal, to the maximum extent possible, with the entire array of gases, their sources and sinks. This approach employs the concept of a parameter, such as an "index," to enable comparison of the contributions of different gases, their sources and sinks, to total global climate change. It also employs the concept of "net emissions" to fashion performance targets that would not be limited to any one gas or source or sink, but would permit attainment of the target through policies aimed at reducing sources or expanding sinks or both. Such net emissions performance targets would be set, at least initially, for each nation,[2] and would leave to each nation the choice of internal policies desired to attain the target. Thus, employing the parameter or "index," each nation could devise a set of policies that would focus on one or more gases of its choice and thereby reduce its "net emissions," through restriction of sources or expansion of sinks or both, to meet the target. Such an approach would provide maximum flexibility for developing diverse, innovative, cost-effective measures.

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[1]The term "potential global climate change" is used in this paper to refer to possible changes in global and regional climate that may result from increased concentrations of substances in the atmosphere that alter the atmosphere's thermal radiation budget.

[2]In appropriate circumstances, targets might be set for groups of nations, such as regional affiliations.

The "emissions trading" approach is conceptually separate from, but compatible with, the "comprehensive" approach. Emissions trading, which is one form of transferable allowances, is simply a tool to implement regulations on pollution or other uses of scarce resources. In a traditional regulatory scheme, the government sets the proper total amount of emissions (and its growth or decline over time), and then requires every emitter to meet the same standard, or to apply the same control technology. In emissions trading, the government sets the same total limits on emissions, but then permits emitters to allocate among themselves who will emit how much. This allocation is accomplished through issuing allowances to emitters, which they may trade among each other. The total amount of allowances is set equal to the total amount of emissions the government has chosen. The government supervises trades to ensure accurate reporting, and may take steps to facilitate trades as well. An emissions trading system can be designed to meet diverse circumstances: for example, allowances could be tradeable at specified ratios, or auctioned, or depositable in a bank for future withdrawal, or other variations.

The United States has used emissions trading to implement a variety of environmental protection programs, and has developed practical experience in the design and functioning of trading systems. This experience indicates that emissions trading is a pragmatic tool for protecting the environment at substantially lower costs to society than traditional regulatory approaches. An emissions trading approach could be highly advantageous to nations seeking to regulate their greenhouse gas emissions: limits on such emissions will be economically and socially costly, and choosing cost-effective methods that both achieve environmental goals and encourage diversity and innovation will be of great importance. Emissions trading programs could be used domestically by nations under the "comprehensive" approach just described, or under a system in which only one greenhouse gas is regulated; and, if desired, a trading system could be adapted for use among nations.[3]

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[3]The RSWG Economic and Market Measures Paper has discussed allowing international trades (on a bilateral, regional or multilateral basis, and possibly conducted by governmental or private sector actors) as a method for attaining national net emissions targets, in order to achieve further environmental and economic benefits from the use of the trading principle.

DISCUSSION

A. "Comprehensive" Approach.

1. Description.

A comprehensive performance-based approach stands in contrast to a piecemeal pollutant-by-pollutant approach, such as those that focus on adopting targets for one greenhouse gas, carbon dioxide (CO_2), alone.[4] The comprehensive approach would treat all greenhouse gases[5] collectively: each nation would be obligated to meet a target for its total combined contribution to greenhouse gas emissions. The total contribution would be the sum of the emissions of each greenhouse gas, weighted by the incremental contribution each different gas makes to total climate change. The weights assigned to the various gases would be measured by a parameter, such as an "index," expressing the comparative contribution of each gas (and, in turn, useful for estimating the comparative role played by any given source or sink).[6] Further, the "comprehensive" approach would set a target for each nation's "net emissions" of greenhouse gases, allowing.

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[4]For example, the November 1989 Noordwijk Declaration appeared to urge pollutant-by-pollutant control rules, starting with CO_2. On the other hand, it did suggest (in paragraph 10) possible development of a method for comparing the effects of other gases to the effects of CO_2, similar to the parameter for comparing gases discussed here.

[5]The term "greenhouse gases" is used in this paper to refer to substances that, when present in the atmosphere, act to trap thermal radiation.

[6]For example, analysts have discussed a "global warming potential index," and the Noordwijk Declaration referred to "the concept of CO_2 equivalence" in paragraph 10. Such a parameter is a system for computing the contribution to total atmospheric warming of any alteration in the emissions of any particular greenhouse gas. It assigns a value to each greenhouse gas describing the contribution of each additional molecule of that gas to the total warming of the atmosphere. The value depends on variables such as the molecular composition of the gas and its attendant capacity for radiative forcing, the lifetime of such molecules in the atmosphere, the existing atmospheric concentration of the gas and related gases at the time the additional molecule reaches the atmosphere, and the discount rate at which future warming is compared to present warming.

compliance to be achieved by reductions in sources[7] of greenhouse gases, or expansion of sinks,[8] or both. The targets would be "performance-based," in the sense that they would obligate nations to achieve certain net emissions levels by whatever means, rather than "design standards" that obligate parties to adopt specified technological applications or undertake specified response activities. The targets could, for example, consist of a cap or a phased-in cap, possibly followed by subsequent reductions.

2. United States Experience: the Environmental Advantages of a Comprehensive Approach

In the United States we have followed a medium-by-medium and pollutant-by-pollutant approach for the last several decades. Our environmental laws, such as the Clean Air Act, the Clean Water Act, the hazardous waste statutes, were each written to address one kind of pollution. Often, these statutes required separate regulations for each different type of source of that kind of pollution: thus, for example, there are separate regulatory programs for air pollutants from large utility plants, from smaller industrial plants, and from mobile sources. Breaking pollution control down into these piecemeal categories may initially seem logical, but we have learned through frustrating experience that it has a serious drawback: pollution or other undesirable residual effects of economic activity regulated in one category may simply shift to another, unregulated or less regulated, category. Shifts from one environmental medium -- air, water, land -- to another have thwarted attempts to reduce pollution, and these "cross-media" shifts have played a part in the evolution of new (though still piecemeal) laws aimed at the new manifestations of pollution. For example, stringent regulations on water pollution have induced industry to convert liquid pollutants into sludge, in turn creating toxic waste disposal problems. Statutes regulating solid waste pollution were not enacted until several years after the initial air and water laws were put in place.[9]

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[7] "Sources" of greenhouse gases include anthropogenic, biogenic and other sources of greenhouse gases emitted into the atmosphere.

[8] "Sinks" of greenhouse gases include anthropogenic, biogenic and other activities, processes, and phenomena that remove greenhouse gases from the atmosphere. Examples of sinks are forests and oceanic plankton.

[9] Other examples include [EPA please suggest items].

Moreover, restrictions on emissions from one kind of source of a pollutant can result in compliance strategies that, while adhering to the law, fail to reduce environmental degradation, and may even make it worse. For example, laws regulating smokestack air pollution were written to require that the ambient air quality in the locality of the smokestack not fall below certain levels. One industry response to this approach was to build taller smokestacks, so that the pollutant plumes were fed into higher wind currents and were dispersed more rapidly from the local area. Pollutants continued to degrade the environment farther downwind. Later, the laws were amended to try to prevent such circumvention.

Recognizing the inherent and recurring problems in the piecemeal approach, the U.S. Environmental Protection Agency is now devising a more integrated strategy to address the "cross-media" and "cross-source" difficulties of our system of environmental control. Preliminary versions of a unified environmental statute have been drafted. Dealing with all environmental impacts in a comprehensive fashion will, we hope, lead to better reduction in deleterious pollution while avoiding environmentally troublesome and economically wasteful compliance strategies that merely shift pollution around.

This experience is particularly apt for the problems of potential global climate change. Such change is thought to be the result of numerous pollutants: several different greenhouse gases, such as carbon dioxide (CO2), methane (CH4), nitrous oxide (N20), chlorofluorocarbons (CFCs) and tropospheric ozone (O3); gases like carbon monoxide (CO) that chemically generate greenhouse gases in the atmosphere; and other substances (e.g. soot and aerosol pollutants like sulfur dioxide (SO2)) that may alter the atmospheric thermal budget in other ways. In turn, each of these gases is produced by a variety of sources on the earth's surface. Imposing narrow controls on one greenhouse gas alone, or on one source of such gases, is likely to be ineffective and possibly even counterproductive. Limits on CO2 alone, for example, could encourage industry to shift to production and combustion processes, alternative fuel sources, and other activities that emit other greenhouse gases, possibly including CO and CH4. Narrow limits on one source of CO2, such as coal combustion in utility power plants, could encourage development of alternative combustion methods (e.g., coal gasification). The end results of these kinds of shifts might even be greater contributions to total greenhouse gas emissions per unit of economic output or per capita. A comprehensive approach to all greenhouse gases, their sources and sinks would

limit total impacts on global climate change, while avoiding undesirable cross-pollutant and cross-source shifts.[10]

3. Additional Considerations in Applying the "Comprehensive" Approach

There are several additional advantages to applying the "comprehensive" approach to an international agreement on potential global climate change.

First, the comprehensive approach would allow each nation to use that combination of source and sink controls and other measures that is best adapted to its economic and other circumstances, achieving greenhouse environmental protection at significantly lower cost than a pollutant-by-pollutant strategy. This approach maximizes the opportunity for and encourages the adoption of diverse, flexible, innovative, and cost-effective solutions to global climate change. For example, an approach that mandated specific percentage reductions in each gas -- such as a 20% reduction in CO2 and a 30% reduction in methane -- would be more costly than an approach that required a reduction in each nation's contribution to total warming (as measured by the gas-comparison parameter) and permitted each nation to adopt its least-cost mix of choices achieving the target overall. Some nations might be able to reduce CO2 emissions much more than 20% through substitution of non-fossil fuels, but be unable to reduce methane output (e.g., a nation importing oil and dependent on rice crops, but endowed with untapped solar power opportunities). Those nations would meet their net targets by reducing CO2 more rapidly than methane; reducing each the same amount would prove much more costly (perhaps in terms of higher taxes, or reduced

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[10]Although a "comprehensive" approach to greenhouse gases would avoid shifts within the realm of greenhouse factors, it still might be said to be focused on the "single medium" of atmospheric temperature change. The problem of the environmental "second-best" could then persist even in our "comprehensive" approach: the adoption of a comprehensive greenhouse gas agreement might lead to previously undiscovered non-greenhouse environmental impacts. An extreme analog is the history of chlorofluorocarbons (CFCs): enthusiastically introduced to replace chemicals that were highly toxic to humans, CFCs later proved to have serious effects on the stratospheric ozone layer.

Nevertheless, a "comprehensive" approach to greenhouse gases, sources and sinks is a vast improvement over pollutant-by-pollutant or source-by-source control of greenhouse factors. Meanwhile, the IPCC or other appropriate body could be directed to monitor possible non-greenhouse environmental impacts of any agreement and to report to the international community at regular intervals.

rice production) and would leave available CO2 reductions unexploited. Other nations might find themselves in the opposite situation, able to reduce methane more than CO2 (e.g., a nation dependent on coal reserves but able to reduce its ruminant animal husbandry).[11] The economic and social costs of policy responses to global climate change are likely to be great. It is thus particularly important in this context to use institutional strategies that will maximize the incentives and opportunities for development of new technologies and other innovative responses that will reduce these costs. A comprehensive approach employing performance-based standards will contribute substantially to achieving this goal.

Second, this approach reserves to each nation the freedom to employ whatever institutional mechanisms it wishes to use to achieve its target objective. This flexibility takes account of the widely varying legal and cultural systems present in different nations, and avoids the obstacles to international agreement among sovereign states that would be raised by dictating to each nation how it must institutionally manage its climate-related policies and industries. A free market economy would not be required to employ strict command and control regulations; by the same token, a centrally planned economy would not be required to employ market measures.

Third, a comprehensive approach would be more equitable. An approach that set targets first for one gas, or for certain sources or sinks, and progressed to others only later would unfairly put the onus of compliance disproportionately upon those nations whose economies are comparatively more burdened by the initial measure. For example, an approach that first mandated 20% reductions in CO2 emissions would place much greater burdens on those heavily committed to using fossil fuels, and on those whose economies depend on exports of fossil fuels; alternatively, an approach that first mandated 20% reductions in methane emissions would place much greater burdens on those heavily dependent on rice crops and ruminant animal husbandry. A comprehensive approach gives nations a more equal obligation to shoulder the costs of compliance. The comprehensive approach is consequently likely to avoid some of the obstacles to international agreement that would be faced by a pollutant-by-pollutant approach. The latter approach could engender

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[11]A similar analysis applies to approaches mandating specific changes in sources alone or sinks alone, rather than combining them in a "net emissions" requirement that leaves the domestic policy mix to each nation.

opposition from nations who feared that the initial burden would fall on them; the comprehensive approach would ease such fears.[12]

There are, however, important caveats to a comprehensive approach that should be reviewed. First, the calculation of proper gas-comparison parameter or "index" values will require effort. Scientific study of this calculation has made progress, but more needs to be done before consensus values are obtained. As mentioned above, the parameter values depend on a variety of complex and sometimes interrelated variables.[13] So far, efforts to define a parameter have reached somewhat different results. In addition, if the parameter values are to be useful in assessing the comparative contributions of different sources and sinks, there remains the practical problem of assigning values sensitive enough to yield efficient environmental policy.[14]

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[12]Moreover, a comprehensive approach reduces the ability of nations to manipulate the design of international regulatory measures to their own competitive or other economic advantage. A pollutant-by-pollutant command and control approach is vulnerable to attempts by nations to "game" the standard-setting agenda in their favor. For example, a nation reliant on non-fossil fuel energy sources, and whose chief rival earns its income from fossil fuel exports, could press for reductions in CO2 emissions not for their environmental value but to improve its competitive standing relative to its rival. Or a wheat-growing nation could press for methane emission reductions at the expense of its rice-growing neighbor. Such attempts would hinder international agreement on reductions of any particular pollutant. Such attempts to "game" the design of international regulatory controls are also likely to distort trade and reduce global welfare, as well as impede environmental improvement. By leaving the mix of compliance policies to each nation's discretion so long as the overall target is achieved, the comprehensive approach greatly reduces the potential for such gaming.

[13]For example, the atmospheric lifetimes of some important gases are not yet completely understood. In addition, parameter values for each gas are usually expressed as constants, whereas their dependence on such variables as the changing ambient concentrations of related gases suggests that mapping a continuous function could be helpful for policy analysis.

[14]As sources and sinks are assigned performance values for their contributions to emissions of gases and thus to total climate change, those values must be sensitive and flexible enough to take account of numerous variables, such as diverse and improving combustion techniques and scrubbing methods, and the varying regional characteristics of forests. Otherwise, the

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Finally, the policy ramifications of assigning different parameter values to different gases -- effectively altering the costs to different nations of achieving their performance targets -- mean that the parameter values obtained must be carefully derived and highly accurate. The committee conducting this work should be composed of the best experts, and must produce methods and conclusions that are legitimate in the eyes of the world.

Second, pursuit of the "comprehensive" approach might appear to some critics to delay the process of reaching international agreement on global climate change issues. Some may believe that the fastest approach is to adopt protocols quickly for substances we can agree on now, and then proceed to thornier issues as we go. On the other hand, the comprehensive approach could in fact proceed more quickly, because (as discussed above) it raises the probability of broad consensus by eliminating the divisive inequitable effects of single-pollutant protocols. In addition, the comprehensive approach may achieve better overall environmental protection than a single-pollutant protocol, even if it does take slightly longer to achieve than the first single-pollutant protocol would take, because it will prevent cross-pollutant shifts.[15]

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[14](...continued)
values set will entrench existing practices and discourage investment in advances that could further reduce net greenhouse gas emissions. For example, if "coal combustion" were assigned a constant parameter value regardless of combustion technique, industry would have no incentive to adopt innovative combustion techniques that reduce the quantity of greenhouse gases emitted per BTU (indeed, the incentive could operate in the opposite direction). A similar analysis would apply to assigning a parameter value to, say, "trees" generally, whereas different types of trees, and trees in different settings, remove greenhouse gases from the atmosphere at different rates.

The source and sink values should also be able to take account of long-term investments in emissions-affecting policies, such as sink development, which may have inherently long lead times.

[15]Efforts might also be directed to accelerating work on the scientific issues raised by the comprehensive approach, in order not to waste time. A different tack would be to consider including in a framework convention, depending on the status of development of the first protocol, a requirement that within a specified period after the convention enters into force the parties will agree on the scope and timetable for the first protocol. It may, however, be infeasible to ask parties to bind themselves to future agreement; and specifying too early a date might hinder efforts to achieve an intelligent resolution of difficult issues.

Third, the comprehensive approach requires a decision on which greenhouse gases to include. (Although the same question could be faced at several junctures in a pollutant-by-pollutant approach, the comprehensive approach depends upon an overall decision earlier in the process.[16]) For example, it may be difficult to decide how to treat chlorofluorocarbons (CFCs) and other greenhouse gases already regulated under the Montreal Protocol on Substances Depleting the Ozone Layer. Options for addressing CFCs in a greenhouse gas agreement include:

(a) giving credit for reductions in CFCs that go beyond the reductions required under the Montreal Protocol;

(b) giving credit for all reductions in CFCs; and

(c) not giving credit for reductions in CFCs.

Each of these options would have different effects on CFC consumption.[17] Other options might also be suggested. A related question is the treatment of the existing reservoir of CFCs trapped in such containers as abandoned refrigerators. Venting such CFCs could be counted as greenhouse gas emissions, thus giving incentives to store or recycle such gases safely.

Fourth, the comprehensive approach will also require decision on what treatment to give past practices, such as investments in fossil and non-fossil fuel energy sources; energy conservation; efforts at controlling pollutants that reduce greenhouse gas emissions; and deforestation. This question must be faced, of course, under a single-pollutant approach as well.

Fifth, a multi-pollutant agreement may complicate the task of monitoring compliance, because it covers many more gases and sinks which must be watched. This concern points to the need to ensure scientifically credible methods of monitoring emissions

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[16]Limitations in data and scientific understanding may preclude inclusion, at least at the outset, of "all" greenhouse gases, sources and sinks, even in a comprehensive approach. An ideal comprehensive approach would include all factors influencing global climate change. If that is infeasible, a comprehensive approach could begin with the set of major, scientifically understood gases, their sources and sinks, and proceed to add other gases as they become understood.

[17]For example, option (c), no credit, would provide no additional incentive to nations producing CFCs to achieve further reductions. Option (a) would provide such an incentive. Option (b) would provide such an incentive and recognize the value to potential global climate change of reductions made in CFCs under the Montreal Protocol.

of various sources, changes in sinks, and their effects on global climate.[18] In this respect, a comprehensive approach reinforces the need to base response agreements on sound science and data. (It is also possible that the effects of certain gases, sources and sinks may not be sufficiently well understood to include them in an initial agreement limiting net emissions. The ideal of total comprehensiveness may thus be limited by gaps in knowledge. As scientific knowledge advances, however, additional gases, sources and sinks could be included in the basic agreement.)

B. "Emissions Trading" Approach.

The second approach suggested for consideration is "emissions trading" in greenhouse gas emissions. This paper discusses emissions trading systems that nations could choose to employ in their domestic implementation of environmental protection goals, such as for curtailing greenhouse gas emissions. The paper surveys how emissions trading works in principle, and what experience the United States has had in employing trading systems for environmental protection.

1. Description.

Emissions trading is one system for employing transferable allowances to ration the use of scarce resources, such as land, air, or water. These systems are not methods for increasing the amount of resource exploitation permitted. They are simply methods for implementing the same limit on total resource use that would be imposed under a traditional regulatory scheme. Under a traditional scheme, every resource user must reduce its use by the same percentage or to the same uniform level. For some users, that will be very expensive; for others, even further reductions would be feasible, but there is no incentive to achieve further reductions. Under a trading system, the total target limit (or reduction) is the same, but the resource users are able to reallocate who uses more and who uses less -- that is, to trade allowances among the users. They will do so according to how valuable it is to each user to continue using the resource. Those users for whom reducing resource use is very expensive can purchase allowances from those users for whom reductions are less expensive. Allowance sellers then must reduce their use of the regulated resource even further, but they gain the sale price of their allowances. The result is that those best able to reduce resource use do so the most. Overall,

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[18]For example, in many nations data on methane emissions from diverse non-point sources, such as rice fields, landfills and animal herds, are not well developed.

the aggregate resource use target is achieved at lower total cost than if all users were required to meet the same target regardless of differences in their costs.

To put the point more concretely: say that the government determines to reduce total emissions of a pollutant to Level X, which works out to an average reduction from present levels of 20 units per polluter.[19] Initially, the government instructs each polluter to reduce its emissions to a target level of 20 units less than current emissions; or, stated in other words, each polluter is allowed to pollute up to the target level, 20 units less than its current emissions. Allowances are distributed to polluters which, in total, add up to Level X. No pollution may be emitted by each polluter above its target, or, in other words, unless it is accompanied by an allowance. So far, this system is identical to the traditional scheme. Some polluters will find it inexpensive to meet the 20 unit reduction, and could even reduce further, while others will find it very costly -- possibly ruinous. Now, we add the simple change that polluters are permitted to trade the allowances they hold. Then emitters would find mutual advantages to trading. For example, one emitter of the pollutant might find it more costly to reduce its own emissions 20 units than to reduce its own emissions only 10 units and to purchase allowances worth the remaining 10 units (those it will still be producing above its target level) from another emitter -- so that the second emitter must reduce its emissions 30 units (the initial 20 units plus an additional 10 units to account for the allowances it is selling). This decision is a good choice for the second emitter if it is able to reduce the extra 10 units at less cost than the price the first emitter is paying it for the accompanying allowances. The net result is the same average 20 unit reduction sought by the government, achieving Level X overall, but at less total cost to society, because the sum of the price paid for the allowance trade and the second emitter's reduction expenses is less than the sum of expenses if each emitter had to reduce 20 units. The "cost" society saves is resources that can be put to good use on other activities.

The payment for the allowances could be in cash. For example, a large emitter might meet its allowance limit by paying a landowner to plant trees. Or the payment could be in-kind; thus, the second emitter might receive some service from the first emitter. For example, the first emitter might be a large farming company which could give the second emitter, a town's public utility plant, harvested grain in return for the extra 10 units of allowances. Whatever the mode of payment, both sides

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[19]The analysis is similar for a certain percentage reduction per polluter, or for a rule limiting each polluter's emissions to a certain maximum.

would gain, at no loss to society in pollution prevention. Indeed, the gains from trade in allowances are similar to the gains from trade when two parties voluntarily exchange other things of value, such as when two neighbors have different jobs (e.g., farmer and doctor) and rely on each other's services, or when nations with different economic strengths trade different goods with each other. It is less costly to everyone for the parties to produce goods according to their own strengths and to trade, than for each party to be self-sufficient in every needed item.

Trading in emissions allowances has several advantages over nontransferable emissions limits. As just described, it enables society to achieve pollution reductions at lower total cost. Given the likely high cost of reducing greenhouse gas emissions in most societies, a trading system could be a critical tool in implementing greenhouse gas emissions limits. In addition, emissions trading gives incentives for energy conservation and other forms of fuel efficiency and pollution prevention, whereas regulations that direct firms to employ a certain pollution control technology do not. Moreover, emissions trading encourages innovation in technologies, processes and social systems that reduce emissions at least cost over the long term, whereas regulations that direct firms to employ a certain pollution control technology do not.

There would be no requirement that every regulated emitter "take part" in the trading system; those who saw no economic need to engage in trades, or who were philosophically opposed, could refrain. At the same time, other organizations who wanted to reduce total pollution further -- such as a philanthropic foundation or the government -- could purchase allowances and hold them without emitting pollutants. (The government could also announce in advance that the value of allowances would be reduced over time, or that tiers of allowances would expire in time, or that allowances must be repurchased periodically.)

Implementation of such a system would require a role for government, as discussed further below. The government could monitor emissions, as it would under a traditional regulatory scheme, and it could monitor the trades themselves, to ensure accurate accounting. The government could facilitate trading, by acting as an auctioneer or broker, and by establishing "banks" to trade in allowances. To avoid unregulated increases in pollution, the government would not permit pollution without accompanying allowances. Allowances could expire and be issued or auctioned annually, in revised total amounts that reflect the government's desired rate of decline or growth in total pollution. To avoid forcing new entrants to the market to purchase their allowances directly from their competitors, the

government could retain some of the allowances for issuance or auction to new businesses.

2. U.S. Experience with "Emissions Trading" Approaches

Emissions trading is not just a concept; it is a practical method now operating in the United States in several different areas of environmental policy. A growing literature has analyzed these efforts.[20] Trading has been used, for example, to implement controls on air pollution, water pollution, use of fuels and hazardous substances, and land development. For the most part, these efforts have been highly successful, but we have learned as well from the few trading systems that have not functioned well. Experience with trading systems has been sufficiently impressive to encourage the Administration to employ an emissions trading approach in its ambitious proposal to reduce acid rain; this proposal is now being debated in Congress.

Examples of U.S. experience with emissions trading and related systems include:

(a) Emissions trading under the Clean Air Act. Under the Clean Air Act, each region of the country must attain ambient air quality standards. Existing, modified, and new sources of pollution are all regulated to achieve the ambient standards and to prevent deterioration once standards are attained. Depending on the type of source and whether the area is "in attainment" or not, sources must employ a range of pollution controls. The U.S. Environmental Protection Agency (EPA) has implemented the ambient air quality requirements and the pollution control requirements through several different emissions trading systems. "Offsets" allow new or modified sources to be created in nonattainment areas so long as they obtain corresponding decreases in emissions from existing sources in the same area. The new source must still employ the most stringent pollution control technologies. "Netting" allows a source modification to occur without employing the most stringent pollution control technology if it obtains a corresponding decrease in emissions from other parts of the same plant. "Bubbles" allow existing plants with multiple sources to reallocate emissions within the plant, so long as total emissions

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[20]See the articles cited in the "References" section at the end of this paper. Experience with several specific trading systems is surveyed by Dudek & Palmisano, "Emissions Trading: Why is this Thoroughbred Hobbled?" 13 Colum. J. Envtl. L. 217 (1988); and Hahn & Hester, "Marketable Permits: Lessons for Theory and Practice," 16 Ecol. L. Q. 361 (1989). The discussion of trading system examples in this section draws from these articles and other sources.

do not increase. In addition, a banking program lets existing sources store extra reductions in emissions for future use.

Experience has been different under each of these programs, but in general, there have been significant cost savings to industry from the netting and bubble programs. There have been numerous netting trades, yet fairly few bubble program trades. There have been a number of offset trades, but it is difficult to assess the cost savings obtained. No overall environmental effects have been observed; that is consistent with the design of the trading programs to permit reallocation of emissions among and within plants but to maintain the same aggregate emissions level.

Yet observers believe that these trading programs could be more successful. First, trading is limited but some non-transferable emissions reduction duties; for example, new sources are not permitted to avoid employing the most stringent pollution control technologies, even if they can find an existing source willing to reduce its emissions commensurately. This situation prevents trading that could reduce costs while maintaining constant total emissions. Second, the combination of technology-based emissions control rules and emissions trading often adds costs. Firms that have installed control technology are in compliance, but they must separately measure actual past and present emissions if they want to trade. Trading would be relatively less costly if the law regulated emissions directly, not technology. Similarly, standards for ambient air quality do not mesh well with emissions trading, because allowances traded may subject to confiscation if the region as a whole fails to meet its ambient quality standard. Third, the variety of trading systems, and the variety of attendant regulatory oversight, favor some kinds of trades (chiefly trades internal to a firm, such as netting) over others.

Moreover, some specific trading programs have not worked well. For example, the agency operating the Los Angeles program has authorized additional pollution from new sources without requiring the sources to obtain emissions allowances. That kind of waiver or loophole effectively expands the limit on total pollution; it is as though the overall emissions target set by the government had been relaxed. The agency's action permits pollution to rise and simultaneously undercuts the allowance market (and lowers allowance prices) by making allowances effectively unnecessary.

(b) Acid rain reduction proposal. The Administration has proposed, and Congress is now considering, new Clean Air Act legislation to reduce emissions of pollutants which contribute to acid precipitation. A key feature of the Administration proposal is a system of transferable emission allowances. The proposal sets a permanent cap of 10 million tons per year on emissions of sulfur dioxide (one of the main precursors of acid precipitation) from certain fossil fuel-burning electric utilities (the primary source of SO2 emissions in the U.S.) The proposal requires each

utility to hold an allowance for each ton of SO2 it emits. Allowances for 10 million tons of emissions per year would be allocated among the utilities by multiplying each utility's historic power output levels by an average SO2 emissions rate. Under this formula, most utilities would not be allocated enough allowances to cover their emissions at historic levels. To make up this allowance shortfall, utilities could reduce their emissions by installing additional pollution control equipment or taking conservation measures, or could purchase additional allowances. Utilities that could afford to reduce their emissions below the average emission rate (i.e. below the number of allowances they had been allocated) would be able to sell those "extra" allowances to other utilities.

This system provides flexibility for each utility to choose the compliance strategy that is most cost-effective for it. Each utility can adopt the mix of emission reductions and allowance sales or purchases that best minimizes its own costs. It also creates a strong financial incentive for all utilities to minimize their emissions; thus, it encourages energy conservation and technological innovation, either of which would be encouraged by a rule requiring utilities to adopt specific pollutant control mechanisms such as scrubbers. And by permitting trading, it ensures that the overall environmental objective -- limiting utility SO2 emissions to 10 million tons per year -- is achieved at the lowest possible cost to the economy as a whole.

(c) Lead phasedown. Also under the Clean Air Act, the EPA issued regulations reducing the allowable lead content of gasoline. In 1982 EPA instituted limits on lead content and permitted trading within and among refiners: leaded gasoline producers and importers could transfer (i.e., buy and sell) lead content credits freely among themselves through 1986, or could apply such credits to their own gasoline. But such credits expired quarterly if unused. In 1985, EPA substantially reduced the lead content limit further; the content was required to decline, in phases, from 1.10 grams of lead per gallon (gpg) to no more than 0.10 gpg by the end of 1985. To provide leaded gasoline producers and importers with some flexibility in complying with the new limits, EPA also issued regulations in 1985 permitting producers and importers whose gasoline in 1985 contained less lead per gallon than the applicable standard, to "bank" lead content credits (i.e., to avoid the expiration of credits). The "banking" regulations then permitted gasoline producers and importers to "withdraw" those lead content credits through the end of 1987 and to apply them to help meet the new, more stringent lead content standards that took effect in 1985.

The banking and trading system helped the industry as a whole to comply with the new lead limits, while ensuring that the total amount of lead content did not exceed the maximum that otherwise would have been allowed under the lead content standards in the absence of the banking provisions. Data

indicate that banking and trading were active, and that they resulted in substantial cost savings (on the order of hundreds of millions of dollars).

The design of the lead phasedown system facilitated widespread trading. Firms were not required to apply to the EPA for permission to enter into trades; they simply reported their trades to the government, as part of their regularly required reports of the lead content in their gasoline. Each firm was simply required to have a net balance of lead content credits greater than or equal to zero in each quarter. In addition, because gasoline refiners and importers were accustomed to trading feedstocks and other commodities with each other, trades in lead content credits did not require new information networks. In sum, the lead phasedown was highly successful.

(d) CFCs reduction. In order to implement national and international requirements that production and use of CFCs be reduced in the 1990s, the EPA has issued regulations limiting total U.S. CFC production and requiring a 50% reduction in production by the end of the decade. The EPA regulations implement these phased reductions by issuing allowances to each producer of CFCs. These allowances may be traded among producers. Analysts expect this system to work well. EPA is able to monitor emissions of CFCs, and to keep track of allowance trades. Producers are aware of potential buyers and sellers and can trade allowances freely. One important question is whether EPA will issue initial allowances free of charge, or sell them at fixed prices or at an auction. Free issuance is administratively simpler, but selling the allowances -- especially at an auction -- would provide a natural method for allocating the allowances to start the program, and would give producers an incentive to develop CFC substitutes even sooner.

(e) Pinelands development. A somewhat different kind of allowance system has been used successfully by the State of New Jersey to regulate development of the Pinelands, a forest zone the State wishes to protect from excessive development. Here the allowances are not for emissions of a pollutant, but for rights to develop certain property. Property in parts of the Pinelands is slated for preservation, and the owners of that property may agree to be prohibited from developing their land. In return, they are issued "transferable development rights" (TDRs) which they may sell to others wishing to develop land in the other areas of the Pinelands. Different amounts of TDRs are issued to each owner, depending on the value to society of preserving that owner's property. In areas in which development is permitted, landowners must hold TDRs to develop their property. Thus, the total amount of development in the Pinelands is capped, and the regional distribution is partly restricted; but the precise allocation of development on permissible properties is left to the market for TDRs. In addition, no current landowner is entirely deprived of the former market value

of his or her land, because those who are barred from developing their own land receive TDRs to sell to others. Because anyone may purchase the TDRs, landowners in high-growth areas who wish to block further development may buy TDRs to retire them. The government has established a TDR exchange to facilitate trades: the exchange buys TDRs from willing sellers and sells them to interested buyers.

(f) Fox River water pollution. Under the Clean Water Act, sources of water pollution must meet water quality standards. The State of Wisconsin adopted a pollution discharge limit system for the Fox River that set the limit for each source, but also permitted sources to devise new discharge limits, by mutual agreement, so long as the total discharge did not rise. In principle, the system implements a market in transferable emissions allowances. In practice, however, the system has proved cumbersome. Sources hold five-year permits from the state, and trades may expire at the close of a permit cycle, impairing their use for reallocations that involve long-term investments in capital equipment. No allowances or credits are actually issued to sources; instead, each agreement between sources must be submitted for approval to the state agency. Parties must demonstrate to the state that they "need" to make changes in their permits. Review by the agency can be complex and time-consuming. And there is no broker to help arrange trades. Thus, transaction costs are high and the market is sluggish. Agency review of proposed trades is necessitated, moreover, by the fact that agreements between sources can yield very low discharges of toxic substances in one local area and very high discharges of toxics in another, placing too great an ecological burden on the latter area. Hence the spectrum of possible trades is limited.

(g) Dillon Reservoir water pollution. In the state of Colorado, economic growth was adding pollutants to the Dillon Reservoir, endangering drinking water supplies. Pollutants came from both point sources (e.g. factory discharge pipes) and nonpoint sources (e.g. runoff). The government issued annual discharge allowances to all sources. It then requires that sources may increase their discharges only if they acquire allowances from nonpoint sources, at a ratio of 2:1. That is, for each pound of discharges a source wishes to add, it must reduce discharges by two pounds from nonpoint sources. Because control of point sources is about seven times as expensive as control of nonpoint sources, the 2:1 trading ratio leaves dischargers considerable room for cost-saving trades. Thus, trading will both save costs and reduce pollution. Although the program is just getting under way, observers expect active trading and significant cost savings.

(h) Other related programs. Transferable allowances and related systems are also being used in other environmental

protection programs. Some truck and automobile manufacturers are being permitted to trade internally in different types of emissions. That is, a manufacturer is instructed to achieve total or average emissions for its fleet, but permitted flexibility to allocate those emissions among its vehicles. A similar program is being developed for trading between different pollutant gases (nitrogen oxides and particulates) emitted from truck engines. A trading program for reducing asbestos emissions has also been discussed.

3. The Fruits of Experience.

U.S. experience with these and other trading systems has yielded several insights. They are summarized here.

Creating a market. Trading systems work when a resource -- such as stock in a corporation, or available land for development, or the ability to emit a substance while keeping the environment healthy -- is in demand, and when the supply of the resource is finite. Thus, it is essential for a trading system to work that there be a limit, or "cap," on the total amount of allowances. In an emissions trading system, this cap will be the total amount of pollution the government wants to allow, and it may change over time (say, as the government reduces the total amount of allowed pollution). In addition, it is essential that the market include participants with diverse interests in holding the allowances -- that is, some who will want to buy and some who will want to sell. Thus, emissions allowances should not be distributed only to the worst polluters; they should also be distributed to firms that historically have been "clean," and to firms for whom pollution reduction is inexpensive as well as firms for whom it is expensive. In the Administration acid rain bill described above, the system will include a large number of utility plants, with a wide spectrum of pollution reduction costs, so that a robust trading market develops.

Preventing evasion. At the same time, trading systems will fail to achieve their overall environmental protection goals if pollution is permitted in the absence of allowances, or if the total amount of pollution is permitted to rise through the issuance of unrestricted allowances (as in the Los Angeles bubble). The agency supervising the trading system must maintain the integrity of the market for allowances, monitor to prevent cheating, and issue allowances according to the desired overall limit on pollution.

Facilitating trades. In some systems, such as the lead phasedown described above, trading occurs easily. In others, the allowance holders are not sufficiently able to trade with each other. This may occur because each holder lacks information

about other holders and cannot find or communicate with them. Government can facilitate trades by furnishing such information; by acting as a broker, arranging buyers and sellers; by acting as an auctioneer; or by creating a "bank" which buys and sells (or borrows and lends) allowances. The New Jersey TDR exchange for Pinelands development is a good example of such a bank.

Monitoring trades. Some monitoring must occur lest participants in the market overstate their trades or the allowances they hold. Monitoring trades could be accomplished through reporting requirements, spot checks, or designated periods in which trading is conducted. Other markets, such as securities ("stock") markets, function well in the presence of careful government monitoring. But requiring trades to be submitted to regulators for prior approval, or requiring them to meet special criteria, may tend to discourage effective trading.

Monitoring emissions. In addition, the government must monitor the emissions of pollutants to be sure that emitters do not understate their emissions. This task would be necessary whether or not a trading approach is employed. If monitoring emissions is infeasible, effective regulation -- whether implemented through a trading system or not -- is difficult.

More than local significance. A trading system is most effective when the problem it is applied to has significance beyond local areas. That is, the resource being preserved (such as clean air or water) should be of at least regional significance. For example, trading works well in reducing air pollution dispersed over a wide area from numerous source points. The potential greenhouse effect is just such a regional issue.

One problem encountered in some trading programs is that too many pollution allowances (and hence too much pollution) could be concentrated in one locality, or "hot spot"; if the pollution has direct toxic effects, this concentration could excessively endanger the local population. This type of danger, and attendant agency review, inhibited trading in the Fox River program. Even if such concentrations did occur in a trading system for greenhouse gases (and given the wide variety of gases, sources and sinks and their wide geographic distributions, such concentrations seem unlikely), "hot spots" are not generally a problem for the important greenhouse gases, because those gases may have global thermal effects but do not usually have local toxic effects.

Moral issues. Some observers have criticized trading systems as "immoral licenses to pollute," because trading allows emitters to pay others for permits to allow their own emissions to grow. A system without trading, however, involves the same "license" to pollute within the same total target; trading only allows emissions to be reallocated within the overall limit. That is, nontransferable regulatory limits on pollution give

polluters the very same "license" to pollute up to the regulated limit; trading does not change the overall limit. Moreover, if trading is effective at reducing pollution at less cost, then it is unclear what moral concern is applicable to the difference between a trading system and a non-trading system. The central concern should be which system better achieves desirable environmental protection at least cost.[21]

Some critics have also argued that if a firm is able to achieve additional pollution reductions beyond regulated standards, those extra reductions should "benefit society" and should not be sold to another firm to raise the second firm's pollution level. First, such criticism is really directed at the government's initial standard: if less total pollution is desired, the standard may be tightened, but once the standard is set, further reductions are not legally obligated. Second, such criticism fails to note that firms only reduce pollution when given an incentive to do so (such as threat of punishment or promise of financial benefit). Trading, appropriately designed and monitored, provides the incentive -- the market for extra allowances -- to firms to reduce their emissions beyond the standard; simply setting a standard does not. It is only in a trading system (or a similar system of emissions charges) that the "extra" reduction is induced among firms who find it in their interest to do so.

4. Potential Elective Use of Trading Among Nations.

Just as trading is a useful tool for implementing domestic environmental policies, one or more nations could elect to participate in trading internationally, to meet global environmental protection goals. As with domestic trading, such a system would not be mandatory; only those wishing to participate need do so. Such a trading system could provide the mechanism for international financial and technological assistance to nations who seek to grow economically, to preserve their forests, and to avoid the use of technologies that imply greenhouse gas emissions. An international agency and/or national governments would monitor the trades and perhaps facilitate them. Indeed, using trading systems to implement environmental protection is already a feature of the world economy. "Debt-for-nature" swaps are perhaps the best-known example. The Montreal Protocol on Substances Depleting the Ozone Layer contains "industrial rationalization" provisions allowing limited substance trading among the parties. And the concept of "trading" in the global

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[21]It is worth noting in this regard that, in comparison with a comprehensive approach, a single-pollutant approach is an even larger "license" because it begins by permitting unrestricted emissions of the as-yet-unregulated gases, which might increase even faster as industry shifts to systems producing them.

climate context has been discussed in the RSWG as part of the topic discussion of "Economic (Market) Measures."

CONCLUSION

Addressing the potential problems of global climate change will require creative policy thinking. Attacking the causal factors of global climate change one at a time, pollutant-by-pollutant and source-by-source, could jeopardize sound environmental protection, squander scarce resources, and impose inequitable burdens and unreasonably uniform requirements on nations with diverse needs and capabilities. A "comprehensive" approach would avoid these problems while addressing the potentially serious environmental goals of global climate policy.

In addition, nations may choose to implement environmental policy through various means. Some may choose to adopt uniform standards, or even dictate which technologies businesses must employ. Others may choose more flexible systems, such as transferable allowances. United States experience with "emissions trading" and other transferable allowance systems suggests that they could be quite useful means of implementing global climate change policy.

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and

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Likely candidates for handouts at seminar:

Dudek & Palmisano, Colum. J. Envtl. L.

Hahn & Hester, Ecol. L. Q.

Stavins, Environment

Stewart, Colum. J. Envtl. L.

FILE

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
GEORGETOWN UNIVERSITY
MONDAY, FEBRUARY 5, 1990
10:15 A.M.

THANK YOU, DR. BOLIN [BO-LEEN]. PROFESSOR OBASI. DR. TOLBA. DELEGATES OF THE WORLD METEOROLOGICAL ORGANIZATION, AND THE UNITED NATIONS ENVIRONMENT PROGRAM. LET ME COMMEND ALL OF YOU, FOR COMING TOGETHER TO EXAMINE AN ISSUE OF SUCH GREAT IMPORTANCE. THE RECOMMENDATIONS THIS DISTINGUISHED ORGANIZATION MAKES CAN HAVE A PROFOUND EFFECT ON THE WORLD'S ENVIRONMENTAL AND ECONOMIC POLICY.

BY BEING HERE TODAY, I HOPE TO UNDERSCORE CONCERN -- MY COUNTRY'S, AND MY OWN -- ABOUT ENVIRONMENTAL STEWARDSHIP; AND TO REAFFIRM OUR COMMITMENT TO FINDING RESPONSIBLE SOLUTIONS. IT IS BOTH AN HONOR AND A PLEASURE TO BE THE FIRST AMERICAN PRESIDENT TO SPEAK TO THIS ORGANIZATION, AS ITS WORK TAKES SHAPE.

YOU ARE CALLED UPON TO DEVELOP RECOMMENDATIONS WHICH STRIKE A DIFFICULT YET CRITICAL INTERNATIONAL BARGAIN: A CONVERGENCE BETWEEN GLOBAL ENVIRONMENTAL POLICY, AND GLOBAL ECONOMIC POLICY. A BARGAIN WHERE BOTH PERSPECTIVES BENEFIT -- AND NEITHER IS COMPROMISED.

AS EXPERTS, YOU UNDERSTAND THAT ECONOMIC GROWTH AND ENVIRONMENTAL INTEGRITY NEED NOT BE CONTRADICTORY PRIORITIES. ONE REINFORCES AND COMPLEMENTS THE OTHER. EACH, A PARTNER. BOTH ARE CRUCIAL.

A SOUND ENVIRONMENT IS THE BASIS FOR THE CONTINUITY AND QUALITY OF HUMAN LIFE AND ENTERPRISE. CLEARLY, STRONG ECONOMIES ALLOW NATIONS TO FULFILL THE OBLIGATIONS OF ENVIRONMENTAL STEWARDSHIP. WHERE THERE IS ECONOMIC STRENGTH, SUCH PROTECTION IS POSSIBLE. BUT WHERE THERE IS POVERTY, THE COMPETITION FOR RESOURCES GETS TOUGHER. STEWARDSHIP SUFFERS.

FOR ALL OF THESE REASONS, I SINCERELY BELIEVE WE MUST DO EVERYTHING IN OUR POWER TO PROMOTE GLOBAL COOPERATION: FOR ENVIRONMENTAL PROTECTION AND ECONOMIC GROWTH. FOR INTELLIGENT MANAGEMENT OF OUR NATURAL RESOURCES AND EFFICIENT USE OF OUR INDUSTRIAL CAPACITY. AND FOR SUSTAINABLE AND ENVIRONMENTALLY SENSITIVE DEVELOPMENT -- AROUND THE WORLD.

THE UNITED STATES IS STRONGLY COMMITTED TO THE I.P.C.C. PROCESS OF INTERNATIONAL COOPERATION ON GLOBAL CLIMATE CHANGE. WE CONSIDER IT VITAL, THAT THE COMMUNITY OF NATIONS BE DRAWN TOGETHER -- IN AN ORDERLY, DISCIPLINED, RATIONAL WAY -- TO REVIEW THE HISTORY OF OUR GLOBAL ENVIRONMENT, TO ASSESS THE POTENTIAL FOR FUTURE CLIMATE CHANGE, AND TO DEVELOP EFFECTIVE PROGRAMS.

THE STATE OF THE SCIENCE; THE SOCIAL AND ECONOMIC IMPACTS; AND THE APPROPRIATE STRATEGIES -- ALL ARE CRUCIAL COMPONENTS TO A GLOBAL RESOLUTION. THE STAKES HERE ARE VERY HIGH; THE CONSEQUENCES, VERY SIGNIFICANT.

THE UNITED STATES REMAINS COMMITTED TO AGGRESSIVE AND THOUGHTFUL ACTION ON ENVIRONMENTAL ISSUES. LAST WEEK, IN MY STATE OF THE UNION ADDRESS, I SPOKE OF STEWARDSHIP: BECAUSE I BELIEVE IT'S SOMETHING WE OWE OURSELVES, OUR CHILDREN AND THEIR CHILDREN.

SO WE ARE RENEWING THE ETHIC OF STEWARDSHIP IN OUR DOMESTIC PROGRAMS. IN OUR WORK TO FORGE INTERNATIONAL AGREEMENTS. IN OUR ASSISTANCE TO DEVELOPING AND EAST BLOC NATIONS. AND HERE, BY CHAIRING THE RESPONSE STRATEGIES WORKING GROUP.

I HAVE JUST SUBMITTED A BUDGET TO OUR CONGRESS FOR FISCAL 1991. IT INCLUDES OVER $2 BILLION IN NEW SPENDING TO PROTECT THE ENVIRONMENT. AND, UNDERSCORING OUR COMMITMENT TO YOUR EFFORTS, I AM PLEASED TO NOTE THAT FUNDING FOR THE U.S. GLOBAL CHANGE RESEARCH PROGRAM WILL INCREASE BY NEARLY 60 PERCENT, TO OVER ONE BILLION DOLLARS.

THAT COMMITMENT, BY FAR THE LARGEST EVER MADE BY ANY NATION, REFLECTS OUR DETERMINATION TO IMPROVE OUR UNDERSTANDING OF THE SCIENCE OF CLIMATE CHANGE.

WE ARE WORKING WITH OUR NEIGHBORS AROUND THE WORLD TO ENHANCE GLOBAL MONITORING AND DATA MANAGEMENT, IMPROVE ANALYSIS, REDUCE THE UNCERTAINTY OF PREDICTIVE MODELS, AND CONDUCT REGULAR REASSESSMENTS OF THE STATE OF THE SCIENCE.

OUR PROGRAM ALLOWS NASA, HER SISTER AGENCIES, AND ALL OUR INTERNATIONAL PARTNERS, TO MOVE FORWARD WITH THE "MISSION TO PLANET EARTH." THAT WILL INITIATE THE U.S. EARTH OBSERVING SYSTEM, IN COOPERATION WITH EUROPE AND JAPAN, TO ADVANCE THE STATE OF KNOWLEDGE ABOUT THE PLANET WE SHARE.

FURTHERMORE, EVEN AS WE WAIT FOR THE BENEFITS OF THIS RESEARCH, THE UNITED STATES HAS ALREADY TAKEN MANY STEPS IN OUR COUNTRY THAT BRING BOTH ECONOMIC AND ENVIRONMENTAL BENEFITS. STEPS THAT MAKE SENSE ON THEIR OWN MERITS IN TERMS OF RESPONSIBILITY AND EFFICIENCY, WHICH HELP REDUCE EMISSIONS OF CFC'S, CARBON DIOXIDE, AND OTHER POLLUTANTS NOW ENTERING THE ATMOSPHERE. LET ME OUTLINE THEM VERY BRIEFLY:

WE ARE PURSUING NEW TECHNOLOGY DEVELOPMENT THAT WILL INCREASE THE EFFICIENCY OF OUR ENERGY USE, AND THUS REDUCE TOTAL EMISSIONS.

WE'RE CRAFTING A REVISED CLEAN AIR ACT WITH INCENTIVES FOR OUR PRIVATE SECTOR TO FIND CREATIVE, MARKET-DRIVEN SOLUTIONS TO ENHANCE AIR QUALITY.

WE'VE LAUNCHED A MAJOR **REFORESTATION INITIATIVE** TO PLANT A **BILLION** TREES A YEAR ON PRIVATE LAND ACROSS AMERICA.

AND WE'RE WORKING OUT A COMPREHENSIVE REVIEW AND REVISION OF OUR **NATIONAL ENERGY STRATEGY**, WITH INITIATIVES TO INCREASE ENERGY EFFICIENCY AND THE USE OF RENEWABLE SOURCES. THESE EFFORTS, ALREADY UNDERWAY, ARE THE HEART OF A $336 MILLION DEPARTMENT OF ENERGY PROGRAM, AND ARE EXPECTED TO PRODUCE ENERGY SAVINGS THROUGH THE YEAR 2000 OF OVER $30 **BILLION** -- WHILE ACHIEVING SIGNIFICANT POLLUTION REDUCTION. QUITE A RETURN ON INVESTMENT.

WE'RE ALSO WORKING THROUGH DIPLOMATIC CHANNELS WITH OUR COLLEAGUES IN OTHER COUNTRIES, AND THROUGH INNOVATIVE MEASURES LIKE DEBT-FOR-NATURE SWAPS, TO DO MORE THAN SIMPLY REDUCE GLOBAL DEFORESTATION. **WE HOPE TO REVERSE IT** -- NOT UNILATERALLY, BUT BY WORKING WITH OUR INTERNATIONAL NEIGHBORS.

THE ECONOMICS OF OUR RESPONSE STRATEGIES TO CLIMATE CHANGE ARE GETTING INTENSIVE STUDY IN AMERICA. WE ARE DEVELOPING REAL DATA ON THE COSTS OF VARIOUS STRATEGIES, ASSESSING NEW MEASURES, AND ENCOURAGING OTHER NATIONS TO FOLLOW SUIT. AND WE LOOK FORWARD TO SHARING THIS KNOWLEDGE AND TECHNICAL SUPPORT WITH OUR INTERNATIONAL COLLEAGUES.

AS WE WORK TO CREATE POLICY AND AGREEMENTS ON ACTION, WE WANT TO ENCOURAGE THE MOST CREATIVE, EFFECTIVE APPROACHES. WHEREVER POSSIBLE, WE BELIEVE THAT MARKET MECHANISMS SHOULD BE APPLIED -- AND THAT OUR POLICIES MUST BE CONSISTENT WITH ECONOMIC GROWTH AND FREE MARKET PRINCIPLES IN ALL COUNTRIES. OUR DEVELOPMENT EFFORTS AND OUR DIALOGUE CAN HELP US REACH EFFECTIVE AND ACCEPTABLE SOLUTIONS.

LAST DECEMBER AT MALTA, IN MY MEETING WITH PRESIDENT GORBACHEV, I PROPOSED THAT THE UNITED STATES OFFER A VENUE FOR THE FIRST NEGOTIATING SESSION FOR A FRAMEWORK CONVENTION, ONCE THE I.P.C.C. COMPLETES ITS WORK. I REITERATE THAT INVITATION HERE, AND LOOK FORWARD TO YOUR COOPERATION IN THAT AGENDA.

WE ALL KNOW THAT HUMAN ACTIVITIES ARE CHANGING THE ATMOSPHERE IN UNEXPECTED AND UNPRECEDENTED WAYS. MUCH REMAINS TO BE DONE. MANY QUESTIONS REMAIN TO BE ANSWERED. TOGETHER, WE HAVE A RESPONSIBILITY TO OURSELVES AND THE GENERATIONS TO COME, TO FULFILL OUR STEWARDSHIP OBLIGATIONS. BUT THAT RESPONSIBILITY DEMANDS THAT WE DO IT RIGHT.

WE ACKNOWLEDGE A BROAD SPECTRUM OF VIEWS ON THESE ISSUES, BUT OUR RESPECT FOR A DIVERSITY OF PERSPECTIVE DOES NOT DIMINISH OUR RECOGNITION OF OUR OBLIGATION -- OR SOFTEN OUR WILL TO PRODUCE POLICIES THAT WORK. SOME MAY BE TEMPTED TO EXPLOIT LEGITIMATE CONCERNS FOR POLITICAL POSITIONING. OUR RESPONSIBILITY IS TO MAINTAIN THE QUALITY OF OUR APPROACH, OUR COMMITMENT TO SOUND SCIENCE, AND AN OPEN MIND TO POLICY OPTIONS. SO THE UNITED STATES WILL CONTINUE ITS EFFORTS TO IMPROVE OUR UNDERSTANDING OF CLIMATE CHANGE -- TO SEEK HARD DATA, ACCURATE MODELS, AND NEW WAYS TO IMPROVE THE SCIENCE -- AND DETERMINE HOW BEST TO MEET THESE CHALLENGES. WHERE POLITICS AND OPINION HAVE OUTPACED THE SCIENCE, WE ARE ACCELERATING OUR SUPPORT OF THE TECHNOLOGY TO BRIDGE THAT GAP. AND WE ARE COMMITTED TO COMING TOGETHER PERIODICALLY, FOR INTERNATIONAL ASSESSMENTS OF WHERE WE STAND.

THEREFORE, THIS SPRING, THE UNITED STATES WILL HOST A WHITE HOUSE CONFERENCE ON SCIENCE AND ECONOMIC RESEARCH ON THE ENVIRONMENT -- CONVENING TOP OFFICIALS FROM A REPRESENTATIVE GROUP OF NATIONS, TO BRING TOGETHER THE THREE ESSENTIAL DISCIPLINES: SCIENCE, ECONOMICS, AND ECOLOGY. THEY WILL SHARE THEIR KNOWLEDGE, ASSUMPTIONS, AND STATE-OF-THE-ART RESEARCH MODELS, TO OUTLINE OUR UNDERSTANDING AND HELP FOCUS OUR EFFORTS.

I LOOK FORWARD TO PARTICIPATING IN THIS SEMINAR, AND TO LEARNING FROM ITS DELIBERATIONS.

OUR GOAL CONTINUES TO BE MATCHING POLICY COMMITMENTS TO EMERGING SCIENTIFIC KNOWLEDGE -- AND A RECONCILING OF ENVIRONMENTAL PROTECTION TO THE CONTINUED BENEFITS OF ECONOMIC DEVELOPMENT. AND AS SECRETARY BAKER OBSERVED A YEAR AGO, WHATEVER GLOBAL SOLUTIONS TO CLIMATE CHANGE ARE CONSIDERED, THEY SHOULD BE AS SPECIFIC AND AS COST-EFFECTIVE AS THEY CAN POSSIBLY BE.

IF WE HOPE TO PROMOTE ENVIRONMENTAL PROTECTION AND ECONOMIC GROWTH AROUND THE WORLD, IT WILL BE IMPORTANT NOT TO WORK IN CONFLICT, BUT WITH OUR INDUSTRIAL SECTORS. THAT WILL MEAN MOVING BEYOND THE PRACTICE OF COMMAND, CONTROL, AND COMPLIANCE -- TOWARD A NEW KIND OF ENVIRONMENTAL COOPERATION -- AND TOWARD AN EMPHASIS ON POLLUTION PREVENTION, RATHER THAN MERE MITIGATION AND LITIGATION. MANY OF OUR INDUSTRIES, IN FACT, ARE ALREADY PROVIDING CRUCIAL RESEARCH AND SOLUTIONS.

ONE CORPORATION, FOR EXAMPLE, STARTED AN IN-HOUSE PROGRAM CALLED POLLUTION PREVENTION PAYS, THAT HAS SAVED THE COMPANY WELL OVER HALF A BILLION DOLLARS SINCE 1975 -- AND PREVENTED 112,000 TONS OF AIR POLLUTANTS, 15,000 TONS OF WATER POLLUTANTS, AND ALMOST 400,000 TONS OF SLUDGE AND SOLID WASTE FROM BEING RELEASED INTO THE ENVIRONMENT. THEY'VE DONE IT BY REWARDING EMPLOYEES FOR COMING UP WITH THE IDEAS. AND THEY HAVE CLEARLY DEMONSTRATED THE BENEFITS OF DOING IT RIGHT.

WHERE DEVELOPING NATIONS ARE CONCERNED, SOME ARGUE WE'LL HAVE TO ABANDON THE FREE-MARKET PRINCIPLES OF PROSPEROUS ECONOMIES. IN FACT, WE THINK IT'S ALL THE MORE CRUCIAL IN THE DEVELOPING COUNTRIES, TO HARNESS INCENTIVES OF THE FREE ENTERPRISE SYSTEM, IN THE SERVICE OF THE ENVIRONMENT. \\

I BELIEVE WE SHOULD MAKE USE OF WHAT WE KNOW. WE KNOW THAT THE FUTURE OF THE EARTH MUST NOT BE COMPROMISED. WE BEAR A SACRED TRUST IN OUR TENANCY HERE -- AND A COVENANT WITH THOSE MOST PRECIOUS TO US: OUR CHILDREN, AND THEIRS. WE ALSO UNDERSTAND THE EFFICIENCY OF INCENTIVES -- AND THAT WELL-INFORMED FREE MARKETS YIELD THE MOST CREATIVE SOLUTIONS. WE MUST NOW APPLY THE WISDOM OF THAT SYSTEM, THE POWER OF THOSE FORCES, IN DEFENSE OF THE ENVIRONMENT WE CHERISH.

WORKING TOGETHER, WITH GOOD FAITH AND EARNEST DIALOGUE, I BELIEVE WE CAN RECONCILE VITALITY WITH ENVIRONMENTAL PROTECTION. LET ME COMMEND YOU ON YOUR OUTSTANDING WORK -- AND WISH YOU ALL DELIBERATE SPEED IN YOUR EFFORTS TO ADDRESS A VERY DIFFICULT, BUT VERY IMPORTANT, HUMAN CONCERN.

THANK YOU -- AND GOD BLESS YOU.

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THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release February 5, 1990

REMARKS BY THE PRESIDENT
AT THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

Georgetown University
Washington, D.C.

10:20 A.M. EST

THE PRESIDENT: Thank you, Dr. Bolin, and thank you for all you're doing in leading this very important effort here. To Professor Obasi and Dr. Tolba, and all the delegates of the World Meteorological Organization, and the UNEP -- the United Nations Environment Program. Let me command all of you for coming together to examine an issue of such great importance.

I also want to salute Bill Reilly, our able EPA Administrator. He will become the next Cabinet official in the U.S. government. I want to thank Assistant Secretary Bernthao for his leadership from the U.S. side of things. And also salute my able Science Advisor who is with us today, Dr. Bromley, who many of you know.

The recommendations that this distinguished organization makes can have a profound effect on the world's environmental and economic policy.

By being here today, I hope to underscore concern -- my country's and my own personal concern about your work, about environmental stewardship, and to reaffirm our commitment to finding responsible solutions. It's both an honor and a pleasure to be the first American President to speak to this organization, as its work takes shape.

You're called upon to deliver recommendations which strike a difficult and yet critical international bargain: a convergence between global environmental policy and global economic policy. A bargain where both perspectives benefit and neither is compromised.

As experts, you understand that economic growth and environmental integrity need not be contradictory priorities. One reinforces and complements the other. Each, a partner. Both are crucial.

A sound environment is the basis for the continuity and quality of human life and enterprise. Clearly, strong economies allow nations to fulfill the obligations of environmental stewardship. Where there is economic strength, such protection is possible. But where there is poverty, the competition for resources gets much tougher. Stewardship suffers.

For all of these reasons, I sincerely believe we must do everything in our power to promote global cooperation: for environmental protection and economic growth; for intelligent management of our natural resources and efficient use of our industrial capacity. And for sustainable and environmentally sensitive development -- around the world.

The United States is strongly committed to the I.P.C.C. process of international cooperation on global climate change. We consider it vital that the community of nations be drawn together in

an orderly, disciplined, rational way to review the history of our global environment, to assess the potential for future climate change and to develop effective programs.

The state of the science, the social and economic impacts, and the appropriate strategies all are crucial components to a global resolution. The stakes here are very high; the consequences, very significant.

The United States remains committed to aggressive and thoughtful action on environmental issues. Last week, in my State of the Union address, I spoke of stewardship, because I believe it's something we owe ourselves, our children and their children. So we are renewing the ethic of stewardship in our domestic programs; in our work to forge international agreements; in our assistance to developing and East bloc nations; and here, by chairing the Response Strategies Working Group.

I have just submitted a budget to our Congress for Fiscal 1991. It includes over $2 billion in new spending to protect the environment. And underscoring our commitment to you efforts, I am pleased to note that funding for the U.S. Global Change Research Program will increase by nearly 60 percent, to over $1 billion.

That commitment, by far the largest ever made by any nation, reflects our determination to improve our understanding of the science of climate change. We are working with our neighbors around the world to enhance global monitoring and data management, improve analysis, reduce the uncertainty of predictive models, and conduct regular reassessments of the state of science.

Our program allows NASA and her sister agencies and all our international partners to move forward with the "Mission to Planet Earth." That will initiate the U.S. Earth Observing System, in cooperation with Europe and Japan, to advance the state of knowledge about the planet we share.

Furthermore, even as we wait for the benefits of this research, the United States has already taken many steps in our country that bring both economic and environmental benefits. Steps that make sense on their own merits in terms of responsibility and efficiency, which help reduce emissions of CFC's and carbon dioxide and other pollutants now entering the atmosphere. Let me outline them very briefly:

We are pursuing new technology development that will increase the efficiency of our energy use and thus reduce total emissions.

We're crafting a revised Clean Air Act with incentives for our private sector to find creative, market-driven solutions to enhance air quality.

We've launched a major reforestation initiative to plant a billion trees a year on the private land across America.

And we're working out a comprehensive review and revision of our National Energy Strategy, with initiatives to increase energy efficiency and the use of renewable sources. These efforts, already underway, are the heart of a $336 million Department of Energy program and are expected to produce energy savings through the year 2000 of over $30 billion -- while achieving significant pollution reduction. Quite a return on investment.

We're also working, through diplomatic channels with our colleagues in other countries and through innovative measures like debt-for-nature swaps, to do more than simply reduce global deforestation. We hope to reverse it, turn it around -- not unilaterally, but by working with our international neighbors.

The economics of our response strategies to climate change are getting intensive study here in our country, in the United

States. We're developing real data on the costs of various strategies, assessing new measures, and encouraging other nations to follow suit. And we look forward to sharing this knowledge and technical support with our international colleagues.

As we work to create policy and agreements on action, we want to encourage the most creative, effective approaches. Wherever possible, we believe that market mechanisms should be applied -- and that our policies must be consistent with economic growth and free market principles in all countries. Our development efforts and our dialogue can help us reach effective and acceptable solutions.

Last December at Malta, in my meeting with President Gorbachev, I proposed that the United States offer a venue for the first negotiating session for a framework convention, once the I.P.C.C. completes its work. I reiterate that invitation here and look forward to your cooperation in that agenda.

We all know that human activities are changing the atmosphere in unexpected and in unprecedented ways. Much remains to be done. Many questions remain to be answered. Together, we have a responsibility to ourselves and the generations to come to fulfill our stewardship obligations. But that responsibility demands that we do it right.

We acknowledge a broad spectrum of views on these issues, but our respect for a diversity of perspective does not diminish our recognition of our obligation -- or soften our will to produce policies that work. Some may be tempted to exploit legitimate concerns for political positioning. Our resposibility is to maintain the quality of our approach, our commitment to sound science, and an open mind to policy options.

So the United States will continue its efforts to improve our understanding of climate change -- to seek hard data, accurate models, and new ways to improve the science -- and determine how best to meet these tremendous challenges. Where politics and opinion have outpaced the science, we are accelerating our support of the technology to bridge that gap. And we are committed to coming together periodically, for international assessments of where we stand.

Therefore, this spring, the United States will host a White House conference on science and economic research on the environment -- convening top officials from a representative group of nations, to bring together the three essential disciplines: science, economics, and ecology. They will share their knowledge, assumptions, and state-of-the-art research models to outline our understanding and help focus our efforts. I look forward personally to participating in this seminar and to learning from its deliberations.

Our goal continues to be matching policy commitments to emerging scientific knowledge -- and a reconciling of environmental protection to the continued benefits of economic development. And as Secretary Baker observed a year ago, whatever global solutions to climate change are considered, they should be as specific and as cost-effective as they can possibly be.

If we hope to promote environmental protection and economic growth around the world, it will be important not to work in conflict, but with our industrial sectors. That will mean moving beyond the practice of command, control, and compliance -- toward a new kind of environmental cooperation -- and toward an emphasis on pollution prevention, rather than mere mitigation and litigation. Many of our industries, in fact, are already providing crucial research and solutions.

One corporation, for example -- and there are others, but I'll single out one of them -- 3M started an in-house program called Pollution Prevention Pays -- one company. And that has saved the company well over a half a billion dollars since 1975 -- prevented

112,000 tons of air pollutants, 15,000 tons of water pollutants, and almost 400,000 tons of sludge and solid waste from being released into the environment. They've done it by rewarding employees for coming up with ideas. And they have clearly demonstrated the benefits of doing it right.

Where developing nations are concerned, I know some argue that we'll have to abandon the free-market principles of prosperous economies. In fact, we think it's all the more crucial in the developing countries to harness incentives of the free enterprise system in the service of the environment.

I believe we should make use of what we know. We know that the future of the Earth must not be compromised. We bear a sacred trust in our tenancy here -- and a covenant with those most precious to us: our children and theirs. We also understand the efficiency of incentives -- and that well-informed free markets yield the most creative solutions. We must now apply the wisdom of that system, the power of those forces, in defense of the environment we cherish.

Working together, with good faith and earnest dialogue, I believe we can reconcile vitality with environmental protection. And so let me commend you on your outstanding work -- and wish you all deliberate speed in your efforts to address a very difficult, but very important, human concern.

Thank you all very much. It is a great pleasure to be the first President to address this distinguished group. Thank you very much. (Applause.)

END 10:36 A.M. EST