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Testimony
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EXECUTIVE OFFICE OF THE PRESIDENT
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*Congressional /
Legislative
Hearings
Testimony*

Wednesday, October 8, 1997

LEGISLATIVE REFERRAL MEMORANDUM

TO: Legislative Liaison Officer - See Distribution below
FROM: *Ron Peterson*
Ronald K. Peterson (for) Assistant Director for Legislative Reference
OMB CONTACT: Randolph J. Stoor
PHONE: (202)395-3164 FAX: (202)395-1086
SUBJECT: ENERGY Oversight Testimony on Projected Economic Impacts of Climate Change Policy

DEADLINE: *→* 4:00 PM Wednesday, October 8, 1997

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SUBJECT: ENERGY Oversight Testimony on Projected Economic Impacts of

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Secretary Peña
September 24, 1997
Page two

curriculum vitae by 3:00 p.m. on Monday, October 6, 1997 to: Steve Eule, B-374 Rayburn House Office Building, Washington, DC 20515. Should any witness intend to introduce a published document or report as part of their written testimony, I ask that they provide 50 copies for the hearing as well as ordering information and, where appropriate, Internet or Web site references for public on-line access to the publication.

In order to publish the written statements on our Web site, the Committee requests that a copy of each witness' testimony, including their curriculum vitae and any supporting graphs or charts, be saved on a DOS formatted 3.5 inch diskette, in either Word Perfect, Word or ASCII text, to permit electronic distribution. Either a correctly formatted disc or an E-mail submission to "steve.eule@mail.house.gov" is necessary. If this is not possible, the Committee will publish on its Web page (under testimony) a phone number and/or E-mail address of the appropriate contact in each witness' office for public access to their testimony.

If you have any questions regarding this hearing, please contact Mr. Steve Eule of the Subcommittee Professional Staff at 202-225-7504.

I look forward to the participation of the DOE witnesses in the hearing.

Sincerely,



Ken Calvert
Chairman

Subcommittee on Energy and Environment

KC:lah

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TESTIMONY

BEFORE

HOUSE SCIENCE SUBCOMMITTEE ON ENERGY AND ENVIRONMENT

PART II: ECONOMICS OF A GLOBAL CLIMATE CHANGE AGREEMENT

Marc W. Chupka

**Acting Assistant Secretary for Policy and International Affairs
and**

Joseph Romm

Acting Assistant Secretary for Energy Efficiency and Renewable Energy

October 9, 1997

2318 Rayburn House Office Building

Statement of Marc W. Chupka
Acting Assistant Secretary for Policy and International Affairs
and
Joseph Romm
Acting Assistant Secretary for Energy Efficiency and Renewable Energy
Department of Energy
Before the
House Committee on Science
Subcommittee on Energy and Environment

Introduction

Thank you very much for giving us the opportunity to discuss two recent climate change reports sponsored by the Department of Energy. The two studies that we'll be discussing are:

- The Impact of High Energy Price Scenarios on Energy-Intensive Sectors: Perspectives from Industry Workshops prepared by Argonne National Laboratories under contract with DOE's Office of Policy and International Affairs, and
- Scenarios of U.S. Carbon Reductions: Potential Impacts of Energy Technologies by 2010 and Beyond, prepared for the Energy Efficiency and Renewable Energy office by a group of five national laboratories, including:
 - Oak Ridge National Laboratory
 - Lawrence Berkeley National Laboratory
 - Pacific Northwest National Laboratory
 - National Renewable Energy Laboratory and
 - Argonne National Laboratory.

Argonne Study

The Argonne study reports on a series of industry-specific workshops that were convened in

June and July of 1996. The workshops were held to discuss the effect of hypothetical energy price increase scenarios on the future competitiveness of six energy-intensive industries: aluminum, cement, chemicals, paper, petroleum refining, and steel. The workshop participants included industry experts from trade associations, environmental groups, labor unions, government, and the academic and financial communities as well as from the industries themselves.

It is important to understand the context in which this report was done. In the Spring of 1996, the Department, along with other agencies, had conducted preliminary analyses of various proposals to reduce greenhouse gas emissions --primarily those advanced by other countries. We recognized that these analyses needed to be supplemented by more focused examinations on energy intensive industries that face significant foreign competition. We reported our initial broad brush analyses to the House Subcommittee on Energy and Power in a hearing held in June, 1996, and Members expressed considerable interest in how specific industries would fare under the scenarios we had presented. The Argonne study was designed to address those issues.

We focussed on six energy-intensive industries (chemicals, petroleum refining, paper and allied products, iron and steel, aluminum, and cement) because they account for over 70 percent of the manufacturing use of energy for heat, power, and electricity generation. Their total employment is about 10 percent of the manufacturing employment total. For each industry workshop, we commissioned an expert to write a discussion paper to circulate to

workshop participants to help focus the dialogue. The Office of Policy and International Affairs provided the expert and the participants with a baseline scenario and energy price increase scenarios. These scenarios were suggested from preliminary analyses of policies that did not incorporate many important features of the subsequent protocol submission of January 1997. In particular, international emission trading, joint implementation, multi-year emission budgets, and developing country commitments were not stipulated in the price scenarios given to workshop participants, and no additional support for technology R&D was assumed.

The discussion paper authors and panelists were asked to focus on three questions:

- What will be the effects of the specified energy price scenarios on the competitive positions of U.S. producers, including import and export levels, and shares of world production by U.S. plants?
- What are the likely impacts on key indicators, such as output, employment, energy use, and output prices? and
- Where in the world and in the U.S. will new plants be most likely to open and where will plants be most likely to be closed?

Under the scenarios examined, the workshop participants painted rather grim portraits of potential impact, which have been influential in the evolution of the U.S. policy position.

Several of these elements are discussed below:

- We learned that even in the base case scenario, with no assumed fuel price increases, new "greenfield" plants are not likely to be built in the United States in the study period, to the year 2015. Recent U.S. investment has been refurbishing existing

plants, not building greenfield plants. Countries with lower labor, capital, and other costs offer more attractive locations for new plants than the U.S..

- We learned that policies that had the effect of significantly raising energy prices for energy-intensive industries would have an adverse impact on output and employment in these industries. Goods produced in these industries are traded extensively in world markets, and with no fuel price increases assumed in developing countries, developing countries would capture an increasing share of the world and U.S. markets.
- Total effects would not occur immediately, but would be felt over a period of years. Short term impacts would be cushioned by the value of existing capacity and some technical improvements that could partially offset the higher variable costs from increased energy prices.
- The workshop participants felt that price-induced technology improvement would not be sufficient to reduce global emissions from energy-intensive industries. In many of these industries, technologies are mature and recent technical improvements have been gradual and incremental. Higher energy costs and thin profit margins, and the fact that some international competitors were assumed to be not subject to the price increases would make domestic industries less competitive.
- There would be widely different effects within different segments of the six industries and also across different regions within the United States, due to variations in energy intensity, production practices, fuel mix, and access to international suppliers. Some industry-specific workshop findings include:
 - In the U.S. aluminum industry, all plants powered with coal-based electricity

would close by 2010, but production from hydro-based electricity would continue if hydropower was excluded from fuel price increases.

- Cement imports would increase from 20 percent in baseline case to about 40 percent by 2010.
- About 20 to 30 percent of the existing U.S. chemical industry would move to developing countries over 13 to 30 years.
- Many U.S. paper mills that do not use wood waste and hydropower as fuels would close.
- Petroleum refineries on the East Coast and Gulf Coast would probably close.
- U.S. company steel shipments could be cut by 30 percent.

Argonne Conclusion

What are we doing about what we learned? As I mentioned before, the price scenarios used for these workshops were based on specific restrictive energy price scenarios assumed in mid-1996, which were themselves based upon interagency analyses of proposals advanced by other countries at that time. As such, these price scenarios do not reflect key policies advocated in international negotiations by the U.S. government in the intervening year and a half. For example, the assumed fuel price scenarios do not take into account the impact of multi-year emission budgets, international emission trading, and joint implementation. If adopted, such provisions would substantially lower the costs of achieving greenhouse gas emission reductions in the U.S. and other developed countries, and would significantly lower the energy price increases assumed in these workshops. Nor did the workshop participants

consider the acceleration of energy efficient and low-carbon technology development from expanded R&D efforts by the public and private sectors, which could cushion the impact of energy price increases. Finally, the Administration has argued that developing countries should assume additional obligations in the near future to reduce their projected rapid growth of greenhouse gas emissions. No such actions were reflected in the workshop scenarios, and many of the Argonne study participants identified the absence of commitments in developing countries as the most critical competitiveness issue.

As we approach a new round of negotiations for further commitments within the Framework Convention on Climate Change that will conclude in December of 1997 in Kyoto, Japan, the U.S. position stresses that international agreements to combat the threat of climate change must be flexible, cost-effective, realistic, achievable, and ultimately global in scope. The Argonne workshop report confirms the basic wisdom of such an approach, indicating that unless cost-effective and flexible elements are part of the agreed upon policy, and unless all countries participate, several key energy-intensive sectors in the U.S. could experience serious negative impacts.

Five-Lab Study

Mr. Chairman, we appreciate the opportunity to come before you and discuss the results of our in-depth analysis, *Scenarios of U.S. Carbon Reductions: Potential Impacts of Energy Technologies by 2010 and Beyond*. This is the most comprehensive analysis of energy efficient and low carbon energy technologies ever undertaken. While the details of how the U.

S. and the world will address climate change remain undecided, its findings should be good news to those who are concerned about meeting the challenge of a changing climate.

Overall, the report makes three important conclusions. First, it demonstrates that a vigorous national commitment to develop and deploy energy-efficient and low-carbon technologies has the potential to restrain US energy use at or near 1997 levels, and US carbon emissions at or near 1990 levels. Second, it concludes that, with the right policies, the nation's energy savings would equal approximately the costs of achieving these reductions. Third, it finds that the next generation of energy-efficient and low-carbon technologies will allow us to continue an aggressive pace of carbon reductions over the next twenty five years. These findings have been extensively peer reviewed by some of the most credible and knowledgeable people in energy economics and policy. Dr. Stephen DeCanio, former senior economist of the Council of Economic Advisors under President Reagan, and now a professor of Economics at the University of California at Santa Barbara stated, for example:

"I believe these conclusions are well supported by the data and analysis contained in the Report. The Report represents the best kind of careful, technology-specific modeling that can be done prior to direct observation of the market consequences of a clear, unambiguous policy signal (including a price signal) indicating the nation's determination to reduce greenhouse gas emissions."

Before discussing the findings in more detail it is important to understand exactly what this

Report is; and --equally important-- what it is not, and why we undertook the Report.

Limitations of the Study

This study is not a full macroeconomic analyses. It does not weigh the many benefits of reducing greenhouse gasses. To put it another way, it does not measure the very real costs of doing nothing. It does not, in general, attempt to measure the ancillary benefits associated with improvements in human health and the environment that would come about from using less energy per unit of production and from using cleaner energy sources. Substantial reductions in air emissions of NOx, SOx, particulates, and heavy metals could result as an ancillary benefit of an intelligent climate mitigation strategy. It does not capture increases in productivity associated with more efficient use of energy inputs, nor does it attempt to measure the opportunity costs of investments in energy efficiency and renewable energy. It also does not examine the effects of international trading and joint implementation, both of which could substantially reduce costs. It does not measure the economic costs of the policies that would have to be enacted to ensure that these technologies were adopted. Finally, it does not account for the improvements in our balance of trade, and increases in assuring our national security that would flow from policies that displaced oil imports from unstable sources.

The study is also not a prediction. Rather it is a careful analysis of what is achievable with a vigorous commitment to research, development, and deployment of efficient and low carbon technologies, backed up by carefully designed and intelligently implemented policies.

Motivations for the Study

We initiated the study because "bottoms-up" analyses allow for a more careful examination of the most critical variable in assessing the costs of reducing greenhouse gasses --the role of technology and innovation. We felt this approach could supplement more traditional "top-down" analyses in three important ways.

First, for years traditional "top down" economic analyses and models have been producing a widely diverging range of results concerning the cost of cutting carbon emissions. The disparity was sufficiently large, that we could gain little in the way of insight that would help us formulate policies. As noted by Dr. Janet Yellen, Chair of the President's Council of Economic Advisors in testimony before the Senate Committee on Environment and Public Works on July, 17, 1997:

"...The effort to develop a model or set of models that can give us a definitive answer as to the economic impacts of a given climate change policy is futile. Rather, we are left with a set of parameters and relationships that influence estimates of the impacts. In my view, it is more productive to employ a broad set of economic tools to analyze policy options than to seek to develop a single definitive model."

Second, historical and empirical evidence was showing that such approaches often overstated the costs of meeting environmental objectives. For example, the mining and utility industries

projected the costs of emission allowances to range upwards of \$600 to \$1000 a ton during the 1990 debate on the Clean Air Act's acid rain program, while EPA projected those same costs to be \$450 to \$600. The actual prices for those allowances have recently ranged between \$70 and \$100 a ton. These overestimates are by no means confined to industry. Modeling done for the Sierra Club projected an allowance price of \$450.

Third, a large source of both the disparity and the tendency to overestimate costs came about because traditional econometrics analyses are not very effective at capturing the effect of technological innovation. Quite simply, the models tend to underestimate the effects of technological innovation on both our ability to respond, and the costs of responding to market signals. Quite often, industry finds cheaper, more innovative ways of accomplishing environmental objectives than anything government or industry can predict.

In contrast, a "bottom-up" analyses starts with technology, and estimates the potential and costs from detailed data about technological performance. We undertook this study because no one has performed a "bottom-up" study since 1991, when both the Office of Technology Assessment and the National Academy of Sciences conducted "bottom-up" analyses on the potential to capture energy efficiency in the market place, and because it would increase our understanding of the contribution of technological innovation in forging a cost effective strategy.

Findings

Three of the most important variables in the cost of reducing greenhouse gas emissions are: 1) the existence of low carbon energy supply alternatives; 2) the existence of low-cost energy efficient technologies; and 3) the rate of technological innovation.

The Report finds that there are substantial inefficiencies both in how we generate energy, and in how we use it. The National Laboratories Study systematically analyzes four sectors of our economy to identify such opportunities: Utilities; industry; buildings; and transportation. The report examines 3 cases. One is a moderate efficiency case, which assumes a vigorous national commitment to developing and accelerating the use of energy efficient and low carbon technologies. The other two are high efficiency/low carbon cases which assume a still more aggressive national commitment in the form of price or other market signals, an aggressive R&D investment program, and regulatory reinvention initiatives designed to stimulate adoption and development of clean and efficient technologies.

Utilities: Within Utilities, the study identifies potential carbon reductions of up to 136 metric tons of carbon (MtC) by 2010. These reductions come from increasing the efficiency of existing plants, switching to increased use of natural gas, co-firing coal plants with biomass (biomass is a nearly carbon neutral fuel over its life cycle), introducing a more efficient and cost-competitive wind turbine, expanding hydropower, and extending the life of nuclear facilities. Other renewable energy sources such as photovoltaics will come on line later, contributing to further reductions in the years beyond 2010.

The authors examined each of 404 power plants individually to determine what opportunities existed to repower, and increase efficiencies. It is the most exhaustive such analysis ever done.

Industry: Within the industrial sector, the report identifies technologies and efficiencies capable of yielding up to 93 MtC of emission reductions by 2010. As with the utility sector, the industrial sector has been heavily regulated. Ironically, environmental regulations that are focused on a single media or a single contaminant have often forced capital into investments that are suboptimal from the perspective of increasing energy efficiency, or reducing carbon. For example, a facility that installs a scrubber to remove air contaminants can increase its energy demand by up to 10%, increasing net CO₂ emissions in the process. Environmental regulations have also tended to discourage adoption of and investment in innovative technologies. As this Administration completes its Regulatory Reinvention Initiative, facilities will have more flexibility to pursue environmental objectives from the perspective of prevention and efficiency. For example, regulatory strategies which encourage a facility-wide approach to meeting Clean Air Act requirements would be a powerful driver to choose cleaner fuels and more efficient energy technologies, processes and procedures as strategy of first choice in meeting requirements. The Report finds that with appropriate regulatory drivers and market signals, there is a potential to substantially increase industrial energy efficiency, displacing up to 62 MtC.

The Office of Energy Efficiency and Renewable Energy is working with the 7 most

energy-and -waste intensive industries --Forest Products, Aluminum, Chemicals, Steel, Petroleum Refining, Metal Casting and Glass --under the Industries of The Future Initiative to develop technology roadmaps that help these industries become more efficient, more productive, cleaner, and more competitive. Together they generate 80% of all waste generated in the manufacturing sector, and use about 80% of all manufacturing energy. These industries have established ambitious goals to reduce energy use that are consistent with the technology opportunities identified in the Report.

A number of specific technologies with the potential to reduce the carbon intensity of the industrial sector are expected to come on line soon. Advanced Turbine Systems (ATS), for example, are gas turbines that produce less carbon dioxide per kilowatt hour than technologies used in conventional power markets. When commercialized in 2001, the emissions of CO₂ from ATS are projected to be 600lb/kWh, 29%-70% lower than conventional technologies. Orders for these systems are being taken today. ATS are projected to reduce carbon emissions by 17 MtC. Biomass and black liquor gasification, cement clinker replacement, and low carbon aluminum technologies are forecast to contribute to a reduction of another 15 MtC.

Buildings: The analysis shows that substantial reductions in future greenhouse gas emissions can be realized through the use of more energy efficient technologies that save society money. In addition, these technologies often supply other benefits beyond energy, carbon and dollar savings, including: 1) an improved indoor environment, 2) reduced noise 3) higher productivity in offices, factories and schools. These amenities have not been monetized in this

report. The carbon reductions in this sector are as high as 62 MtC by 2010. These gains in efficiency can be made by improving the building shell, increasing the efficiency of appliances, and introducing advanced fuel cells capable of delivering electric power and heat. Again, there are a number of factors that have functioned as barriers for new technologies in this sector. Builders do not bear the long term consequences of their energy decisions; information is frequently not available to designers, builders or consumers; and high first costs frequently discourage investment in the most efficient and cost-effective option when viewed over the lifetime of the facility.

Merely improving the efficiency of the standby mode on US electronic equipment could save 12 million tons of carbon today. By 2010, use of fuel cells, modest shell improvements, and use of more efficient appliances and equipment will reduce carbon emissions from a typical commercial building such as a hotel by 70%.

The report assumed that with policies to reduce carbon emissions, energy prices would rise; however, an individual consumer's energy bill remained about the same because they would use less energy while receiving approximately the same level of energy services. A substantial amount of the efficiency gains assumed for this sector could result from appliance efficiency standards and from voluntary programs designed to provide information and incentives to adopt efficient technologies.

Transportation: Within the transportation sector the Report finds that development of more

efficient vehicles and use of low carbon or carbon neutral fuels such as cellulosic ethanol, have the capacity to reduce carbon emissions by up to 103 MtC by 2010. In the short term, direct injection engines are capable of reducing CO₂ per passenger mile by 23 % today, although there are a number of technical challenges for cutting other emissions, especially NO_x and particulates. Over the long term, advanced fuel cells could theoretically reach efficiencies exceeding 60%.

Conclusion

The conclusions from both of these studies strengthen our resolve to craft a policy position that finds a way forward with minimal economic impact.

- From the Argonne study, we learned that any policy that had the sole effect of significantly raising energy prices for energy-intensive industries in the U.S. and some other nations, but not others, could have a deleterious effect on U.S. industries. That is why we are pursuing flexibility in global climate change policies, including a reasonable timetable, realistic and achievable objectives, international emissions trading, and joint implementation. The U.S. believes that developing countries must participate in a global effort to mitigate greenhouse gas emissions. By examining scenarios that do not reflect such policies, the workshops identified important economic risks in key industrial sectors that reaffirm the wisdom of the U.S. approach.
- From the 5-lab study, we learned that: (1) a vigorous national commitment to develop and deploy energy-efficient and low-carbon technologies has the potential to restrain U.S. energy use at or near 1997 levels, and US carbon emissions at or near 1990

levels; (2) that, with the right policies, the nation's energy savings would approximately equal the costs of achieving these reductions; and (3) that the next generation of energy-efficient and low-carbon technologies will allow us to continue an aggressive pace of carbon reductions over the next twenty five years.

Climate change is an important national and global issue. In the process of developing policy that will meet our environmental objectives in a realistic, balanced way without disrupting our economy, this Administration has assumed the need for a variety of market-oriented, flexible measures both at home and abroad; accelerated research and development of new technologies; and an international regime involving the participation of all nations.

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EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503-0001

Wednesday, October 8, 1997

LEGISLATIVE REFERRAL MEMORANDUM

TO: Legislative Liaison Officer - See Distribution below
FROM: *Ron Peterson*
Ronald K. Peterson (for) Assistant Director for Legislative Reference
OMB CONTACT: Robert J. Tuccillo
PHONE: (202)395-5609 FAX: (202)395-5836
SUBJECT: STATE Oversight Testimony on Global Climate Change
DEADLINE: 1:00 PM Wednesday, October 8, 1997

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Draft Testimony 10/8/97 8:30 a.m. version

Senator Hagel Hearing

Thursday, October 9, 1997

Thank you Mr. Chairman:

Today, in addition to providing a short update on our progress in the climate change negotiations, I would like to speak about three issues: (1) the matter of the European Union "bubble", (2) issues related to developing country participation, and (3) the various mechanisms through which we can bring appropriate technologies to developing countries to assist them in combating climate change.

Let me start with a short update, in particular focusing on developments since I last appeared before this committee in June 1997.

We are rapidly approaching the end of the negotiations leading up to the third session of the Conference of the Parties, to be held in Kyoto, Japan from December 1-10, 1997. As of today, there are only 64 days left - and only about 18 of those are actual negotiating days. Of course, enormous progress has been made, and on some of the key issues, the beginnings of an agreement are beginning to emerge. If we are successful, the agreement is likely to include critical elements of our own proposal, including:

- an emissions budget, which allows for smoothing of inter-annual anomalies in weather and economic variables and some flexibility in the timing of emissions reductions;
- a multi-gas approach, in which not only carbon dioxide but all greenhouse gases are incorporated;
- emissions trading and joint implementation, both of which increase flexibility by allowing Parties to offset expensive emissions at home with the purchase of inexpensive emissions reductions elsewhere;

- stringent mechanisms for monitoring and verification of reductions, which insures a level playing field for all Parties; and
- action by developing countries, in addition to a target and timetable from developed countries.

I do not mean to suggest that the final text will include each of these elements in the form that we originally set them forth in our U.S. proposal this past January; the negotiating process does not allow for that. But the Administration has proposed, and much of the world has begun to accept, an overall paradigm for moving forward to address this serious problem: a solution which maximizes flexibility in implementation while insuring the integrity and environmental benefits of the emissions targets that are set.

The Administration is not yet at the point of finalizing its decision regarding a target for controlling emissions into the next millenium. We will keep you informed as to our progress on this front. We have clearly heard the concerns raised in this committee, as well as those raised in the Senate Resolution passed early this summer. I wish to restate here: our agreement will protect American competitiveness and will be in the best interest of the American people. The President again committed himself to these goals at the White House conference on Monday, and it is a goal to which we have consistently adhered during the course of our negotiations.

However, on many aspects of our proposal, we have been clear – and the domestic consensus supports our approach. The Administration has been aggressively promoting these elements of our proposals in an intense round of bilateral and multilateral sessions. The President has made climate change an issue in his meetings with other national leaders, including in sessions on the margins of the General Assembly session of the United Nations. The Vice President and the Secretary of State have raised climate change in their own meetings. I have had a series of sessions in Europe and Saudi Arabia, as well as with key ministers from Japan, Australia and New Zealand, and I will continue to raise this issue in meetings in China later this month. Senior officials have been in Latin America and in Asia discussing our positions. U.S. negotiators are today in a session on

Bonn, working to advance our proposals in a small informal consultation with the chairman of the negotiations and representatives from approximately ten key countries. Our hard work is beginning to pay off in an opening of peoples' minds to our perspectives; we remain hopeful that our continued efforts will create a consensus around our approach as we move to Kyoto.

Our allies in the negotiations are found in all blocs of countries: among the developed countries, we have our most extensive areas of common ground with Australia, Canada, Japan and New Zealand – each of which supports our proposals for the flexibility elements so important to achieve a lasting, successful and economically feasible agreement in Kyoto. Countries of the former Soviet Union and of Eastern Europe mostly support our proposals as well. However, we have reached something of an impasse with our European colleagues.

The EU "Bubble"

As you are probably all aware, the EU has chosen what many analysts consider an economically unrealistic and potentially impossible-to-meet rhetorical target of a fifteen percent reduction by 2010 below 1990 levels. Further complicating the negotiation, European Union member states have also insisted that they be allowed to "bubble" their emissions. This means that while emissions as a whole may be limited to a set target, each individual country may not be required to meet that limit. In fact, a significant portion of the total EU emissions reductions are anticipated to stem from the reunification of Germany, and the switch in the United Kingdom from coal to natural gas – neither of which policy was taken as an effort to address the climate change problem. While we certainly applaud the shutting down of inefficient and polluting factories and of the removal of subsidies in the energy sector, it is not clear that the benefit of such actions should eliminate the need for other countries within the EU to act. Yet, under the EU proposal, some countries will not be required to reduce emissions at all – but will be allowed to grow. For example, Portugal will be entitled to emissions increases of 40 percent above 1990 levels by 2010, Spain will be able to increase emissions by 17 percent, and France will be required only to maintain emissions at 1990 levels.

Congress has been quick to point out some of the problems inherent in this kind of "burden-sharing". I would like to share with you some of the questions we have asked on this issue – although to date, I do not have their answers to offer:

- We have questioned how the EU proposal would relate to emissions trading. If it is merely a proposal in which each country would be given a flat rate, and then allowed to trade emissions on the market, we would support their approach.
- We have not been told how the EU intends to insure accountability: for example, if the European Union exceeds its target, what compliance mechanisms exist? Will each country within the EU have the same obligations as countries outside of the Union? Is each country responsible for its "share" only? How is that determined?
- What kind of examples is the EU setting for the developing world? If a 40 percent increase is allowed for Portugal, even less can be demanded from developing countries. Surely we must demand more of the industrialized country Parties in an effort to set an appropriate standard.
- How will new European Union member states be brought in? If the number of countries is enlarged through the addition of Eastern European members with low emissions, will the overall target be adjusted?

This list of questions is by no means complete. But I hope it gives you an idea of the extent to which we are demanding answers in the international debate. And I can promise you that the United States will not agree to any text in Kyoto unless we are satisfied that these questions have been satisfactorily addressed.

Developing Countries

Let me turn to another issue of enormous concern to those on this committee and to others outside this room as well: the participation of developing countries. The rationale for developing countries to act is clear: while at present they are responsible for less than half of global emissions, over the next decades, their percentage of the total will grow, despite the fact that their per capita emissions will remain far below our own. We

must reverse this trend of rising emissions if we are to truly make a dent in the long-term problem.

However, I believe it would be instructive to consider another perspective on this issue as well – that of developing countries themselves. Let's look at some numbers.

- According to the Intergovernmental Panel on Climate Change (IPCC), approximately half a billion cases of malaria are already reported each year. However, experts believe outbreaks of malaria will increase as climate changes. Most of the deaths from malaria occur in children less than five years old – and almost all of these kids live in developing countries.
- According to the World Bank, two billion people live on less than \$2 a day, and 1.3 billion live on less than \$1 a day – and all of these are in developing countries.
- Emissions statistics prepared by Oak Ridge National Laboratory indicate that each citizen in China emits only about 5% of the emissions of a citizen in the United States. According to some projections, even in 2020, when their national emissions are projected to exceed those of the United States, China's per capita levels will still be less than a quarter of our own.
- Brazil, in a climate change protocol proposal tabled at the last session in August, stated the views of many when it suggested that developing country responsibility should be negligible until their emissions led to a climate change equal in magnitude to that from industrialized country emissions. Using this metric, they state developing countries should not have to act at all until the year 2140 – nearly one hundred and fifty years from now.

It is this perspective, and these kinds of statistics that developing countries think of when they call on the developed world to act first.

Many uninformed observers have suggested that there are no obligations for developing countries in the current agreement. This is not true. In fact, among other commitments, developing countries are called upon to inventory their emissions of greenhouse gases, to take policies and measures to mitigate and adapt to climate change,

to cooperate in the development and transfer of technologies, and to promote and cooperate in climate change research, education and training.

We are also in error if we accuse developing countries of inaction with respect to their FCCC commitments. As we have struggled to define our own efforts to mitigate emissions, developing countries have proceeded aggressively to develop programs to reduce their own. And while much of the developing country effort has been the result of successful programs mounted by AID, by the U.S. Country Studies Program, and by bilateral and multilateral donations from other countries and international organizations, the vast majority of the resources and the impetus for action have come from within these countries. As we move to another level of international commitment, it is important to understand what has been achieved to date.

A number of examples of developing country efforts are illustrative of this progress. According to the World Bank, between 1991 and 1996, fossil fuel subsidies in 14 developing countries that account for 25 percent of global carbon emissions from industrial sources declined about 45 percent -- from \$60 billion to \$33 billion (for comparison, note that OECD subsidies declined by about 20.5 percent, from \$12.5 billion to \$9.9 billion). China, which accounts for approximately 12 percent of total world energy-related CO2 emissions, has been actively reforming energy pricing, and subsidies have fallen from 37 percent in 1984 to 29 percent in 1995, while petroleum subsidies have fallen from 5 percent in 1990 to 2 percent in 1995. Furthermore, Chinese efficiency gains have also been significant; without intervention, emissions would have been nearly 155 million metric tons higher in 1990 than they were with policy actions. And, by the end of 1993, 12 percent of China's installed electrical generation capacity was produced by co generation. Many other developing countries are also actively promoting energy efficiency. For example, in Brazil an aggressive program to use ethanol from sugar cane has replaced nearly half of the gasoline that otherwise would have been used.

What does all this tell us? Clearly, it tells us that our expectations and theirs are predicated on different assumptions. We look at them and point to the cause of the problem in the future; they look at us and point to the cause of the problem now. We

look at them and worry about competitiveness; they look at us, and point to our overwhelmingly better lifestyle and standard of living – which most of them are desperate to duplicate, but are being told is beyond their reach because of the environmental consequences. As President Clinton remarked at the White House conference on Monday, our problem with China is one of national security – it is that China might become wealthy following the same emissions path we did, and in so doing would create a world unlivable for us all. We look to Kyoto and demand that all countries participate; developing countries look to Kyoto and agree to take actions – but only after the industrialized world has moved first.

Historically, the bonds of the developing country alliances are difficult to break, notwithstanding the often great differences within the group. We can empathize with the needs for small island states, which face potential eradication through sea level rise, to insist on aggressive targets – while at the same time sympathizing with the plight of the oil exporters for which global emissions reductions will lead to reduced economic growth. We can conclude that grouping all developing countries together is a mistake -- and we can suggest that poor countries which emit next to nothing should have different obligations than do the wealthier countries with a significant share of the global total.

We can accommodate the concerns of developing countries that differences between levels of development are real by providing flexibility in the obligations we insist they take on. Many developing countries accept that eventually they will have to assume greater responsibility for dealing with climate change – but suggest the appropriate time for such action would be once they have passed a certain threshold of economic development. We can consider such a threshold in our package.

We can also address the concerns developing countries have set forth regarding the imbalance in our expectations – that they be called upon to set targets before we have demonstrated our own good faith. This is best accomplished by fully funding our own programs, by setting and implementing legislation to meet our domestic reductions goals, and by aggressively seeking to develop the technologies that will be needed for global reductions.

We can continue to promote the politics of success through our ongoing bilateral and multilateral assistance programs. Evidence of success is beginning to emerge in many developing countries with the development of renewable energy technologies, the removal of subsidies, the improvements in efficiencies and the implementation of climate action plans. Unfortunately, notwithstanding the ancillary benefits of these actions, the political costs are often high. We can demonstrate with our own commitments that we value these environmental efforts, and that the United States will stand by countries which invest in the long term and the global well-being.

Ultimately it is actions themselves that will determine international success in addressing the climate change problem – not the instrument which codifies the obligations, or the process through which the actions may be generated. Real emissions reductions, in all countries in the world, at the least possible costs are our goals. The Kyoto agreement is one tool in the effort to develop a successful long-term strategy. Others may also exist – and we need to take advantage of them all.

I am not proposing that we step back from our world view; clearly it has merit, and developing countries must act to avoid continued and potentially calamitous global warming. Rather, I am saying we must balance our view with international reality. The level and timing of each country's commitments must be commensurate with its national abilities and level of development. Balance and fairness must be maintained. And any package to which we agree in Kyoto will insure this is done.

Our developing country proposal has three parts:

- (1) It calls for continuing to advance the implementation of commitments: essentially defining the specifics of what that means, and including calling on them to increase energy efficiency, to emphasize market oriented pricing, to increase the use of renewables, to improve their transport sector – and in general to take actions to address climate change that are justified economically in their own right.

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- (2) It creates a new category of countries (Annex B): in which the most advanced developed countries would voluntarily take on legally binding emissions limitation or reductions commitments; and
- (3) It proposes a new negotiation, to conclude no later than 2005, in the course of which we would agree to commitments for all Parties, and to a "graduation" mechanism to insure that countries passing a certain income or total emissions threshold would be obligated to act.

While we may be willing to be flexible on the procedures through which each of these elements is made part of the Kyoto package, we remain absolutely convinced on the substance. Developing countries must be clearly and integrally a part of next steps in order for the U.S. to consider becoming a Party.

Developing the Infrastructure

Let me turn finally to the broader question of how we intend to develop mechanisms to bring appropriate technologies to developing countries to assist them in combating climate change. We all recognize that unless remedial action is taken, developing country emissions are expected to rise as part of their economic development. In my view – and I believe in the view of most of the members of this committee – it will be critical to find ways to work with developing countries to reduce emissions. This must be a priority regardless of the approach we take through the Convention or any subsequent legal instrument.

What does this mean? It means we must build the next 100 gigawatts of power generating capacity to use clean and efficient fuels, not outdated, dirty coal technology; it means we must fully fund the Global Environment Facility; it means we must seek to develop initiatives to promote environmental export credits and initiatives; it means we must rationalize our lending through the multilateral development banks and our bilateral assistance programs to cover environmental concerns; and it means we must turn to the innovation of the private sector to develop and implement the new technologies of the future.

Let us briefly consider two of the largest developing country emitters: China and India. Even after more than a decade of extremely strong economic growth, China is still a seriously underdeveloped country. On a per capita basis, China's GDP is about \$620. Over 100 million Chinese still have no electricity. Seeking to remedy its domestic energy scarcity, China's five year plan calls for the addition of 70 gigawatts of electricity generating capacity before the year 2001. That means China will have to add one 1,000 megawatt electric plant every month for the next four years. Under current policies, most of that will come from coal – which currently accounts for about 75% of China's electricity. With one of the world's largest reserves of coal, China is unlikely to switch to alternative fuels without significant assistance.

India is in similar straits. CO2 emissions increased by 40 percent between 1986 and 1995, with domestic coal fueling industrialization. Currently, India is even lower in per capita emissions than China – nearly five times below the world average of four tons a person, and approximately 1/20th of the level in the United States. Like China, India is also installing enormous quantities of new energy generating capacity – plans call for the installation of 62 gigawatts by 2002. Inefficiencies and poor technology mar their current infrastructure; currently in India, up to 40 percent of the electricity generated is lost in transmission and distribution.

Taken together the energy development paths in these two countries paint a bleak picture. We must seek ways to encourage these countries to build a more climate-friendly energy infrastructure. Fortunately, opportunities to move in a more sustainable direction are available. For example, we can work with the international financial institutions (including the World Bank and the regional development banks) and require them to look more closely at the implications of power plant financing. This might require moving away from some of the current, supposedly "least cost" solutions – but only because damages from climate change may not have been factored into earlier cost calculations. We would welcome a more extensive dialogue with Congress on ways to improve energy lending strategies in these arenas.

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Many of the actions we want developing countries to take will be good for them and the global environment, but will cost money up-front. We must increase the funding available for the Global Environment Facility, which seeks to provide part of the costs to meet the incremental global environmental benefits the planet so urgently requires. We would welcome a more in-depth discussion on how the GEF is implementing its charge, and ways that might be found to increase the U.S. share of contributions.

We need to look at ways to bring our private sector into the dialogue as well. Commercial energy suppliers are seeking power generation opportunities in developing countries. What mechanisms can we develop to encourage the pursuit of options that mitigate emissions impacts? Perhaps we can consider a modification of the EX-IM bank's policies to allow it to play a stronger role in this regard, perhaps through assuming some of the risk in these kinds of transactions. Once our firms demonstrate that new, fuel-efficient technologies and renewable energy sources are commercially viable, we can expect that countries in the developing world will quickly adopt that technology. We should also look to ways to encourage research and development into energy-efficiency and renewable energy both by our private sector and through government funding and research. The development of long-term alternatives will be critical in the path to a sustainable future. Congress has been in the forefront of promoting private sector investment; we would welcome a continued dialogue on how to expedite all of our environmental goals through such mechanisms.

It is clear that these actions must be taken. However, it is equally clear that none of these important steps can be taken by the Administration acting alone. Each will need Congressional support. The Senate's attention to the climate issue has brought into focus the importance of the problem, and the need to involve all countries in the solution. We must now work together to find that solution. I look forward to doing just that.

I would be pleased to answer any questions from the committee. Thank

Testimony

Total Pages: 13

LRM ID: EHF283

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503-0001

Wednesday, October 8, 1997

LEGISLATIVE REFERRAL MEMORANDUM

TO: Legislative Liaison Officer - See Distribution below
FROM: *Ron Peterson*
Ronald K. Peterson (for) Assistant Director for Legislative Reference
OMB CONTACT: Robert J. Tuccillo
PHONE: (202)395-5609 FAX: (202)395-5836

SUBJECT: STATE Oversight Testimony on Global Climate Change

DEADLINE: 1:00 PM Wednesday, October 8, 1997

In accordance with OMB Circular A-19, OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President. Please advise us if this item will affect direct spending or receipts for purposes of the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.

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Draft Testimony 10/8/97 8:30 a.m. version

Senator Hagel Hearing

Thursday, October 9, 1997

Thank you Mr. Chairman:

Today, in addition to providing a short update on our progress in the climate change negotiations, I would like to speak about three issues: (1) the matter of the European Union "bubble", (2) issues related to developing country participation, and (3) the various mechanisms through which we can bring appropriate technologies to developing countries to assist them in combating climate change.

Let me start with a short update, in particular focusing on developments since I last appeared before this committee in June 1997.

We are rapidly approaching the end of the negotiations leading up to the third session of the Conference of the Parties, to be held in Kyoto, Japan from December 1-10, 1997. As of today, there are only 64 days left – and only about 18 of those are actual negotiating days. Of course, enormous progress has been made, and on some of the key issues, the beginnings of an agreement are beginning to emerge. If we are successful, the agreement is likely to include critical elements of our own proposal, including:

- an emissions budget, which allows for smoothing of inter-annual anomalies in weather and economic variables and some flexibility in the timing of emissions reductions;
- a multi-gas approach, in which not only carbon dioxide but all greenhouse gases are incorporated;
- emissions trading and joint implementation, both of which increase flexibility by allowing Parties to offset expensive emissions at home with the purchase of inexpensive emissions reductions elsewhere;

- stringent mechanisms for monitoring and verification of reductions, which insures a level playing field for all Parties; and
- action by developing countries, in addition to a target and timetable from developed countries.

I do not mean to suggest that the final text will include each of these elements in the form that we originally set them forth in our U.S. proposal this past January; the negotiating process does not allow for that. But the Administration has proposed, and much of the world has begun to accept, an overall paradigm for moving forward to address this serious problem: a solution which maximizes flexibility in implementation while insuring the integrity and environmental benefits of the emissions targets that are set.

The Administration is not yet at the point of finalizing its decision regarding a target for controlling emissions into the next millenium. We will keep you informed as to our progress on this front. We have clearly heard the concerns raised in this committee, as well as those raised in the Senate Resolution passed early this summer. I wish to restate here: our agreement will protect American competitiveness and will be in the best interest of the American people. The President again committed himself to these goals at the White House conference on Monday, and it is a goal to which we have consistently adhered during the course of our negotiations.

However, on many aspects of our proposal, we have been clear – and the domestic consensus supports our approach. The Administration has been aggressively promoting these elements of our proposals in an intense round of bilateral and multilateral sessions. The President has made climate change an issue in his meetings with other national leaders, including in sessions on the margins of the General Assembly session of the United Nations. The Vice President and the Secretary of State have raised climate change in their own meetings. I have had a series of sessions in Europe and Saudi Arabia, as well as with key ministers from Japan, Australia and New Zealand, and I will continue to raise this issue in meetings in China later this month. Senior officials have been in Latin America and in Asia discussing our positions. U.S. negotiators are today in a session on

Bonn, working to advance our proposals in a small informal consultation with the chairman of the negotiations and representatives from approximately ten key countries. Our hard work is beginning to pay off in an opening of peoples' minds to our perspectives; we remain hopeful that our continued efforts will create a consensus around our approach as we move to Kyoto.

Our allies in the negotiations are found in all blocs of countries: among the developed countries, we have our most extensive areas of common ground with Australia, Canada, Japan and New Zealand – each of which supports our proposals for the flexibility elements so important to achieve a lasting, successful and economically feasible agreement in Kyoto. Countries of the former Soviet Union and of Eastern Europe mostly support our proposals as well. However, we have reached something of an impasse with our European colleagues.

The EU "Bubble"

As you are probably all aware, the EU has chosen what many analysts consider an economically unrealistic and potentially impossible-to-meet rhetorical target of a fifteen percent reduction by 2010 below 1990 levels. Further complicating the negotiation, European Union member states have also insisted that they be allowed to "bubble" their emissions. This means that while emissions as a whole may be limited to a set target, each individual country may not be required to meet that limit. In fact, a significant portion of the total EU emissions reductions are anticipated to stem from the reunification of Germany, and the switch in the United Kingdom from coal to natural gas – neither of which policy was taken as an effort to address the climate change problem. While we certainly applaud the shutting down of inefficient and polluting factories and of the removal of subsidies in the energy sector, it is not clear that the benefit of such actions should eliminate the need for other countries within the EU to act. Yet, under the EU proposal, some countries will not be required to reduce emissions at all – but will be allowed to grow. For example, Portugal will be entitled to emissions increases of 40 percent above 1990 levels by 2010, Spain will be able to increase emissions by 17 percent, and France will be required only to maintain emissions at 1990 levels.

Congress has been quick to point out some of the problems inherent in this kind of "burden-sharing". I would like to share with you some of the questions we have asked on this issue – although to date, I do not have their answers to offer:

- We have questioned how the EU proposal would relate to emissions trading. If it is merely a proposal in which each country would be given a flat rate, and then allowed to trade emissions on the market, we would support their approach.
- We have not been told how the EU intends to insure accountability: for example, if the European Union exceeds its target, what compliance mechanisms exist? Will each country within the EU have the same obligations as countries outside of the Union? Is each country responsible for its "share" only? How is that determined?
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Let me turn to another issue of enormous concern to those on this committee and to others outside this room as well: the participation of developing countries. The rationale for developing countries to act is clear: while at present they are responsible for less than half of global emissions, over the next decades, their percentage of the total will grow, despite the fact that their per capita emissions will remain far below our own. We

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However, I believe it would be instructive to consider another perspective on this issue as well – that of developing countries themselves. Let's look at some numbers.

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Developing the Infrastructure

Let me turn finally to the broader question of how we intend to develop mechanisms to bring appropriate technologies to developing countries to assist them in combating climate change. We all recognize that unless remedial action is taken, developing country emissions are expected to rise as part of their economic development. In my view – and I believe in the view of most of the members of this committee – it will be critical to find ways to work with developing countries to reduce emissions. This must be a priority regardless of the approach we take through the Convention or any subsequent legal instrument.

What does this mean? It means we must build the next 100 gigawatts of power generating capacity to use clean and efficient fuels, not outdated, dirty coal technology; it means we must fully fund the Global Environment Facility; it means we must seek to develop initiatives to promote environmental export credits and initiatives; it means we must rationalize our lending through the multilateral development banks and our bilateral assistance programs to cover environmental concerns; and it means we must turn to the innovation of the private sector to develop and implement the new technologies of the future.

Let us briefly consider two of the largest developing country emitters: China and India. Even after more than a decade of extremely strong economic growth, China is still a seriously underdeveloped country. On a per capita basis, China's GDP is about \$620. Over 100 million Chinese still have no electricity. Seeking to remedy its domestic energy scarcity, China's five year plan calls for the addition of 70 gigawatts of electricity generating capacity before the year 2001. That means China will have to add one 1,000 megawatt electric plant every month for the next four years. Under current policies, most of that will come from coal – which currently accounts for about 75% of China's electricity. With one of the world's largest reserves of coal, China is unlikely to switch to alternative fuels without significant assistance.

India is in similar straits. CO2 emissions increased by 40 percent between 1986 and 1995, with domestic coal fueling industrialization. Currently, India is even lower in per capita emissions than China – nearly five times below the world average of four tons a person, and approximately 1/20th of the level in the United States. Like China, India is also installing enormous quantities of new energy generating capacity – plans call for the installation of 62 gigawatts by 2002. Inefficiencies and poor technology mar their current infrastructure; currently in India, up to 40 percent of the electricity generated is lost in transmission and distribution.

Taken together the energy development paths in these two countries paint a bleak picture. We must seek ways to encourage these countries to build a more climate-friendly energy infrastructure. Fortunately, opportunities to move in a more sustainable direction are available. For example, we can work with the international financial institutions (including the World Bank and the regional development banks) and require them to look more closely at the implications of power plant financing. This might require moving away from some of the current, supposedly "least cost" solutions – but only because damages from climate change may not have been factored into earlier cost calculations. We would welcome a more extensive dialogue with Congress on ways to improve energy lending strategies in these arenas.

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Many of the actions we want developing countries to take will be good for them and the global environment, but will cost money up-front. We must increase the funding available for the Global Environment Facility, which seeks to provide part of the costs to meet the incremental global environmental benefits the planet so urgently requires. We would welcome a more in-depth discussion on how the GEF is implementing its charge, and ways that might be found to increase the U.S. share of contributions.

We need to look at ways to bring our private sector into the dialogue as well. Commercial energy suppliers are seeking power generation opportunities in developing countries. What mechanisms can we develop to encourage the pursuit of options that mitigate emissions impacts? Perhaps we can consider a modification of the EX-IM bank's policies to allow it to play a stronger role in this regard, perhaps through assuming some of the risk in these kinds of transactions. Once our firms demonstrate that new, fuel-efficient technologies and renewable energy sources are commercially viable, we can expect that countries in the developing world will quickly adopt that technology. We should also look to ways to encourage research and development into energy-efficiency and renewable energy both by our private sector and through government funding and research. The development of long-term alternatives will be critical in the path to a sustainable future. Congress has been in the forefront of promoting private sector investment; we would welcome a continued dialogue on how to expedite all of our environmental goals through such mechanisms.

It is clear that these actions must be taken. However, it is equally clear that none of these important steps can be taken by the Administration acting alone. Each will need Congressional support. The Senate's attention to the climate issue has brought into focus the importance of the problem, and the need to involve all countries in the solution. We must now work together to find that solution. I look forward to doing just that.

I would be pleased to answer any questions from the committee. Thank

FRANK H. MURKOWSKI, Alaska, Chairman

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United States Senate

COMMITTEE ON
ENERGY AND NATURAL RESOURCES

WASHINGTON, DC 20510-6150

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cc: JAF

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October 3, 1997

Todd -
Here are the
questions that
Dirk is coordinating
Michael

Mr. Dirk Forrister
Chair
White House Climate Change Task Force
The White House
Washington, DC 20500

Dear Mr. Forrister:

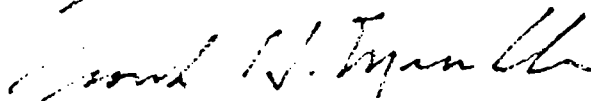
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Should you, your staff, or officials in agencies generating responses to these questions require clarification of additional information, David Garman of the Senate Energy Committee staff may be reached at (202) 224-7933.

Thank you for your attention to this request. I will look forward to the administration's responses.

Sincerely,



Frank H. Murkowski
Chairman

cc: The Honorable Federico Peña
The Honorable Janet Yellen
The Honorable Timothy Wirth
The Honorable Chuck Hagel
The Honorable Robert C. Byrd

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Questions from Chairman Murkowski

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 2. When will the Administration release to the public the economic analysis that it used in reaching these targets and timetables?
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a. If not, why not?
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a. Roughly how many of the 165 parties to the existing climate treaty have agreed to this approach?
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a. If we don't get all of these elements in a Kyoto Protocol, will we walk away from the deal?
- VJ

8. Last week the DOE released a report (the so-called "five labs" study) indicating that we might reduce carbon emissions to 1990 levels with a \$50/ton carbon tax and an aggressive energy R&D program. In response to this report, the Secretary of Energy was quoted in a press release as saying that the analysis "...showed that what was good for the environment would be good for the economy."
- a. Is it the Administration's position that a \$50/ton carbon tax would be good for the economy?
 - b. Does the DOE study analyze impacts on business and manufacturing?
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9. The economic modelling effort that was abandoned by the Administration earlier this year assumed that the mere announcement of an agreement to reduce carbon dioxide would immediately result in a 25% increase in the rate of improvement in energy efficiency.
- a. Was this a valid and realistic assumption?
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- a. Was this a valid and realistic omission?
12. Did the administration modelling effort take into account the adverse effects on U.S. competitiveness and the potential shifting of producers in the United States?
13. It was reported earlier this month that the Administration is considering an executive order that would require federal agencies to reduce emissions by 20%. It was also reported that the Department of Defense will oppose any Administration proposal on climate change that threatens military readiness.

- a. What studies have been done to assess the impact of such an executive order on the U.S. military?
 - b. Have any such analyses been conducted by the Department of Defense to your knowledge?
 - c. Is consideration being given to granting waivers to federal agencies that cannot comply with emission reduction mandates without compromising their legal obligations and vital functions?
 - d. Is the Administration considering granting a waiver to the Department of Defense? To any other departments or agencies?
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- a. Does this mean that we can reach 1990 levels by the year 2010 or that in the year 2010, using new technology in combination with regulatory and other measures, we will begin to reduce emissions at a rate high enough to stabilize emissions at 1990 levels at some point in the future?
 - b. In 2010, how many million metric tons will China or Brazil be emitting per year? More than 390?
15. The DOE study concludes that "in all [three] cases, carbon reductions require the nation to embark on an aggressive set of policies and programs."
- a. Assuming everything works as has been hypothesized in the Efficiency Case (Case One), we will not achieve stabilization of carbon emissions at 1990 levels by 2010, correct?
16. According to the report, the Case 2 and 3 scenarios require "better technology, 'readier' markets, and a price of carbon that results in a significantly increased willingness to manufacture, purchase, and use low-carbon technologies. It represents a vigorous national commitment that goes far beyond current efforts."
- a. If we were to agree to implement a program similar to Case Two, including "a vigorous national program of research, development demonstration, and diffusion, and a trading regime for carbon" at

a price of \$25/ton, we still will not stabilize emissions at 1990 levels by 2010, correct?

- b. According to the DOE study, only if we were to do all of the above and impose a \$50/ton carbon charge would we be able to achieve stabilization at 1990 levels by 2010, correct?
- c. To your knowledge, has any nation involved in the international climate negotiations proposed the adoption of an international mandate for developed countries to stabilize emissions at 1990 levels by the year 2010?
- d. If not, then this study fails to tell us what would be necessary to achieve the significantly higher emission reductions that would be necessary to comply with any of the climate proposals that are on the table, correct?
- e. If that is the case, then this study also fails to demonstrate that the U.S. can comply with the kind of legally binding emission reduction mandates currently under consideration in the international negotiations through use of existing technology at no cost to the nation, correct?
- f. If \$50/ton charges are required to stabilize emissions at 1990 levels by 2010, how much would the per ton charge need to be to reduce emissions to 10% or 15% below 1990 levels? Would it double? Triple?

17. Recent studies conducted by DRI/McGraw-Hill conclude that a \$180-190/ton carbon charge would be necessary to stabilize emissions at 1990 levels by 2010. (Pg. 4 of July 1997 study, "The Impacts of Carbon Mitigation Strategies ...")

- a. Can you explain why there is such disparity between DRI's and DOE's estimates of the per ton charge necessary to reach 1990 levels by 2010?
- b. Has any attempt been made to reconcile these significant differences?
- c. Is it possible that the necessary carbon charge would be higher than \$50/ton to simply stabilize emissions at 1990 levels by 2010?

18. One of the primary conclusions stated in the DOE study is that each of the three scenarios under consideration "can produce energy savings that are roughly equal to or exceed costs" ... "if feasible ways are found to implement the carbon reductions...." The report states, however, that the study did not analyze specific policies to achieve the reductions described in the cases or the political feasibility of policies.

- a. If we don't know what the policies or means for reductions are, and have not determined whether or not they are feasible, how can we rely on this report's conclusion that the reductions can be achieved without a cost to the nation?
 - b. What are some of the means that might be used to achieve the reductions? Would it involve new taxes? Note: Possible programs mentioned include "energy efficiency codes and standards" and "incentives through the tax system directed at investments in energy- efficient technology in industry." (Page 1.13)
- 19. In numerous places in the report, information is provided on what costs were taken into account or were excluded from consideration in making the cost-benefit assessments. "... we count as benefits only the energy savings to the nation.... Costs include the increased technology cost plus an approximate estimate of the costs of program and policy implementation." (Exec. Summary, footnote 2)
 - a. If no effort has been made to analyze specific policies to achieve the described reductions, how did you determine costs of programs and policy implementation?
 - b. What is an example of a "program" that was included in your analysis. What is the cost of that program? What cost did you assign to the "policy implementation" associated with that program?
- 20. On page 1.12 of the report the following statement appears: We have presented the direct and most easily quantified of the costs and benefits, but have not attempted a full benefit-cost analysis. We do not account for indirect effects of policies (e.g., the reallocation of investment dollars to efficiency investments). We do not account for the increased cost of some R&D programs that are needed to achieve the scenario results nor do we count the benefit of reduced carbon and other pollutant emissions. Also, we have not analyzed any possible redistribution of wealth that could arise from a carbon trading system or other policy to increase the price of carbon-based fuel."
 - a. Aren't these pretty significant holes in DOE's analysis?
 - b. If a "full benefit-cost analysis" has not been conducted, then how can you legitimately conclude that emission reductions can be achieved through energy efficiency without cost?
- 21. On page 1.15, the report states that the \$50/ton carbon charge is not a "direct cost."
 - a. Why isn't the carbon charge considered a "direct cost?"

- b. Isn't it a direct cost to someone? Who has to pay it?
 - c. Is the cost of the carbon permit fees included in the analysis in any way?
22. The report characterizes the carbon charge as "a potentially large transfer payment" and makes the following statement: "The magnitude of the transfer payment, as well as the losers and winners from the transfers, depends on the nature of policy and its implementation as a cap and trade system or some alternative. The amount of money that could be in play is very large: \$50/ton times 1.3 billion tons per year equals \$65 billion per year." (Page 1.15)
- a. Is it correct then that the study concludes that emissions reductions could be made at low or no cost yet fails to take into account some \$65 billion in "transfer payments?"
 - b. Who are these "losers" the DOE report refers to?
23. In describing the results of DOE's analysis, the statement is made that the DOE report "makes a strong case for the value of energy technology research, development, demonstration, and diffusion as a public response to global climate change." As the report points out on page 1.3, DOE's expenditure of \$8 million on energy-efficiency research between 1978 and 1996 has resulted in net benefits of \$28 billion through 1996 including significant environmental, health, productivity and economic competitiveness benefits. As you know, numerous economists agree that research and development and technology deployment is the most cost-efficient way to address climate concerns. Indeed, it is precisely because of the kinds of cost-effective opportunities DOE has identified that these economists have concluded in a number of independent studies that the wisest course of action, is to delay the adoption of any kind of mandates or legally binding targets and timetable for a modest period of years to permit research and development to occur and to generally avoid replacement of equipment and machinery prior to the end of its useful life cycle. The Administration has previously testified that if we "do it dumb," compliance with the proposed international target and timetable mandates could be very costly to the U.S.
- a. Doesn't the DOE report provide further support and justification for not rushing into legally binding emission reduction mandates in December in Kyoto but delaying - even for a few years - to reap the benefits of the kinds of R& D the DOE report is promoting?
 - b. Can you quantify the "cost" of delaying for 10 or 20 years?

- c. Can you demonstrate that the cost of delay exceeds the cost of adopting international mandates three months from now?
- 24. According to the DOE report, 95 million of the 135 million tons of carbon reductions necessary in the utility sector to achieve stabilization at 1990 levels by 2010, "comes from retirement of coal power plants and carbon-ordered dispatching of the utility system . . . and from repowering coal plants with natural gas." (Page 1.6)
 - a. How much does it cost to "repower" an average coal plant with natural gas?
 - b. Who would bear these costs?
- 25. The DOE report says that the measures used to reduce emissions in the utility sector are "cost-effective with a \$50/ton carbon charge." (Page 1.6)
 - a. When you say that retiring a coal plant is "cost-effective" with a \$50/ton carbon charge, aren't you really saying is that if we impose a fee of \$50 per ton of carbon, a given number of coal plants will be forced to shut down?
 - b. How many existing coal plants would be "retired?"
 - c. Where are these plants located?
 - d. Has any consideration been given in DOE's analysis to the costs associated with the shutdowns, layoffs, displacements that would occur as a result of "retiring" existing plants?
 - e. When you say that energy savings or reductions can be achieved at little or no cost "to the nation," does that include the citizens, communities and businesses in this country?
- 26. The DOE report also states that the remaining reductions in the utility sector would be achieved from renewables such as wind, biofuels, expansion of hydropower, and extension of nuclear power plant life. (Page 1.6)
 - a. Explain what is meant by "nuclear power plant life extensions."
 - b. Does this study contemplate new nuclear power plants or a greater dependence on nuclear power?
- 27. Turning to the transportation and industry sectors, the DOE report contemplates a reduction of 50 million tons of carbon per year through (a) advanced combustion turbine cogenerators in industry; (b) biomass and black liquor gasification and low-carbon industrial

processes; and (c) cellulosic ethanol/gasoline blends for automobiles.
(Page 1.6)

- a. What kinds of industrial processes utilize advance combustion turbine cogenerators?
 - b. What percentage of industrial plants currently use these turbine cogenerators?
 - c. How much would it cost a given plant to re-outfit with a turbine cogenerator?
 - d. Are cellulosic ethanol/gasoline blends currently available to American consumers? What automobiles can use this fuel? What kind of conversion would be necessary for other cars to use this fuel? What would it cost?
28. The Acid Rain trading program exists solely within the United States and operates primarily through the annual allocation of sulphur dioxide permits to a known group of electric power generators, correct?
- a. Why are the permits generally allocated only to electric power generators?
 - b. What mechanism is used to determine whether these entities' emissions are within their permit allowances?
 - c. What happens if a company's emissions exceed its permits?
 - d. What legal process exists to allow the regulated community to appeal decisions with which it disagrees in connection with the trading and emission program?
 - e. What costs are associated with the operation and administration of the trading program? How are these costs minimized to maintain market incentives?
29. I understand that the establishment of a trading regime similar to the sulphur dioxide program for carbon emissions has been proposed.
- a. Would the carbon trading program operate domestically or internationally?
 - b. What role is envisioned for the Chicago Board of Trade?
 - c. Could a U.S. company such as an automobile manufacturer in Detroit purchase carbon permits through the Board of Trade from another developed country such as Germany? From a

developing country such as Guatemala or Botswana?

- d. If carbon permits may be purchased from a developing country, how would it be determined how many permits each developing country would be allocated?
 - e. Would any UN agencies or bodies be involved in the implementation of the emission trading program? How would they be funded?
 - f. What kind of transaction costs would you expect to be associated with an international emissions trading program?
 - g. Would state or local governments be required to purchase carbon units for emissions? Federal agencies?
 - h. What kind of allocation process would be set up to establish the caps that would be required to provide incentives to trade?
 - i. In the Acid Rain program, compliance with permits is ensured through sophisticated continuous emissions monitoring equipment. How would compliance with permit limitations be ensured under this program?
 - j. Would developing countries have to reduce their own emissions by one ton of carbon for each carbon unit they sell? How would compliance be ensured for developing countries? Will developed countries only be able to sell a carbon unit if they can demonstrate they have already achieved the relevant reductions?
 - k. What penalties would apply if a developing country failed to reduce its emissions at an amount commensurate with the carbon units it had sold?
 - l. Who will monitor countries or companies for enforcement purposes?
30. What is the administration's calculation or estimate of the greenhouse gas emission reduction equivalent of the Clean Coal Technology Program, which was a 7 billion dollar program, at least half of which came from private industry?
31. What exactly is the Administration itself doing to develop new technologies to reduce greenhouse gas emissions? I'm not talking about what the government is doing with industry in a partnership, or what industry is doing alone—what is the federal government doing itself?

FRANK H. MURKOWSKI, Alaska, Chairman

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United States Senate

COMMITTEE ON
ENERGY AND NATURAL RESOURCES
WASHINGTON, DC 20510-6150

October 3, 1997

Mr. Dirk Forrister
Chair
White House Climate Change Task Force
The White House
Washington, DC 20500

Dear Mr. Forrister:

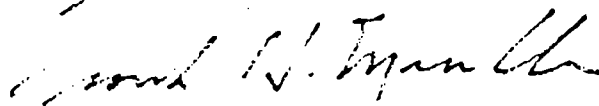
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- a. Can you explain why there is such disparity between DRI's and DOE's estimates of the per ton charge necessary to reach 1990 levels by 2010?
 - b. Has any attempt been made to reconcile these significant differences?
 - c. Is it possible that the necessary carbon charge would be higher than \$50/ton to simply stabilize emissions at 1990 levels by 2010?
18. One of the primary conclusions stated in the DOE study is that each of the three scenarios under consideration "can produce energy savings that are roughly equal to or exceed costs" . . . "if feasible ways are found to implement the carbon reductions..." The report states, however, that the study did not analyze specific policies to achieve the reductions described in the cases or the political feasibility of policies.

- a. If we don't know what the policies or means for reductions are, and have not determined whether or not they are feasible, how can we rely on this report's conclusion that the reductions can be achieved without a cost to the nation?
 - b. What are some of the means that might be used to achieve the reductions? Would it involve new taxes? Note: Possible programs mentioned include "energy efficiency codes and standards" and "incentives through the tax system directed at investments in energy- efficient technology in industry." (Page 1.13)
- 19. In numerous places in the report, information is provided on what costs were taken into account or were excluded from consideration in making the cost-benefit assessments. "... we count as benefits only the energy savings to the nation.... Costs include the increased technology cost plus an approximate estimate of the costs of program and policy implementation." (Exec. Summary, footnote 2)
 - a. If no effort has been made to analyze specific policies to achieve the described reductions, how did you determine costs of programs and policy implementation?
 - b. What is an example of a "program" that was included in your analysis. What is the cost of that program? What cost did you assign to the "policy implementation" associated with that program?
- 20. On page 1.12 of the report the following statement appears: We have presented the direct and most easily quantified of the costs and benefits, but have not attempted a full benefit-cost analysis. We do not account for indirect effects of policies (e.g., the reallocation of investment dollars to efficiency investments). We do not account for the increased cost of some R&D programs that are needed to achieve the scenario results nor do we count the benefit of reduced carbon and other pollutant emissions. Also, we have not analyzed any possible redistribution of wealth that could arise from a carbon trading system or other policy to increase the price of carbon-based fuel."
 - a. Aren't these pretty significant holes in DOE's analysis?
 - b. If a "full benefit-cost analysis" has not been conducted, then how can you legitimately conclude that emission reductions can be achieved through energy efficiency without cost?
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 - a. Why isn't the carbon charge considered a "direct cost?"

- b. Isn't it a direct cost to someone? Who has to pay it?
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- a. Is it correct then that the study concludes that emissions reductions could be made at low or no cost yet fails to take into account some \$65 billion in "transfer payments?"
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23. In describing the results of DOE's analysis, the statement is made that the DOE report "makes a strong case for the value of energy technology research, development, demonstration, and diffusion as a public response to global climate change." As the report points out on page 1.3, DOE's expenditure of \$8 million on energy-efficiency research between 1978 and 1996 has resulted in net benefits of \$28 billion through 1996 including significant environmental, health, productivity and economic competitiveness benefits. As you know, numerous economists agree that research and development and technology deployment is the most cost-efficient way to address climate concerns. Indeed, it is precisely because of the kinds of cost-effective opportunities DOE has identified that these economists have concluded in a number of independent studies that the wisest course of action, is to delay the adoption of any kind of mandates or legally binding targets and timetable for a modest period of years to permit research and development to occur and to generally avoid replacement of equipment and machinery prior to the end of its useful life cycle. The Administration has previously testified that if we "do it dumb," compliance with the proposed international target and timetable mandates could be very costly to the U.S.
- a. Doesn't the DOE report provide further support and justification for not rushing into legally binding emission reduction mandates in December in Kyoto but delaying - even for a few years - to reap the benefits of the kinds of R&D the DOE report is promoting?
 - b. Can you quantify the "cost" of delaying for 10 or 20 years?

- c. Can you demonstrate that the cost of delay exceeds the cost of adopting international mandates three months from now?
24. According to the DOE report, 95 million of the 135 million tons of carbon reductions necessary in the utility sector to achieve stabilization at 1990 levels by 2010, "comes from retirement of coal power plants and carbon-ordered dispatching of the utility system . . . and from repowering coal plants with natural gas." (Page 1.6)
- a. How much does it cost to "repower" an average coal plant with natural gas?
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 - b. How many existing coal plants would be "retired?"
 - c. Where are these plants located?
 - d. Has any consideration been given in DOE's analysis to the costs associated with the shutdowns, layoffs, displacements that would occur as a result of "retiring" existing plants?
 - e. When you say that energy savings or reductions can be achieved at little or no cost "to the nation," does that include the citizens, communities and businesses in this country?
26. The DOE report also states that the remaining reductions in the utility sector would be achieved from renewables such as wind, biofuels, expansion of hydropower, and extension of nuclear power plant life. (Page 1.6)
- a. Explain what is meant by "nuclear power plant life extensions."
 - b. Does this study contemplate new nuclear power plants or a greater dependence on nuclear power?
27. Turning to the transportation and industry sectors, the DOE report contemplates a reduction of 50 million tons of carbon per year through (a) advanced combustion turbine cogenerators in industry; (b) biomass and black liquor gasification and low-carbon industrial

processes; and (c) cellulosic ethanol/gasoline blends for automobiles.
(Page 1.6)

- a. What kinds of industrial processes utilize advance combustion turbine cogenerators?
 - b. What percentage of industrial plants currently use these turbine cogenerators?
 - c. How much would it cost a given plant to re-outfit with a turbine cogenerator?
 - d. Are cellulosic ethanol/gasoline blends currently available to American consumers? What automobiles can use this fuel? What kind of conversion would be necessary for other cars to use this fuel? What would it cost?
28. The Acid Rain trading program exists solely within the United States and operates primarily through the annual allocation of sulphur dioxide permits to a known group of electric power generators, correct?
- a. Why are the permits generally allocated only to electric power generators?
 - b. What mechanism is used to determine whether these entities' emissions are within their permit allowances?
 - c. What happens if a company's emissions exceed its permits?
 - d. What legal process exists to allow the regulated community to appeal decisions with which it disagrees in connection with the trading and emission program?
 - e. What costs are associated with the operation and administration of the trading program? How are these costs minimized to maintain market incentives?
29. I understand that the establishment of a trading regime similar to the sulphur dioxide program for carbon emissions has been proposed.
- a. Would the carbon trading program operate domestically or internationally?
 - b. What role is envisioned for the Chicago Board of Trade?
 - c. Could a U.S. company such as an automobile manufacturer in Detroit purchase carbon permits through the Board of Trade from another developed country such as Germany? From a

developing country such as Guatemala or Botswana?

- d. If carbon permits may be purchased from a developing country, how would it be determined how many permits each developing country would be allocated?
 - e. Would any UN agencies or bodies be involved in the implementation of the emission trading program? How would they be funded?
 - f. What kind of transaction costs would you expect to be associated with an international emissions trading program?
 - g. Would state or local governments be required to purchase carbon units for emissions? Federal agencies?
 - h. What kind of allocation process would be set up to establish the caps that would be required to provide incentives to trade?
 - i. In the Acid Rain program, compliance with permits is ensured through sophisticated continuous emissions monitoring equipment. How would compliance with permit limitations be ensured under this program?
 - j. Would developing countries have to reduce their own emissions by one ton of carbon for each carbon unit they sell? How would compliance be ensured for developing countries? Will developed countries only be able to sell a carbon unit if they can demonstrate they have already achieved the relevant reductions?
 - k. What penalties would apply if a developing country failed to reduce its emissions at an amount commensurate with the carbon units it had sold?
 - l. Who will monitor countries or companies for enforcement purposes?
30. What is the administration's calculation or estimate of the greenhouse gas emission reduction equivalent of the Clean Coal Technology Program, which was a 7 billion dollar program, at least half of which came from private industry?
31. What exactly is the Administration itself doing to develop new technologies to reduce greenhouse gas emissions? I'm not talking about what the government is doing with industry in a partnership, or what industry is doing alone—what is the federal government doing itself?

Testimony C

FRANK H. MURKOWSKI, Alaska, Chairman

PETE V. DOMENICI, New Mexico
DON NICKLES, Oklahoma
LARRY E. CRAIG, Idaho
BEN NIGHTHORSE CAMPBELL, Colorado
CRAIG THOMAS, Wyoming
JON KYL, Arizona
ROD GRAMS, Minnesota
BUD SHULTS, Oregon
BOB CORKER, Washington
RAD BURNS, Montana

DALE BUMPERS, Arkansas
WENDELL H. FORD, Kentucky
JEFF BINGAMAN, New Mexico
DANIEL K. AKAKA, Hawaii
BYRON L. DORGAN, North Dakota
BOB GRAHAM, Florida
RON WYDEN, Oregon
TIM JOHNSON, South Dakota
MARY L. LANDRIEU, Louisiana

GREGG D. RENKES, STAFF DIRECTOR
GARY G. ELLSWORTH, CHIEF COUNSEL
THOMAS B. WILLIAMS, STAFF DIRECTOR FOR THE MINORITY
SAM E. FOWLER, CHIEF COUNSEL FOR THE MINORITY

United States Senate

COMMITTEE ON
ENERGY AND NATURAL RESOURCES
WASHINGTON, DC 20510-6150

October 3, 1997

JLY
cc: JAF
RMB
RL
AM
JA

Mr. Dirk Forrister
Chair
White House Climate Change Task Force
The White House
Washington, DC 20500

Dear Mr. Forrister:

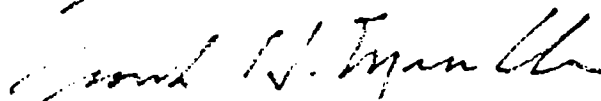
Because the administration declined to provide a witness for our September 30 hearing on climate change, members of our Committee were unable to ask questions on a variety of issues relevant to the climate change negotiations.

In an effort to allow the Senate—and the public at large—to appreciate the diplomatic, economic and technical issues we face as a consequence of the climate change issue, I respectfully request that the enclosed written questions for the record be answered in a time frame prior to or concurrent with the upcoming negotiations in Bonn.

Should you, your staff, or officials in agencies generating responses to these questions require clarification of additional information, David Garman of the Senate Energy Committee staff may be reached at (202) 224-7933.

Thank you for your attention to this request. I will look forward to the administration's responses.

Sincerely,



Frank H. Murkowski
Chairman

cc: The Honorable Federico Peña
The Honorable Janet Yellen
The Honorable Timothy Wirth
The Honorable Chuck Hagel
The Honorable Robert C. Byrd

Questions from Chairman Murkowski

- 1. When will the Administration unveil its proposed “targets and timetables” for carbon emission reductions?**
- 2. When will the Administration release to the public the economic analysis that it used in reaching these targets and timetables?**
- 3. Will the economic analysis used to arrive at these targets and timetables be peer reviewed?**
 - a. If not, why not?**
 - b. If so, will the peer reviewers comments be made public?**
- 4. The Administration has indicated that it seeks to have an international emissions trading scheme in the new treaty.**
 - a. Roughly how many of the 165 parties to the existing climate treaty have agreed to this approach?**
- 5. The Administration has indicated that it wanted to have “joint implementation” with developing countries as a means to reduce the costs of treaty compliance.**
 - a. Roughly how many of the 129 developing country parties have agreed to this approach?**
- 6. The Administration has indicated that it will “advance existing commitments” for developing countries and has even proposed a means under which developing nations would “graduate” into binding commitments.**
 - a. Roughly how many of the 129 developing country parties have agreed to the “graduation” approach?**
 - b. Roughly how many of the 36 industrialized country parties have agreed to the “graduation” approach?**
- 7. Some of the key strategies for our negotiations—including developing country participation, joint implementation, and emissions trading—are not faring well in the negotiations.**
 - a. If we don’t get all of these elements in a Kyoto Protocol, will we walk away from the deal?**

8. Last week the DOE released a report (the so-called "five labs" study) indicating that we might reduce carbon emissions to 1990 levels with a \$50/ton carbon tax and an aggressive energy R&D program. In response to this report, the Secretary of Energy was quoted in a press release as saying that the analysis "...showed that what was good for the environment would be good for the economy."
 - a. Is it the Administration's position that a \$50/ton carbon tax would be good for the economy?
 - b. Does the DOE study analyze impacts on business and manufacturing?
 - c. Is the DOE study an economic study or an attempt to make predictions?
9. The economic modelling effort that was abandoned by the Administration earlier this year assumed that the mere announcement of an agreement to reduce carbon dioxide would immediately result in a 25% increase in the rate of improvement in energy efficiency.
 - a. Was this a valid and realistic assumption?
 - b. Did the peer reviewers feel it was a realistic assumption?
10. The administration economic modelling effort also assumed a decrease in long term interest rates to almost 2%.
 - a. Was this a valid and realistic assumption?
 - b. Don't new taxes and higher costs tend to increase inflation and interest rates?
11. The administration modelling effort did not consider the costs associated with the development, implementation and monitoring of a trading program.
 - a. Was this a valid and realistic omission?
12. Did the administration modelling effort take into account the adverse effects on U.S. competitiveness and the potential shifting of producers in the United States?
13. It was reported earlier this month that the Administration is considering an executive order that would require federal agencies to reduce emissions by 20%. It was also reported that the Department of Defense will oppose any Administration proposal on climate change that threatens military readiness.

- a. What studies have been done to assess the impact of such an executive order on the U.S. military?
 - b. Have any such analyses been conducted by the Department of Defense to your knowledge?
 - c. Is consideration being given to granting waivers to federal agencies that cannot comply with emission reduction mandates without compromising their legal obligations and vital functions?
 - d. Is the Administration considering granting a waiver to the Department of Defense? To any other departments or agencies?
14. The DOE "five labs" study concludes that a carbon emission reduction of 390 million metric tons per year is required to stabilize emissions at 1990 levels in 2010 and is based on implementation of the program by the year 2000. The study finds that by increasing energy efficiency through a variety of federal and state programs with industry participation as well as imposing a \$50 per metric ton of carbon permit price that "2010 emissions could be cut by about 390 [million metric tons] per year."
- a. Does this mean that we can reach 1990 levels by the year 2010 or that in the year 2010, using new technology in combination with regulatory and other measures, we will begin to reduce emissions at a rate high enough to stabilize emissions at 1990 levels at some point in the future?
 - b. In 2010, how many million metric tons will China or Brazil be emitting per year? More than 390?
15. The DOE study concludes that "in all [three] cases, carbon reductions require the nation to embark on an aggressive set of policies and programs."
- a. Assuming everything works as has been hypothesized in the Efficiency Case (Case One), we will not achieve stabilization of carbon emissions at 1990 levels by 2010, correct?
16. According to the report, the Case 2 and 3 scenarios require "better technology, 'readier' markets, and a price of carbon that results in a significantly increased willingness to manufacture, purchase, and use low-carbon technologies. It represents a vigorous national commitment that goes far beyond current efforts."
- a. If we were to agree to implement a program similar to Case Two, including "a vigorous national program of research, development demonstration, and diffusion, and a trading regime for carbon" at

a price of \$25/ton, we still will not stabilize emissions at 1990 levels by 2010, correct?

- b. According to the DOE study, only if we were to do all of the above and impose a \$50/ton carbon charge would we be able to achieve stabilization at 1990 levels by 2010, correct?
 - c. To your knowledge, has any nation involved in the international climate negotiations proposed the adoption of an international mandate for developed countries to stabilize emissions at 1990 levels by the year 2010?
 - d. If not, then this study fails to tell us what would be necessary to achieve the significantly higher emission reductions that would be necessary to comply with any of the climate proposals that are on the table, correct?
 - e. If that is the case, then this study also fails to demonstrate that the U.S. can comply with the kind of legally binding emission reduction mandates currently under consideration in the international negotiations through use of existing technology at no cost to the nation, correct?
 - f. If \$50/ton charges are required to stabilize emissions at 1990 levels by 2010, how much would the per ton charge need to be to reduce emissions to 10% or 15% below 1990 levels? Would it double? Triple?
17. Recent studies conducted by DRI/McGraw-Hill conclude that a \$180-190/ton carbon charge would be necessary to stabilize emissions at 1990 levels by 2010. (Pg. 4 of July 1997 study, "The Impacts of Carbon Mitigation Strategies . . .")
- a. Can you explain why there is such disparity between DRI's and DOE's estimates of the per ton charge necessary to reach 1990 levels by 2010?
 - b. Has any attempt been made to reconcile these significant differences?
 - c. Is it possible that the necessary carbon charge would be higher than \$50/ton to simply stabilize emissions at 1990 levels by 2010?
18. One of the primary conclusions stated in the DOE study is that each of the three scenarios under consideration "can produce energy savings that are roughly equal to or exceed costs" . . . "if feasible ways are found to implement the carbon reductions...." The report states, however, that the study did not analyze specific policies to achieve the reductions described in the cases or the political feasibility of policies.

- a. If we don't know what the policies or means for reductions are, and have not determined whether or not they are feasible, how can we rely on this report's conclusion that the reductions can be achieved without a cost to the nation?
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(Page 1.6)

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Democratic National Committee

Steve Grossman, *National Chair* • Governor Roy Romer, *General Chair*

October 16, 1997

Mr. Todd Stern
The White House
West Wing
Washington, DC 20500

via facsimile: (202) 456-2215

Dear Todd:

The Democratic National Committee's 1997 Autumn Retreat is scheduled for October 31 through November 2 in Amelia Island, Florida. Top financial and political supporters from around the country will travel to Amelia Island for a weekend of recreation, relaxation and discussion on the future of the Democratic Party and the role of active Democrats in defining the national agenda. In addition to several receptions, golf and tennis excursions, we will sponsor both formal and informal discussion sessions on economic, social and political issues in both the national and international arenas. The purpose of the retreat is to significantly reduce the DNC's debt and enable the Party to wage a competitive, coordinated national campaign in 1998.

Please accept our invitation to attend the 1997 Autumn Retreat and to speak at one of the briefing sessions on Saturday, November 1, 1997. We hope that you will be able to join us for this exciting weekend at the Ritz Carlton Amelia Island in Amelia Island, Florida.

While we understand how busy you are, we want you to know that your participation will contribute greatly to the success of this event. Jason Bovis will follow up on this request with your office. However, if you have any questions or thoughts about this event, please feel free to contact us at (202) 863-8121 or Jason at (202) 863-7146.

Thank you in advance for your consideration. We look forward to your involvement in the Autumn Retreat.

Sincerely,



Steve Grossman
National Chair



Roy Romer
General Chair



Alan D. Solomont
National Finance Chairman



Carol Pensky
Treasurer



Dan Dutko
National Victory Fund Chair

The White House Comment Line Survey

Tuesday, October 14, 1997 OCT 15 PM 1:43

1. President Clinton launched his initiative on race, called "One America in the 21st Century," to help build a stronger, more just, and more united American community, offering opportunity and fairness for all Americans. The President's initiative is a combination of constructive dialogue, study, and action. It is examining the current state of race relations and our common future, looking at the laws and policies that can help to ensure we remain One America, and enlist individuals, communities, businesses and government at all levels in an effort to understand our differences as we appreciate the values that unite us.

1. Approve	458	65.7%
2. Disapprove	69	9.9%
3. Unfamiliar	100	14.3%
4. Undecided	69	9.9%

TOTAL 697

2. The President has announced that he will propose meaningful and realistic actions to address the problem of global climate change, including setting limits on U.S. emissions of the gases that cause global warming. The President has also said that any response to this problem must maintain economic growth and that it must include all nations, developed and developing, as part of the solution.

1. Approve	449	74.5%
2. Disapprove	102	16.9%
3. Unfamiliar	31	5.1%
4. Undecided	21	3.5%

TOTAL 603

3. Do you support the renewal of the President's traditional authority to negotiate trade agreements and break down unfair foreign barriers to American products -- currently referred to as "fast track"? The trading authority -- which Congress has granted every President since 1974 -- gives the President the power he needs to negotiate tough and fair trade agreements by ensuring Congress will vote on those deals without amending them.

1. Approve	240	51.4%
2. Disapprove	122	26.1%
3. Unfamiliar	62	13.3%
4. Undecided	43	9.2%

TOTAL 467

THE WHITE HOUSE COMMENT LINE

Tuesday, October 14, 1997

'97 OCT 15 PM 12:10

THE WHITE HOUSE COMMENT LINE		
<i>Issues</i>	<i>Support</i>	<i>Oppose</i>
President's Performance	57	30
Attorney General's Performance	24	8
President's Initiative to Meet the Challenge of Global Warming ("Stop Industry Polluters")	1,010	30
Ban on Landmines with no Exceptions or Loopholes	200	5
NASA's Plutonium-Powered Cassini Space Probe Project	5	568
Fast Track Negotiating Authority for the President	1	29
Campaign Finance Reform	25	0
SR 1180 (Endangered Species Recovery Act of 1997)	1	11
Ban on Late Term Abortions	51	18
Executive Clemency for Leonard Peltier	9	1
Stronger Immigration Laws	13	1

25 White House Comment Line Operators received 2,286 calls.

If you have any questions about this report, please call Judithanne Scourfield at x65443.

The White House Comment Line Survey

Wednesday, October 15, 1997 10:16 PM 1:42

1. President Clinton launched his initiative on race, called "One America in the 21st Century," to help build a stronger, more just, and more united American community, offering opportunity and fairness for all Americans. The President's initiative is a combination of constructive dialogue, study, and action. It is examining the current state of race relations and our common future, looking at the laws and policies that can help to ensure we remain One America, and enlist individuals, communities, businesses and government at all levels in an effort to understand our differences as we appreciate the values that unite us.

1. Approve	341	69.2%
2. Disapprove	44	8.9%
3. Unfamiliar	61	12.4%
4. Undecided	44	8.9%

TOTAL 493

2. The President has announced that he will propose meaningful and realistic actions to address the problem of global climate change, including setting limits on U.S. emissions of the gases that cause global warming. The President has also said that any response to this problem must maintain economic growth and that it must include all nations, developed and developing, as part of the solution.

1. Approve	334	75.8%
2. Disapprove	78	17.6%
3. Unfamiliar	21	4.8%
4. Undecided	9	2.0%

TOTAL 442

3. Do you support the renewal of the President's traditional authority to negotiate trade agreements and break down unfair foreign barriers to American products -- currently referred to as "fast track"? The trading authority -- which Congress has granted every President since 1974 -- gives the President the power he needs to negotiate tough and fair trade agreements by ensuring Congress will vote on those deals without amending them.

1. Approve	180	57.3%
2. Disapprove	67	21.3%
3. Unfamiliar	36	11.5%
4. Undecided	30	9.6%

TOTAL 314

10/15/97

Todd —

Give me some idea of which
of these we should act on. Do there
any \$ left from the conference?
I certainly haven't budgeted for
this + am trying to find \$ to reprint the
"State of Knowledge". Let me know. P. S. N.A.

5

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

'97 OCT 16 AM 11:15

October 15, 1997

MEMORANDUM TO TODD STERN

From: Rosina Bierbaum 
Subject: Climate Conference Video Options

Jody, Peter, and I have identified four possible videos that could be created from the overall videotape record of the White House Conference on Climate Change. The cost of producing the following materials depends on the amount of edit suite time that must be purchased. This will be minimized if any agency production facilities are available when we need to use them. Jody and Peter are looking into this, and are both available to work on this project over the next several weeks. If we are required to purchase the time, we estimate that it will cost between \$1500 and \$4000 per day. We anticipate that a total of about 10 days time in a facility is required, for a total of \$15,000 to \$40,000 for all products.

1. A short (30-45 minute) piece on climate change science, which would include portions of remarks from the POTUS and VPOTUS, along with most of science panel presentations and graphics. The purpose would be largely educational, and we would work with the Union of Concerned scientists and the USGCRP to arrange for the tape to be distributed in response to requests for information (UCS gets about 20,000 inquiries per month, and has expressed interest in having a video to send out).

- Estimated time until completion: 1 week

2. A "highlights" or "B-roll" tape (15 minutes), which would include the best quotes and all the charts and graphs from the conference. This could be distributed to news organizations for use in creating climate change stories.

- Estimated time until completion: 1 week

3. A comprehensive summary video of the conference (approximately 1 hour), which would include sections of the POTUS, VPOTUS, and FLOTUS speeches and highlights from each panel. The target audience is schools and other interested institutions (scientific societies, trade associations, libraries, etc.).

- Estimated time until completion: 3 weeks

4. A short summary video of the conference (12-15 minutes), which would include highlights of the POTUS, VPOTUS, and FLOTUS, as well as excerpts from the science panelists. This would be targeted to business executives, opinion leaders, and journalists.

- Estimated time until completion: 3 weeks

THE WHITE HOUSE COMMENT LINE

Wednesday, October 15, 1997

1997 OCT 16 AM 11:16

THE WHITE HOUSE COMMENT LINE		
<i>Issues</i>	<i>Support</i>	<i>Oppose</i>
President's Performance	68	30
First Lady's Performance	11	3
Vice President's Performance	7	5
Attorney General's Performance	11	11
Attorney General Should Appoint Independent Council for Campaign Fundraising Investigation	2	9
Support for President Vis-a-Vis Thompson Hearings	10	3
President's Initiative to Meet the Challenge of Global Warming ("Stop Industry Polluters")	759	23
Ban on Landmines with no Exceptions or Loopholes	114	5
NASA's Plutonium-Powered Cassini Space Probe Project	5	64
Campaign Finance Reform	20	7
SR 1180 (Endangered Species Recovery Act of 1997)	5	5
Conoco Oil Drilling in Grand Staircase Escalante National Monument in Utah	0	15
Protection of Headwater Forest	11	2
General Reaction to Paula Jones' Case	2	14
Ban on Late Term Abortions	35	9
Executive Clemency for Leonard Peltier	23	0

THE WHITE HOUSE COMMENT LINE		
U.S. Support of Israel	1	13
Stronger Immigration Laws	12	0

24 White House Comment Line Operators received 1,483 calls.

If you have any questions about this report, please call Judithanne Scourfield at x65443.

Total Pages: 10

LRM ID: EHF341

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503-0001

'97 NOV 10 PM5:38

Monday, November 10, 1997

LEGISLATIVE REFERRAL MEMORANDUM

TO: Legislative Liaison Officer - See Distribution below

FROM: *Ron Peterson*
Ronald K. Peterson (for) Assistant Director for Legislative Reference

OMB CONTACT: Robert J. Tuccillo
PHONE: (202)395-5809 FAX: (202)395-5836

SUBJECT: STATE Qs and As on Global Climate Change (from 7/24/97 hearing before the House International Relations Committee)

DEADLINE: 1:00 PM Wednesday, November 12, 1997

In accordance with OMB Circular A-19, OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President. Please advise us if this item will affect direct spending or receipts for purposes of the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.

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EOP:

John D. Burnim
Kathleen A. McGinty
David B. Sandalow
Michele Jolin
Todd Stern
Gene B. Sperling
Dirk Forester

Daniel C. Tate
Lucia A. Wyman
Joseph J. Minarik
Joshua Gotbaum

_____ Concur

_____ No Objection

_____ No Comment

_____ See proposed edits on pages _____

_____ Other: _____

_____ FAX RETURN of _____ pages, attached to this response sheet

/

Questions for the Record Submitted by Chairman Gilman to
Under Secretary of State Timothy Wirth
House International Relations Committee
July 24, 1997

Q: You note in your testimony that China will pass the U.S. in greenhouse gas emissions before 2025. That means that as far as climate change is concerned, it becomes more important what China does than what the U.S. does on this issue. Specifically, what are the Chinese willing to do about legally binding timetables? Given the record I outlined on China's cooperation with the U.S. on other key issues - nuclear, missile and chemical proliferation, intellectual property, human and religious rights - how can we expect China to "come along quietly" on greenhouse gases?

A: Chinese negotiators in Berlin at the First Conference of the Parties under the UN Framework Convention in April 1995 strongly supported the view that developing countries, including China, should have no new commitments in the current round of negotiations toward a new legal instrument. Thus, the Chinese have opposed legally binding timetables for limiting China's greenhouse gas emissions in negotiations under the Berlin Mandate.

At the same time, China and other developing country Parties to the Convention agreed in Berlin that all Parties should reaffirm their existing commitments and continue to advance the implementation of those commitments. Precisely what steps will be taken in that regard is under negotiation in the Ad Hoc Group on the Berlin Mandate, the negotiating body set up to develop a new legal instrument in time for the Third Conference of the Parties that will take place this December in Kyoto.

*State Contact
Vanessa 647-4463
Fax 647-4462*



Nevertheless, convincing China and other key developing countries of the need for them to accept quantified limits on their emissions of greenhouse gases remains one of the most important -- and most difficult -- challenges faced by the industrialized world in the years ahead.

3

Questions for the Record Submitted by Chairman Gilman to
Under Secretary of State Timothy Wirth
House International Relations Committee
July 24, 1997

Q: The Commerce Department recently noted that capping carbon emissions at 1990 levels could require the equivalent of a 25 cent a gallon additional tax on gasoline. It is ironic that the President is finalizing the details of a tax cut with Congress but may force a tax increase to enforce an international treaty. Do you oppose raising the federal tax on gasoline to enforce this treaty?

A: Yes. In fact, the domestic plan announced by the President on October 22 does not call for gasoline or other taxes. Instead, it is backed by a \$5 billion plan to spur energy efficiency and promote development and diffusion of new technologies. In addition, the Federal government, the largest energy consumer in the United States, will reform its own energy use patterns as part of the effort to reduce emissions. Another important element of the plan includes a major electricity sector restructuring designed to create incentives for climate-friendly generation while creating energy expenditure savings for consumers. Together, these elements are aimed at changing energy consumption habits in the United States without additional taxes.

4

Questions for the Record Submitted by Chairman Gilman to
Under Secretary of State Timothy Wirth
House International Relations Committee
July 24, 1997

Q: In your testimony, you noted the Administration is proposing emissions trading between countries that exceed their allotments of greenhouse gases and ones that fall short. Charles River Associates estimated that the cost of such permits would equal the cost of the carbon tax to reduce emissions to comply with the treaty's allotment of greenhouse gases. Charles River estimated that this cost will equal \$200 per ton of carbon to induce sufficient fuel switching to reduce emissions by 25 percent in 2010. This equates to a 50 cent per gallon tax on gasoline. Do you support this?

A: The Administration has proposed a system of international greenhouse gas emissions trading so as to address the threat of global climate change as cost effectively as possible. Under such a system, countries would be able to buy and sell portions of their emissions budgets to achieve equivalent reductions at the lowest possible cost. For countries to engage in emissions trading, however, the United States has urged that they be in compliance with their obligations to monitor and report on these emissions.

The analysis undertaken by Charles River Associates (CRA) is quite conservative and suggests that the costs of reducing greenhouse gas emissions will be quite high. We have reviewed the CRA's economic analysis and note that it ignores several key elements of the President's proposal. These include: 1) Tax cuts and R&D spending amounting to \$5 billion over five years; 2) Reform of Federal energy procurement and use practices; 3) Electricity restructuring aimed at reducing greenhouse gas emissions while saving consumes billions of dollars; 4) Joint implementation, and at a later state, domestic and international emissions trading. The CRA study also ignores the economic costs

5

associated with climate change that will be avoided thanks to this plan, and in the nearer term CRA under-estimates the potential for diffusion of energy efficient technologies -- a potential upon which the President's plan capitalizes to cost effectively reduce greenhouse gas emissions.

Other studies indicate that equivalent reductions can be achieved at significantly lower costs. For example, "Energy Innovations," a study by the American Council on Energy Efficient Economy projects that it is possible to achieve a ten percent reduction in greenhouse gas emissions levels by 2010 at a net cost savings. Similarly, the World Wildlife Fund / Tellus Institute has concluded that the U.S. could achieve a ten percent cut in emissions by 2005, and a 22% cut in emissions by 2010 at a net savings to the economy. In addition, a study by the Department of Energy National Laboratories concluded that we could achieve 1990 levels by 2010 with existing technology.

In addition, a recent study by the World Resources Institute (WRI) concluded that U.S. competitiveness is not at risk in the climate negotiations because: 1) energy prices don't drive trade and investment decisions; 2) energy costs are small in total cost of tradable goods and services; 3) energy prices are rising in developing countries; and 4) emission reductions will create U.S. business opportunities. According to an analysis of all the analyses by WRI, the cost estimates depend on how optimistic the analysts are regarding the following assumptions of whether:

6

- non-fossil energy alternatives will become available in the future at a competitive price;
- consumers and businesses will respond efficiently to price increases;
- revenues raised from auctioned CO2 permits will be used to reduce taxes on labor and capital;
- reductions in fossil fuel consumption will decrease air pollution;
- benefits of avoiding catastrophic climate change are taken into account;
- the extent of substitution among energy sources, energy technologies, products, and production methods.

7

Questions for the Record Submitted by Chairman Gilman to
Under Secretary of State Timothy Wirth
House International Relations Committee
July 24, 1997

Q: Much of the treaty's enforcement will depend on data collected by each individual nation. How can we trust data from countries like China that have already cooked their books on basic reporting like census data?

A: The current climate convention – the U.N. Framework Convention on Climate Change – obliges each Party to report inventory data with respect to its emissions by sources and removals by sinks of greenhouse gas emissions. As the question correctly notes, these data are collected by individual nations, and individual nations have the responsibility, in the first instance, to ensure their reliability. In this regard, however, it is important to distinguish between the existing Convention commitments of developed country Parties on the one hand and developing country Parties on the other hand.

At present, the Convention's "aim" to return greenhouse gas emissions to 1990 levels by the year 2000 only applies to developed country (the so-called "Annex I") Parties. These developed country Parties have instituted an in-depth review process in which expert teams meet with a broad array of officials in each capital to consider the information contained in each "national communication" (report) under the Convention. These in-depth reviews help ensure that the data reported are accurate, and they provide an important opportunity for each developed country Party to explain and elaborate on information contained in its national communication.

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At present, developing countries have a series of obligations under the Convention, but none of these obligations contains an "aim" or other form of quantified emissions limitation commitment. Under the terms of the Convention, developing country Parties (except the least developed) must submit their initial national communications (including emissions inventories) within three years of entry into force of the Convention for each such Party, or within three years of the availability of financial resources with which to undertake these communications. As of October 1997, the Convention's secretariat had received three such initial national communications from developing country Parties (Jordan, Argentina and Uruguay), although a significant additional number is anticipated in 1998. Discussions are proceeding under the Convention on the process for considering initial national communications from developing country Parties.

When developing countries take on quantified emissions limitation obligations under the Convention, it will be important ensure that their national communications, like those of the developed country Parties, are considered in a process that promotes the greatest possible accuracy in the information that is submitted. One way to do so may be through an in-depth review process, like that established for the developed country Parties.

*Congressional
-Testimony*

Total Pages: 16

LRM ID: EHF204

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503-0001

Wednesday, July 23, 1997

LEGISLATIVE REFERRAL MEMORANDUM

TO: Legislative Liaison Officer - See Distribution below
FROM: *R. Peterson*
Ronald K. Peterson (for) Assistant Director for Legislative Reference
OMB CONTACT: Michael Casella
PHONE: (202)395-4594 FAX: (202)395-5770
SUBJECT: US Agency for International Development Oversight Testimony on Global Climate Change

DEADLINE: 2:00 PM Wednesday, July 23, 1997

In accordance with OMB Circular A-19, OMB requests the views of your agency on the above subject before advising on its relationship to the program of the President. Please advise us if this item will affect direct spending or receipts for purposes of the "Pay-As-You-Go" provisions of Title XIII of the Omnibus Budget Reconciliation Act of 1990.

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114-STATE - Julia C. Norton - (202) 647-4463

EOP:

Robert J. Tuccillo
Kathleen A. McGinty
Alicia H. Munnell
Jeffrey A. Frankel
David B Sandalow

Nichols
See esp p. 9 & 13
Mark J. Mazur
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SUBJECT: US Agency for International Development Oversight Testimony
Page

**RESPONSE TO
LEGISLATIVE REFERRAL
MEMORANDUM**

If your response to this request for views is short (e.g., concur/no comment), we prefer that you respond by e-mail or by faxing us this response sheet. If the response is short and you prefer to call, please call the branch-wide line shown below (NOT the analyst's line) to leave a message with a legislative assistant.

You may also respond by:

- (1) calling the analyst/attorney's direct line (you will be connected to voice mail if the analyst does not answer); or

- (2) sending us a memo or letter**

Please include the LRM number shown above, and the subject shown below.

TO: Michael Casella Phone: 395-4594 Fax: 395-5770
Office of Management and Budget
Branch-Wide Line (to reach legislative assistant): 395-4944

FROM: _____ (Date)
 _____ (Name)
 _____ (Agency)
 _____ (Telephone)

The following is the reponse of our agency to your request for views on the above-captioned subject:

☐ **Concur**
☐ **No Objection**
☐ **No Comment**
☐ **See proposed edits on pages _____**
☐ **Other: _____**

FAX RETURN of _____ pages, attached to this response sheet

7/22/97 5:00 p.m. DRAFT

**Testimony of David Hales
Deputy Assistant Administrator
Center for Environment
U.S. Agency for International Development
before the
House International Relations Committee
July 24, 1997**

Chairman Gilman and Members of the Committee, thank you for the opportunity to be with you today to discuss USAID's role in the U.S. Government's climate change strategy. My testimony today will focus on four points:

- * that the actions of developing countries are central to successfully mitigating global greenhouse gas emissions and their effects on climate;
- * that global climate change represents a serious threat to the achievement of sustainable development;
- * that the U.S. Government and developing countries have engaged in cooperative efforts to reduce atmospheric concentrations of greenhouse gases since 1990, with some success; and
- * that addressing the impacts of climate change entails a long-term commitment to effective partnerships with developing countries, partnerships that engage

Suzanne Palmieri
647-9080

market forces, and result in economic and environmental benefits for all nations.

President Clinton's recent announcement before the United Nations General Assembly of a sustained U.S. effort to help developing countries achieve greenhouse gas emission reductions is a major component of this commitment. As Secretary Wirth indicated in his remarks, what happens in Kyoto only sets the stage for the actions that all countries must take. The leadership role of the United States in enabling, encouraging, and promoting those actions will be a critical determinant of these countries' success.

ROLE OF DEVELOPING COUNTRIES

It is abundantly clear that stabilizing global greenhouse gas emissions will require concerted action by both developed and developing countries. Action by both is essential; action by either group alone will be insufficient. While developed nations are responsible for approximately four-fifths of current human induced greenhouse gas emissions, and will account for more than half of atmospheric concentrations well into the next century, developing countries are expected to account for at least half of all annual emissions by as early as 2020.

As Undersecretary Wirth has explained, the U.S. has taken the lead in pushing for

developing country commitments under the current negotiations for a protocol. Yet, the U.S. effort has met with opposition from developing nations for several reasons. Many believe that, in principle, they should not be forced by developed economies to apply different decision criteria than the Annex I countries used when they industrialized. Many note that their emissions growth is associated with meeting basic human needs while increased emissions in developed countries contribute to a standard of living far exceeding that to which most developing country citizens could realistically aspire. Many other developing countries believe that those nations who have contributed the most to the human-induced buildup of atmospheric concentrations, and have benefited from those actions, should take the lead in addressing their reductions. Many developing countries recognize that successful development requires an environmentally sustainable approach, but fear that binding emissions reduction obligations will adversely affect their potential for economic growth and development by tying up scarce resources.

Despite developing countries' opposition to new binding commitments at Kyoto, developing nations are already making marked progress toward reducing their emissions of greenhouse gases. In fact, a recent report by the World Resources Institute (WRI) reveals that developing countries are already taking significant measures to reduce their emissions of greenhouse gases, measures that have positive impacts on their economies and their environments. In summarizing the findings of

the report, WRI indicates that it "appears that developing countries may be achieving equivalent or greater CO2 emissions savings than OECD countries in absolute terms and, since they are starting from a lower baseline, significantly greater savings as a percentage of their emissions."

The report states that "...policy changes and conservation and renewable energy programs in developing countries are leading to significant carbon emissions savings". The report goes on to cite developing countries' efforts to reduce fossil fuel subsidies, develop national energy efficiency programs, and privatize inefficient national utilities resulting in higher fuel prices and lower carbon emissions.

In addition, developing countries are undertaking restructuring/reform in the energy sector to attract more private investment. Strides in policy reform, institutional change, capacity building, and market development are contributing to important "upstream" investments for a less carbon-intensive path to development and are a prerequisite to any enduring shift in policy regarding the costs and benefits of undertaking emission reductions. Getting prices right, for example, by removing the \$230 billion in annual fossil fuel subsidies in developing countries is a critical element in any strategy for a cleaner energy future and a more productive economy.

I am pleased to bring to your attention the critical role USAID's has played helping to

develop the policies that have resulted in these emission reductions. For example, our Energy Efficiency Project has provided the financial and technical assistance to Mexico's National Commission for Energy Conservation to develop efficiency standards for buildings and electric motors, and is helping the Mexicans conduct industrial audits to reduce emissions of greenhouse gases and other pollutants. In India, USAID is assisting private and public utilities develop comprehensive institutional, structural, and financial mechanisms to implement a wide range of energy efficiency and resource planning activities. And in Brazil, support for PROCEL has helped leverage a \$100 million World Bank loan for energy efficiency.

USAID'S GLOBAL CLIMATE CHANGE PROGRAM

In spite of their opposition to treaty commitments at this time, developing countries have a great deal at stake in the climate change debate. Not only are their future aggregate emissions expected to exceed those of OECD countries, but developing countries are likely be heavily affected by the impacts of global climate change. The Intergovernmental Panel on Climate Change 1995 report provides stark examples of the anticipated impacts of an average global temperature increase of 1 to 3.5 degrees centigrade in the next century including: weather related destruction of infrastructure, increased coastal flooding, shifting agricultural patterns, increased incidence of vector-borne diseases, and loss of forests and other natural habitats. These effects pose a significant threat to sustainable development goals, with potential

impacts on migration and political stability in some regions. And, as always, the poor are least equipped to adapt and will consequently bear the greatest burden.

USAID has been engaged in climate change activities since 1990 when the Agency submitted its first report to Congress on "Global Climate Change & Developing Countries". Our approach has consistently focussed on "win-win" opportunities to advance economic development goals while curbing greenhouse gas emissions. More efficient use of energy, renewable energy applications and sustainable forestry practices are good examples of this "no regrets" approach to climate change and development.

This strategy was summarized in the Agency's 1994 "Report to Congress on Global Climate Change:"

"Energy efficiency, sustainable land-use management and a less carbon-intensive path to modernization can accelerate economic growth while reducing local, regional and global environmental risks."

That report outlines the Agency's GCC strategy which remains in effect today. It focusses on mitigation of emissions by targeting clean energy applications and forest conservation. It also identifies as key target countries: India, Indonesia, Philippines, Mexico, Brazil, Russia, Ukraine, Kazakhstan and Poland, as well as central Africa as a region for purposes of forest conservation.

Today, the Agency is funding approximately \$150 million in climate-related activities in energy and forestry in 44 countries. In addition, we actively participate with both the interagency Country Studies Program, and with the U.S. Initiative on Joint Implementation as well as several over interagency working groups.

In the energy sector, USAID efforts to promote energy efficiency focus on the promoting integrated resource planning and demand-side management, creating financing mechanisms for energy efficiency, developing standards and codes for efficient buildings and appliances, and implementing pilot and demonstration projects for steam, lighting and motor efficiency. USAID-funded Renewable Energy Project Support Offices in developing nations promote the commercialization of renewable energy through advocacy and project development. The Agency also supports the use of renewable technologies to provide energy services to rural areas and focuses much of its attention on stimulating multilateral funding for renewable energy investments.

In the forestry sector, USAID programs promote improved local forest management, non-timber forest products, low-impact logging, and alternatives to slash and burn cultivation in forest areas. These conservation efforts focus on protected area management, policy reform, community-based resource management and involvement of the private sector.

Literally all of our efforts are targeted at demonstrating that economic growth and GCC objectives can be effectively and positively reconciled. To meet this challenge, USAID is working to establish market-based incentives for the application of clean technologies and practices (natural gas, energy efficiency, renewable energy, low impact logging) to meet the growing demands of industrializing economies. We are addressing several constraints to cleaner energy production and use, and improved natural resource management -- and not just on a "project" basis. USAID's climate change-related programs have already paid significant dividends:

-- In Mexico, a forest management program successfully reduced the rate of deforestation by 30% on over 3 million hectares of protected land;

-- In the Philippines, a rural electrification program reduced power line losses by 3%, yielding annual CO₂ reductions of 250,000 metric tons;

-- Global efforts to promote bagasse cogeneration have led to the commercialization of 300 megawatts of renewable energy yielding annual CO₂ reductions of 2 million metric tons;

-- USAID's Sustainable Forestry Practices Initiative has reduced the damage caused by poor management on over 3.4 million hectares of forest worldwide

by 70 percent; and

-- In India, USAID's support for the Center for Power Efficiency and Environmental Protection of the National Thermal Power Corporation has helped identify cost-effective supply-side efficiencies which will reduce coal consumption by up to ten million tons per year.

ROLE OF PRIVATE SECTOR

Macro-economic reforms and other institutional activities, however, are not sufficient to create viable markets for cleaner technologies in developing countries. Access to finance also represents an obstacle to greater progress, especially given the relatively high transaction costs of smaller-scale, non-traditional projects. A substantial role for government exists in understanding the barriers that currently prevent international financing institutions from investing in climate friendly technologies at significant levels, and developing policy and programs responses to overcome those barriers. The technology, capital and innovation of the private sector are the real drivers which will make a sustainable difference in the carbon intensity of development in the next century. USAID's role is to help enable the private flows of capital and technology by supporting appropriate policies and capacity building measures and overcoming market barriers. Meeting the challenges of climate change will create significant opportunities for U.S. business and vast new markets for U.S. technology and know-

how worldwide.

As numerous studies have shown, the potential market for "climate friendly" technologies is enormous. For example, the world market for energy efficiency technologies has been calculated at almost \$1.8 trillion over the next forty years; and that is without the added incentive of a global greenhouse gas emissions cap.

Likewise, the potential market for renewable energy is also vast -- incentives for cleaner production will only help to increase the promise of new markets overseas in an area where the U.S. is highly competitive.

In ways that are fully consistent with our primary development mission, USAID has substantial experience in helping create large markets for U.S. technologies and services. Among those industries benefiting from a global focus on reducing greenhouse gas emissions are the renewable energy, natural gas, energy efficiency, fuel cell, electric vehicle, and clean coal industries. Currently, USAID has greenhouse gas mitigation programs that are creating significant opportunities for U.S. industry in many of the key climate change countries. For example:

-- In Mexico, USAID has helped develop state-of-the art power plant retrofits and energy efficiency audits using U.S. technologies that are reducing emissions of harmful pollutants and greenhouse gases;

-- In Indonesia and the Philippines, USAID has supported prefeasibility studies and trade missions for the U.S. renewable energy industry that have successfully leveraged millions of dollars in trade and investment opportunities;

-- In India, USAID is supporting Utility Partnerships whereby U.S. utilities are "twinning" with utility counterparts to provide an exchange of technical and institutional expertise and promote overseas business opportunities for these U.S. companies; and

-- In Eastern Europe and the New Independent States of the former Soviet Union, privatization and market-reform initiatives are helping to reduce emissions and increase economic stability by providing assistance for efficiency improvements in energy production and consumption.

DEVELOPING COUNTRY CLIMATE CHANGE INITIATIVE

To strengthen partnerships with developing countries and to advance the USG's negotiating position at Kyoto, the underlying concerns that have fueled developing country opposition must be addressed. A successful developing country strategy must not only provide the tools and support necessary for meeting the requirements of the FCCC -- National Action Plans and National Communications -- but also help address the source of opposition to any additional commitments under the Convention through

support for projects and activities that minimize growth in net greenhouse gas emissions while fostering sustainable development.

The President's recent announcement at the United Nations of a five year \$1 billion commitment to work with developing countries targets these objectives. President Clinton's Developing Country Climate Change Initiative includes a minimum of \$750 million in grant assistance over five years for the promotion of "climate-friendly" energy and natural resource management policies and practices in developing countries. In addition, the Initiative proposes that USAID leverage up to \$250 million in funding for climate change mitigation activities through application of the development credit authority proposed in the President's FY 1998 budget submission to Congress. We believe that the credit mechanism, which this Committee included in its authorization bill, will be an invaluable tool in spurring greater market development for climate friendly investments in developing countries.

The well-managed and conservative use of credit, subject to the conditions agreed on with this Committee, will give USAID the ability to appropriately complement its ongoing grant assistance programs with real project support, while promoting US and developing country economic progress.

USAID, in cooperation with other U.S. Government Agencies, is now in the process

of preparing a comprehensive Agency-wide five year climate action plan to implement the President's commitment. We intend to have the first draft of this strategy available in September and will share our recommendations with the Committee at that time. Several precepts are guiding USAID in this effort:

- * We will build upon the large array of past and ongoing activities in technology cooperation, capacity building, and lessons learned regarding program effectiveness;
- * We will actively engage the U.S. private sector in partnerships to open commercial markets for "climate friendly" technology;
- * Where appropriate, we will strengthen efforts to identify and implement innovative approaches for attracting and channeling private financing into clean technology markets;
- * We will collaborate more closely with international financial institutions to assure that multilateral resources for climate projects are targeted to best utilize the strengths of USAID and U.S. private sector partners; and
- * We will engage other organizations and institutions that are effectively

promoting greenhouse gas emissions reductions.

In closing, let me reiterate my conviction that the positive engagement of developing countries is necessary to make meaningful progress in reducing greenhouse gas emissions. The President's new mandate to marshal USAID resources for a comprehensive Developing Country Climate Change Initiative will go a long way toward promoting that positive engagement.

Thank you.



THE CHAIRMAN

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL OF ECONOMIC ADVISERS
WASHINGTON, D.C. 20500

congressional
legislation
hearings
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Statement before the
Senate Committee on Environment and Public Works
Dr. Janet Yellen
Chair, Council of Economic Advisers
Thursday, July 17, 1997

Good afternoon, Mr. Chairman and members of the Committee. I appreciate the opportunity to discuss with you today the economics of global climate change.

Introduction

In his speech to the United Nations Special Session on Environment and Development in June, President Clinton emphasized that the risks posed by global climate change are real and that sensible preventive steps are justified. This assessment accords with the views of the more than 2300 economists, including 8 Nobel laureates, who signed a statement supporting measures to reduce the threat of climate change. The economists endorsed the conclusions from last year's report by the Intergovernmental Panel on Climate Change (IPCC), which said that governments should take steps to reduce the threat of damage from global warming, and went on to argue that market-based policies can slow climate change without harming the American economy.

At this time the Administration has not settled on a particular set of new policies to reduce greenhouse gas emissions. Instead, the President indicated in his U.N. speech that he intends to engage in a discussion with all interested parties about the problems posed by greenhouse gas accumulations and the costs and benefits of corrective action. To this end, the President will hold a White House conference on climate change later this year, and Members of his Cabinet and other senior Administration officials will meet with Members of Congress, scientific and economic experts, environmentalists, local government officials, and business and labor leaders on a regular basis over the next several months to discuss issues related to climate change. This process is intended to inform the Administration's decision-making process, which will culminate in a U.S. policy position in the international negotiations in Kyoto in December of this year.

An important step in this -- and any -- policy process is determining the impact it will have on the American economy. President Clinton's top priority, since his first days in office, has been revitalizing the U.S. economy, creating jobs and investing in people and technology to enhance long-term growth. And, we have made tremendous progress. The President is not going to jeopardize that progress. Any policy he ultimately endorses on climate change will be informed by his commitment to sustaining a healthy and robust economy.

In my testimony today, I would like to describe some of the principal lessons that emerge from the voluminous literature, much of it relatively recent, on the economic impacts of policies to address global climate change.

Underlying Uncertainties

Before I begin my discussion of the economic literature, I would like first to acknowledge the uncertainties associated with estimating both the costs and benefits of reducing greenhouse gas emissions. To provide some perspective: as you all know, it is difficult to gauge exactly what impact the balanced budget agreement will have on the U.S. economy's growth rate, levels of employment, interest rates and consumption over the next five years. But with global climate change, it is orders of magnitude more difficult to gauge the effects on the economy: we are concerned with not just the next five years and not just the American economy, but, rather, we are dealing with economic and physical processes that operate globally and over decades, if not centuries.

Although a great many scientists believe that global climate change is already underway, the more serious potential damages associated with increasing concentrations of greenhouse gases are not predicted to occur for decades. This means that the benefits of climate protection are very difficult to quantify. And, while the potential costs of reducing greenhouse gas emissions may be more immediate, they too, as I will discuss below, are difficult to predict with any certainty. Many unanswered questions exist about the biophysical systems, potential thresholds, and economic impacts. In short, if anybody tells you that he or she has the definitive answer as to the costs and benefits of particular climate change policies, I would suggest that you raise your collective eyebrows.

Lessons from the Economic Literature

Let me now turn to the economic literature and try to summarize what I think we know so far about this difficult topic. Most economists have not addressed the benefits of climate protection, but rather have focused on the costs associated with alternative paths for reducing greenhouse gas emissions. The economic literature includes estimates using many different models to evaluate numerous alternative emission reduction strategies. In fact, because there are so many different models, economists initially faced difficulties in comparing results: they could not sort out the extent to which differences in results stemmed from differences in models and assumptions versus differences in baseline emission paths and policies. To solve this problem, thereby enabling meaningful comparisons, many economists have calibrated the various models by performing a standardized simulation. Specifically, they have assessed the consequences of stabilizing greenhouse gas emissions at 1990 levels by 2010 or 2020.

Within the Administration, a staff level working group -- the Interagency Analysis Team (IAT) -- has attempted to estimate some of the economic implications of climate change policies. They took the emissions scenario most often used in academic literature -- that is, stabilizing

emissions at 1990 levels by 2010 -- as the starting point for their own analysis. I would emphasize that this scenario is not Administration policy; instead, it was picked to make comparisons with other models easier. The staff group employed 3 different models -- the DRI model, the Second Generation Model (SGM) and Markal-Macro model, all commonly available in the public sphere. In running these models, the staff adopted a common baseline and, to the maximum extent possible, similar economic assumptions. This modeling effort produced some useful lessons, but as we found from the peer reviewers' comments, it also suffered from some serious shortcomings. Both the lessons and the shortcomings point to one clear conclusion: the effort to develop a model or set of models that can give us a definitive answer as to the economic impacts of a given climate change policy is futile. Rather, we are left with a set of parameters and relationships that influence estimates of the impacts. In my view, it is more productive to employ a broad set of economic tools to analyze policy options than to seek to develop a single definitive model.

I understand that a draft of the staff analysis was given to the Committee earlier this week, along with the reviewers' comments. I would be happy to answer any questions you may have about this modeling effort.

The Lessons. Modeling efforts both inside and outside the Administration clearly indicate that economic analysis can do no more than estimate a range of potential impacts from particular policies and highlight how outcomes depend on underlying assumptions about how the economy works and the ways in which policy is implemented. However, the economics literature on climate change does point to several important lessons:

How the economy works. First, the magnitude of the costs of reducing greenhouse gas emissions in the various models depends crucially on a number of key assumptions about how the economy works. For instance:

- If firms in the economy can shift from high-carbon to low-carbon energy sources quickly, the costs of climate protection will be lower.
- If the economy has significant opportunities, even now, to employ energy-saving technology at low costs, the costs of climate protection will be lower.
- If technological change occurs at a rapid rate, or is highly responsive to increases in the price of carbon emissions, the costs of climate protection will be reduced.
- If the Federal Reserve pursues a monetary policy oriented toward keeping the economy at full employment, transitional output costs will be lower.

In short, the greater the substitution possibilities and the faster the economy can adapt, the lower the costs.

How the plan is implemented. Second, costs depend critically on how emission reduction policies are implemented. It boils down to this: if we do it dumb, it could cost a lot, but if we do it smart, it will cost much less and indeed could produce net benefits in the long run. The over 2300 signatories of the economists' statement argued that any

global climate change policy should rely on market-based mechanisms. Such mechanisms allow for flexibility in both the timing and location of emission reductions, thereby minimizing the costs to the U.S. economy. The economists concluded that "there are policy options that would slow climate change without harming American living standards, and these measures may in fact improve U.S. productivity in the longer run."

- The speed at which emissions reductions are required can have large effects on the estimated costs. It is important to allow sufficient lead-time for orderly investment in new equipment and technology. Alternatively, if emission reduction requirements are too far off in the future, the incentives to adopt energy efficient technologies are weakened because people may not view the policy as credible.
- A "cap and trade" system in which emission permits are issued and then traded among firms can substantially reduce the cost of meeting an emissions target by creating incentives for emissions to be reduced by those firms and in those activities where costs are lowest.
- International emission permit trading substantially lowers costs by applying the same cost-minimizing principle globally.
- So-called "banking" and "borrowing" of permits increases flexibility and lowers costs by allowing firms to change the timing of their emission reductions.
- Joint implementation, whereby US firms would receive credit for undertaking emission reductions in countries with low abatement costs, would also lower the domestic burden.

An additional aspect of implementation that profoundly affects the costs of reducing emissions concerns "revenue recycling." In many model simulations, emissions are reduced by using various market mechanisms. For many of these scenarios, the Federal government realizes an increase in revenues. Economic growth can receive a long-term boost if these revenues are used to reduce distortionary taxes that diminish the incentives to invest, save or work, or if the revenues are channeled into deficit reduction, thereby lowering interest rates and boosting investment. In fact, in some models and scenarios, emissions reduction generates a net economic benefit when the revenues are recycled in a growth-promoting fashion.

Which countries participate. The third lesson that emerges from a study of the economics of climate protection is that developing, as well as developed, countries must be part of the process. While developed countries are responsible for most of the greenhouse gas currently in the atmosphere, developing countries are starting to catch up. By 2040, the largest fraction of emissions is estimated to come from developing countries. Thus, any comprehensive plan to deal with this global problem must include a mechanism to bring developing countries into the process.

The timetable for the inclusion of developing countries is also important. The sooner that developing countries face incentives to move away from carbon intensive energy sources,

the less likely it is that they will become dependent on those types of fuels to spur their economic growth. In short, global problems require global solutions. We must find the technologies and solutions to lead the way.

Conclusion

Let me conclude. Policies to promote economic growth, create jobs, and improve the living standards and opportunities of all Americans have been and always will remain the top priority of the President and his Administration. In his remarks to the Business Roundtable on global climate change, the President said “[l]et’s find a way to preserve the environment, to meet our international responsibilities, to meet our responsibilities to our children, and grow the economy at the same time.”

Some of the key economic lessons we have learned that will help us achieve the President’s goal include:

- Inherent uncertainty dictates that models should be expected to generate only a range of economic impacts, not definitive answers.
- Key assumptions about how the economy works directly influence the estimated costs of climate protection.
- Implementation of any policy needs to be market-based and flexible over time and space to achieve the lowest cost reductions.
- All nations, both developed and developing, need to participate.

Thank you. I would be happy to answer any questions you may have.

*Congressional
Testimony*

**Statement of
The Honorable Timothy E. Wirth
Under Secretary of State for Global Affairs**

before the

**Subcommittee on Energy and Power
Committee on Commerce
U.S. House of Representatives
July 15, 1997**

Chairman Schaefer and Members of the Subcommittee...

I am pleased to be with you today to discuss the ongoing negotiations toward next steps under the United Nations Framework Convention on Climate Change. These negotiations began in August 1995 and are scheduled to end in December, at the Third Conference of the Parties in Kyoto, Japan, with the adoption of a new protocol or other legal instrument.

In his address last month to the United Nations General Assembly Special Session, President Clinton noted that "[t]he science is clear and compelling" and committed the United States to strong leadership on climate change. The President committed himself to engage the American people and the Congress in a dialogue to explain the real and imminent threats from climate change, the economic costs and benefits involved, and the opportunities that American technology and innovation can provide. The President also committed to "bring to the Kyoto conference a strong American commitment to realistic and binding limits that will significantly reduce our emissions of greenhouse gases."

In recent weeks, interest in the negotiations has intensified, particularly in the Congress. The Administration welcomes this interest, wants to encourage the broadest possible dialogue as we work toward a new agreement in Kyoto, and hopes that the Senate and House establish observer groups with whom we can work even more closely in the weeks and months ahead.

Since last year, much has happened. I would like today to focus on two concerns - first, how the actions we are negotiating under the Climate Convention correspond to a specific environmental objective; and second, the need for developing nations to acknowledge more fully their role in meeting that objective.

I would like to begin with the science, because scientists were the ones who drew our attention to climate change in the first place, and because we continue to base our policies on the best evidence and the most rigorous scientific analysis available. While I know many of you are aware of the basic facts, I think it may be useful to reiterate a few of the most crucial points that the scientific community has established.

The "greenhouse effect" is caused by gases such as carbon dioxide, methane and nitrous oxide, which accumulate in the atmosphere and trap solar radiation, thus making the planet warmer than it otherwise would be. The natural levels or concentrations of these greenhouse gases in the atmosphere keep temperatures within a range that can support life.

Without the background level of greenhouse gases in our atmosphere, the earth's temperature would be about 33 degrees Celsius cooler.

Human beings increase the concentrations of greenhouse gases in the atmosphere primarily by the burning of fossil fuels -- coal, oil and natural gas and through a number of other industrial processes. Changing land use patterns, particularly deforestation and soil erosion, also play a role, by reducing the capacity of the natural environment to absorb carbon from the atmosphere. Since the industrial revolution in the 18th century, the concentration in the atmosphere of carbon dioxide has risen 30%; during the same period, methane concentrations have doubled, and nitrous oxide concentrations have risen by about 15%.

Since pre-industrial times, the Earth has warmed about one degree Fahrenheit. Scientists believe that the observed increase is unlikely to be entirely natural in origin. In its most recent scientific assessment, the Intergovernmental Panel on Climate Change (IPCC) concluded that the balance of evidence suggests "a discernible human influence on the climate system."

Projections of future climate change, based on complex climate models and on our best understanding of the physics of the climate system, suggest a rise of another two to six and a half degrees Fahrenheit by 2100, with an average increase greater than any seen

in the last 10,000 years. This warming will not be uniform – it is likely to be greater at higher latitudes and at the poles.

Based on these warming trends, sea level is projected to rise an additional one and a half feet by 2100 due to thermal expansion of the oceans and to the melting of glaciers and ice sheets. This would, without adoptive measures, flood 9,000 square miles of coastal areas here in the United States, notably in Florida and Louisiana, and put about 100 million people world-wide at risk each year from storm surges.

In other words, the path we are on is cause for significant concern. Climate change is likely to have wide-ranging and mostly adverse effects on human health. Both natural and managed ecosystems are at risk. The viability and location of forest and agricultural zones will change significantly.

Moreover, virtually all the studies on the effects of climate disruption have focused on predicted doubling of atmospheric concentrations of greenhouse gases. But unless significant actions are taken early in the next century, it is very likely that atmospheric concentrations will, by the year 2100, nearly triple the pre-industrial level and rise higher than any point in the last 50 million years. Changes to our climate system would also continue beyond the effects that the current studies predict; the risks would increase dramatically as concentrations continue to rise. Moreover, there is no reason to believe

that these additional effects would be linear; they would most likely take unpredictable and highly undesirable paths.

Let me now move on to the division of responsibilities between developed and developing countries.

As I noted earlier, we know that man-made emissions have increased the concentration by about 30%, from 280 parts per million in pre-industrial times to around 366 ppm today. We know that the industrialized countries have put most of the carbon into the atmosphere, and that CO₂ lingers there for 100 to 150 years. We know that the United States is the largest emitter of greenhouse gases; we have 4% of the world's population and contribute 22% of the carbon. We also know that, given current trends, the developing world will pass the developed world as an emitter early in the next century, and that China, with its 1.2 billion people, will probably pass the United States toward the end of the first quarter of that century.

So action by industrialized nations alone will not put us on the road to safe concentrations of greenhouse gases; we need action by the developing countries as well. But it is very clear from all our discussions and negotiations to date that if the developed countries don't reduce emissions -- with our current economic capacity, technical capability, our energy intensive life-style -- then developing countries will not act either. We must lead the way. And we must move soon. If not, a doubling of concentrations

becomes certain, and we put ourselves on the road to a tripling or even higher levels of concentrations -- the consequences of which are uncertain but likely to be catastrophic.

In 1992, the world community adopted the United Nations Framework Convention on Climate Change in an effort to begin coming to grips with this environmental threat. Under the Convention, developing nations agreed to take a variety of actions to mitigate climate and to facilitate adaptation to its consequences. Industrialized nations agreed to take the same actions, but in addition, they agreed to take steps aimed at returning their emissions of greenhouse gases to 1990 levels by the year 2000.

In 1995, the Parties to the Climate Convention decided the existing treaty commitments were not adequate to address the threat. Accordingly, they agreed to begin a process to negotiate next steps. Since the "aim" set for industrialized nations expires in the year 2000, they began to consider the goals that should guide their efforts in the decade or two after the year 2000. Industrialized nations agreed to establish quantified targets to limit and reduce their greenhouse gas emissions over yet-to-be-determined time periods -- such as 2005, 2010 or 2020. At that time, developing nations, many of whom had only begun to implement their existing commitments under the Convention, argued strenuously that the negotiating process should not result in new commitments for them. They agreed, however, to continue to advance the implementation of their existing commitments.

The U.S. proposals in the current negotiations attempt to move the process. The U.S. proposal acknowledges that the list of "developed country Parties" established by the Convention's Annex I in 1992 no longer reflects current realities. A number of developing countries have joined the ranks of the developed world, through membership in the OECD and in other ways, and more are poised to do so. Our proposal to establish an "Annex B" would enable such countries, on a voluntary basis, to move beyond their current non-Annex I status, and take on binding greenhouse gas emissions obligations, reflecting their rapidly-changing economic status, and enabling them to engage in emissions trading with industrialized nations.

Similarly, Article 16 of the U.S. proposal calls on the Parties to adopt, by 2005, binding provisions so that all Parties, including developing countries, have quantitative greenhouse gas emissions obligations and so that there is a mechanism or "trigger" for automatic application of progressive greenhouse gas emissions obligations to Parties, based on agreed criteria.

In urging this policy of "evolution," the United States is far out in front of almost all other countries, and we are being criticized accordingly. For example, several developed countries believe that our proposal imposes unfair burdens on developing countries. Most countries in the developing world believe that "evolution" goes beyond the scope of the Climate Convention and the Berlin Mandate. We think we have the

concept about right: no one should be exempt; we "fouled the nest," so we have to act first; but others have to phase in over time.

The overall negotiation on climate change is extremely complex -- the most complex I have seen in 25 years of public life (including 12 years on this challenging committee!) -- and the "evolution" aspect is perhaps the most important of all. We have put forward some proposals; some in Congress have as well. Now we have to hammer out a final proposal and negotiating position. We welcome your input, support and creativity as we work to solve this problem, and I look forward to hearing your ideas, questions and comments today.

The issue is not whether developing countries, especially the big and rapidly-developing ones, take on quantified commitments to limit or reduce their emissions of greenhouse gases -- clearly, it will be impossible to abate the threat of climate change unless they do. The issue is when such commitments should begin, and what criteria should be used to establish them, and to whom they would apply.

There are significant disparities in national income between those in industrialized nations and those in developing nations. There are enormous differences in per capita levels of greenhouse gas emissions. Some developing countries argue that these gaps must narrow before they will accept quantified emissions limitation or reduction commitments.

While this argument is understandable, it misses two key points. First, the environmental threat posed by global climate change cannot be averted if nations wait to act until levels of national income or per capita emissions converge at some theoretical point in the future. Second, industrialized nations simply will not make significant efforts to reduce their greenhouse gas emissions if their efforts will be undermined by an unlimited increase in emissions from the developing world.

The Framework Convention, which President Bush signed and to which the Senate overwhelmingly gave its advice and consent, established the principle that, with respect to climate change, the world's nations have common but differentiated responsibilities and varying capabilities. Insisting that developing nations immediately accept binding emissions targets that industrialized nations are seeking to negotiate for themselves is neither realistic nor consistent with the Convention approved by the Senate. But insisting that those developing nations now responsible for a growing share of global greenhouse gas emissions should have no further obligations to act until they have crossed some threshold of national income or emissions on a per capita basis is equally unrealistic and inconsistent with the Convention's ultimate objective.

The agreement reached in Kyoto will not solve the problem of global climate change. No matter how ambitious, it will represent only a second step along the much longer path toward achieving the Climate Convention's ultimate objective. As we prepare

for Kyoto, we must also prepare for further steps beyond it. In particular, we must ensure that all nations responsible for a significant share of current global greenhouse gas emissions accept the need to limit or reduce their emissions, and that they begin to move in that direction.

What a Kyoto agreement can do is provide nations with the tools they will need to achieve to achieve significant, binding greenhouse gas limitation and reduction commitments. These tools include greenhouse gas emissions budgets over multiyear budget periods that will help smooth out annual fluctuations. They include full national flexibility in the choice of policies and measures to meet such binding emissions budgets. They include emissions trading among nations with binding emissions budgets, with the participation of the private sector in the trading regime, to help lower the costs of compliance. And they include joint implementation for credit between nations with binding emissions budgets and those that do not yet have such budgets both to lower the costs of compliance and to promote economic development and environmental protection.

Mr. Chairman, we have indeed charted an ambitious course for the months ahead. The tremendous risks to our planet demand nothing less. With your continued support and the support of other Members of Congress, I am confident that we will obtain an outcome in Kyoto that will represent a significant step forward on the much longer path toward safeguarding the Earth's climate system for present and future generations. Thank you, Mr. Chairman.

Total Pages: 16

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EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
Washington, D.C. 20503-0001

Thursday, September 25, 1997

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Schaefer Q's & A's

1

**Questions for the Record Submitted by Chairman Schaefer to
Under Secretary of State Timothy Wirth
House Committee on Commerce
Energy and Power Subcommittee
July 15, 1997**

1. Q: Please identify each member of the Interagency Analytical Team (IAT) from the date of its inception to the present time, any other participants inside or outside the Administration, and specify their responsibilities.

A: Attached is former Under Secretary Ehrlich's list of people to call regarding IAT meetings. Members of the IAT had varying levels of participation and responsibility.

2. Q: When was the IAT formed and what were the IAT's instructions? Please provide any documentation regarding the formation of the IAT and its mission, responsibilities, membership or assignments.

A: Previously, Agencies worked independently on climate change economic analysis. Beginning in February 1996, however, the Department of Energy and the Environmental Protection Agency began to work together on global climate change analysis and called it the IAT. Their joint efforts provided the analytical foundation for the Springfield Global Climate Change Workshop in June 1996.

Former Under Secretary Ehrlich joined the Administration's climate change analysis effort shortly after the June 1996 Climate Analysis Workshop. He oversaw the analysis from mid 1996 to May 1997. Under Secretary Ehrlich's instructions were to use the IAT to provide a set of analytic tools that would allow the Administration to better understand the economics of the climate change issue.

3. Q: Please indicate the total costs of the IAT's efforts and the share paid annually by each Department or Agency that was involved and please identify the source of the funds within each Department or Agency.

A: Costs for the IAT were primarily for personnel. No effort was made to accumulate costs related to the IAT activities. DOE and EPA, who had primary responsibility for the analysis efforts, did have some contract costs for modeling.

Schaefer Q's & A's

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4. Q: Is the IAT still in existence? If so, what are its current responsibilities?

No IAT economic analysis of global climate change is underway.

5. Q: Please provide a copy of all drafts of the IAT report in addition to the May 16th and 30th, 1997 drafts, both earlier and later.

A: Enclosed with this response are photocopies of the May 12th, May 16th, and May 30th drafts of the IAT paper. The May 12th draft was circulated among members of the IAT and senior members of the Administration involved in climate change policy. The May 16th draft was circulated to the peer reviewers, members of the IAT, and senior members of the Administration involved in climate change policy. The May 30th draft was released to the public on July 15th.

6. Q: Please explain how the peer reviewers were selected? What instructions were those peer reviewers given? Please provide copies of any correspondence or instructions that were sent to the peer reviewers.

A: The peer reviewers were selected based on recommendations from senior IAT members. Former Under Secretary Ehrlich made the final selection after consultation with the IAT and members from the White House Task Force on Climate Change.

Former Under Secretary Ehrlich sent letters and attachments to each of the reviewers as well as personally contacting each of them. The letter dated March 20th is a copy of the initial letter sent to Professor Jorgenson. Identical letters were sent to the other peer reviewers over a period of weeks. Enclosed with this letter were a technology note and information on the IAT models and baseline. The undated letter is a copy of the letter that was sent to all reviewers on May 16th with copies of the May 16th draft of the IAT report. Copies of materials sent to the reviewers are enclosed.

7. Q: If the IAT effort is in fact a "failed" project as indicated in Administration testimony at the Subcommittee hearing how will the Administration determine the appropriate level of future international climate change commitments for Kyoto and later?

A: The IAT effort generated much useful information about how to model constraints on greenhouse gas emissions and their potential economic effects. However, the IAT process was unsuccessful in providing a sufficiently narrow range of estimated economic effects to support the Administration's overall decision-making process. As part of the

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Schaefer Q's & A's

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ongoing Administration decision process, a number of different economic and other analyses are being evaluated as guides to the likely effects of reducing greenhouse gas emissions.

8. Q: As late as last May when Dr. Ehrlich and others in the Administration held briefings on the then draft analysis and assessment there was no hint that the Administration considered this effort a failure and the models to be unreliable. What occurred since May that caused the Administration to apparently reach a different conclusion from that of Dr. Ehrlich?

A: When the Administration provided briefings on the work being done by the IAT, the focus was on determining baselines for emissions levels, economic growth, and other key variables, and for explaining the different models that were being used. As the work done by the IAT proceeded, the wide range of economic outcomes called into question the benefits of continued IAT work on these economic models, given the many other competing claims on agency resources.

9. Q: The IAT draft Analysis referred to three scenarios which resulted in costs of future climate commitments of approximately \$200, \$100, or \$50 per ton carbon tax equivalent. Has the Administration concluded that a \$200 per ton carbon tax equivalent cost will not harm the U.S. economy, jobs, and global competitiveness? Has the Administration concluded that a \$100 per ton carbon tax equivalent cost will not harm the U.S. economy, jobs, and global competitiveness? Has the Administration concluded that a \$50 per ton carbon tax equivalent cost will not harm the U.S. economy, jobs, and global competitiveness. Please provide the basis for any of the above conclusions. If the Administration does not support any of the above costs, what analysis or other information does the Administration intend to rely on to support a different amount?

A: The implicit price of carbon for the United States reported by the IAT ranged from \$9 to \$145, depending on the situations models, and the assumptions and models used. Similarly, the impact on the U.S. gross domestic product spanned a wide range. The IAT found that the estimates of the costs to the U.S. economy of a carbon emissions reduction policy depended on factors, including targets and timetables, technology assumptions and the implementation of international emissions permit trading. As Dr. Janet Yellen remarked in her July 15, 1997, testimony to the House Commerce Subcommittee on Power, "It boils down to this: if we do it dumb, it could cost a lot, but if we do it smart, it will cost much less, and indeed could produce net benefits in the long run."

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10. Q: Is the paper prepared by the IAT both an analysis and an assessment? How does it relate to the "analysis and assessment" referred to in Paragraph 4 of the Berlin Mandate? Has the Ad Hoc Group on the Berlin Mandate provided an analysis and assessment as required by the Berlin Mandate?

A: The IAT analyzed a wide range of emissions targets and timetables as well as a range of implementation plans (such as international emissions trading and joint implementation). The IAT analysis does not have any direct relationship to the cited paragraph from the Berlin Mandate.

11. Q: The IAT draft states that the central policy modeled for the analysis "is aimed at reducing carbon and other greenhouse gas emissions by stabilizing them at 1990 levels" and that policy would be "announced in 2000 and its restrictions are phased in over a ten year period, so that the policy would take full effect in 2010." Reports in the media after the Denver Summit that President Clinton attended also referenced this date of 2010. In light of EIA's projection of emissions 22% above 1990 levels by 2010, is the Administration considering a target and timetable that calls for stabilization at 1990 levels by 2010?

A: The IAT's analysis focused on a standard emissions target widely used in the academic literature. The Administration is in the process of determining its position on targets and timetables. The Administration's negotiating position is still in development.

12. Q: The Administration frequently cites the 2000 economists who say they support controlling greenhouse gases. Their statement supports as the mechanism either carbon taxes or emissions permits. In the past, the Administration has said it opposes the use of taxes. Is that still the Administration's position?

A: The Administration's position on implementation options or strategies relating to greenhouse gas emissions reductions is still under development. This position will be determined in conjunction with a position on targets and timetables, which is also under development.

13. Q: The IAT draft explains that these emissions reductions to achieve stabilization would be through "issuing tradable permits at the earliest point of energy production or when imported into the U.S." and that the permits "are initially auctioned in a way that is revenue neutral: i.e., all revenues generated would be recycled through the economy." Would these revenues be deposited in the treasury as miscellaneous receipts under the Economy Acts? Would they then

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have to be recycled through changes in the tax laws or by appropriation? How would they be recycled?

A: The LAT considered a range of revenue recycling possibilities at a very abstract level. The LAT did not examine the legal framework under which these abstract options might be implemented in the United States.

14. Q: Does the Administration believe that permit auctions are the equivalent of a new tax? If not, please explain.

A: In general, they are not equivalent. Auctions focus on fixing quantities and leave prices free to fluctuate, while taxes focus on prices and allow quantities to adjust to changed price levels.

15. Q: The IAT draft states that "among fuels, demand for coal bears the brunt of greenhouse gas stabilization." What is the impact on the U.S. economy as a whole and on the relevant coal regions of this policy towards coal? What will be the job impact? Is the Administration adopting an anti-coal policy? How is the policy consistent with President Clinton's 1995 reply to Mr. Dingell that the U.S. will not agree to any protocol that harms our economy and jobs or our competitiveness?

A: The LAT analysis found that the implicit price of carbon would range from \$9 to \$145 per ton depending on the model and assumptions used and the specific scenario analyzed. Economic and job impacts would similarly span a range depending on the factors such as the rate of technological change, targets and timetables, and international emissions permit trading.

It is important to stress that the LAT analysis is just that -- analysis -- and not policy, as the question suggests. The LAT examined a wide variety of different analytic scenarios as part of its work, and explicitly was not charged with making policy recommendations.

16. Q: How long after December 1997 does the Administration think it will take to obtain Senate advice and consent of any Kyoto agreement, to ratify that agreement, and to enact implementing legislation?

A: There is little information on which to judge the timeframe for the advice and consent process, or for the enactment of implementing legislation in the climate arena. The U.N. Framework Convention on Climate Change was ratified by the Senate in October 1992, only four months after it was signed by President Bush at the Earth Summit in Rio de Janeiro in June 1992. That Convention required no implementing legislation. However,

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other Conventions, such as the Law of the Sea, have yet to be ratified, more than a dozen years after signature.

17. Q: Which agency or department would be responsible for implementing the provisions of any agreement reached in Kyoto, including provisions relating to joint implementation, emissions trading and advancing Article 4.1?

A: It is anticipated that several Departments and agencies would have a role in the implementation of provisions related to joint implementation, emissions trading and Article 4.1, including the Department of State, the Department of Energy, The Department of Justice, the Treasury Department, the Department of Agriculture, the Agency for International Development, the Environmental Protection Agency, and possibly the National Oceanographic and Atmospheric Administration and the National Aeronautics and Space Administration. The precise role of each could only be determined once specific provisions had been decided upon.

18. Q: What consideration has been given or plans made regarding passage of legislation necessary to implement any agreement reached in Kyoto?

A: While some consideration has been given to the activities required under various agreement provisions (particularly those introduced by the United States), the lack of general acceptance of any of these provisions in the international negotiations makes the development of any specific legislative proposals premature. The Administration would intend, as part of its package of material to be sent to the Senate, to include its proposals for legislation that would be required to fully implement any agreement.

19. Q: Article 17.4 of the Framework Convention on Climate Change (FCCC) specifies that only "Parties to the Convention may be Parties to a protocol." However, there is no assurance that all or even a majority of the 167 Parties to the FCCC will deposit instruments of ratification, acceptance, approval or accession to any protocol adopted by the Parties by consensus or otherwise in Kyoto. What assurances does the U.S. now have that most, if not all, developing country parties to the FCCC will become Parties to a Kyoto protocol? Why is it in the U.S. interest to agree, without assurances, to a protocol that proposes to set legally binding post-2000 targets and timetables for Annex I Parties only and also imposes on the U.S. new and legally binding commitments to advance implementation of Article 4.1 of the FCCC, such as those prescribed in paragraph 1, 2, 3, and 4 of Article 5 of the U.S. draft protocol?

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A. [EGC]

20. Q: In a July 18, 1994, letter to the then House Committee on Energy and Commerce [the State Department] said:

We agree that there are substantial commitments beyond 2000 for all parties to the Framework Convention under Article 4. Article 4.1 (applicable to both developed and developing countries) contains commitments that are not limited by any specific timetable.

- a) Is there any evidence to date that the U.S. is not abiding by these Article 4.1 commitments? If there is none, why should the U.S. voluntarily agree to reaffirm, as required by Article 5.1 of the June draft, to what the U.S. already agreed to when it ratified the FCCC in 1992?
- b) Is the U.S. asserting that other Annex 1 Parties are not abiding by such commitments? If so, please identify those Parties.

A: [EGC]

21. Q: Paragraph 2 of Article 5 of the U.S. draft Protocol mandates each Party to "strengthen its legal and institutional framework to advance implementation" of Article 4.1 commitments. What "framework" does the Administration have in mind? Does this suggest a new Federal or international agency or program? Would this be done through new legislation? If not, how would it be achieved in the U.S.?

A. The Berlin Mandate calls for the negotiating process to "continue to advance the implementation" of Article 4.1 commitments, which also apply to developing countries. The primary U.S. objective, in proposing paragraph 2 of Article 5, was to encourage developing countries with inadequate legal and institutional frameworks to strengthen such frameworks so as to improve implementation of Article 4.1. However, it was considered that there was no reason why such an obligation could not apply to all Parties, namely that all Parties could reasonably be asked to do something to strengthen their frameworks. Even the United States, with its highly developed legal and institutional system, could, for example, enhance its existing administrative abilities to collect and report on inventories of greenhouse gas emissions. It was not intended that any international institutions or processes would be needed to implement such a provision.

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22. Q: Article 5.3 requires that each Party take "measures to facilitate investment in climate-friendly technologies." What "measures" does the Administration contemplate? How would they be implemented in the U.S.? What are their regulatory and budgetary implementations?

A: [Seidel]

23. Q: Article 16 of the draft provides that the Parties "shall adopt, by [2005], binding provisions so that all Parties have quantitative greenhouse gas emissions obligations and so that there is a mechanism for automatic application of progressive greenhouse gas emissions obligations to Parties, based upon agreed criteria."

- a) Does this mean that there could be a second protocol or another legal instrument by [2005] which is only 7 years after the December meeting in Kyoto?
- b) Do the words "all Parties" in this Article mean that only the "Parties" to the U.S. draft protocol would be required to "adopt" by 2005 such an instrument? Unless developing country Parties to the FCCC, such as China, India, and Brazil, become Parties to the Kyoto instrument (as proposed by the U.S.) prior to [2005], how does this Article address the issue of greenhouse gas emission growth by all non-Annex I Parties?
- c) Could such a new instrument adopted by [2005] impose new and additional obligations on the U.S. beyond those proposed to be adopted in Kyoto? Why is that possibility a good result for the U.S. economy, trade, and competitiveness?
- d) What "mechanism for automatic application of progressive greenhouse gas emissions obligations" does the Administration contemplate by this proposal? What are its implications for the U.S., including its sovereignty?

A: [EGC]

24. Q: Article 16.1 of the Convention provides that "annexes shall be restricted to lists, forms, and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character." The U.S. draft protocol states, that it may not be "appropriate" to adopt the Article 16.1 Convention example.

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Please explain why. Does the U.S. support annexes that would be substantive and mandatory?

A: You correctly note that Article 16.1 of the Convention limits the use of annexes to certain types of material. This is not because there is any inherent reason why annexes should be so restricted. Rather, it is because Article 16 goes on to provide an entry-into-force procedure for annexes (and amendments to annexes) under which an annex (or amendment to an annex) enters into force for a Party unless a Party affirmatively does not accept it. (Other modifications to the Convention must be affirmatively accepted by Parties to be binding on them.)

In the context of the Convention, as well as other treaties, the U.S. insisted that the quid pro quo for such a "tacit" amendment procedure with an "opt-out" provision was that annexes be limited to material of a technical (scientific, etc.) nature. This view is consistent with views expressed by the Senate. The purpose of the U.S. comment with respect to the climate change protocol was to flag that annexes are not automatically entitled to "opt-out" procedures; rather, it depends on their context.

25. Q: Article 9 of the U.S. draft provides that Parties "shall cooperate" in establishing a "long-term goal" regarding concentrations of gases. Article 10 calls for meetings at "regular intervals" to, among other things "periodically review the adequacy" of the Protocol and Article 8 calls for periodic review of the Protocol and guidelines "in light of evolving scientific knowledge related to climate change." Article 2 already suggests a minimum of two budget periods. Article 16 tells the parties to adopt "binding provisions" by [2005] for progressive "obligations." Does the State Department contemplate, over the next several decades a continuing process of meetings of both the protocol and Convention Parties annually and a series of IPCC assessments, special reports and technical papers leading to a series of protocols or other legal instruments that are likely to have significant economic impacts on the Parties and their people? Why is there a need for such frequent meetings and reviews?

A: The U.S. has proposed a periodic review of the agreement to insure that any changes in the science are fully taken into account by the Parties. Such flexibility insures that if new information emerges indicating a reduced need to act, the agreement could be modified; conversely, if additional actions needed to be taken to address the threat of climate change, appropriate action would not be delayed. The U.S. proposal also seeks to insure that Parties would be fully informed regarding the compliance of all other Parties — thus removing a potential problem of one Party gaining a competitive advantage though not fully meeting its obligations, while other complying Parties might be penalized. Finally, the U.S. proposal, while setting specific commitments for developed countries, recognizes the need for all Parties to participate. It therefore calls for the negotiation of a new agreement by [2005] that would require all countries — including developing

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countries – to adopt legally binding limits on their emissions. We assume that at each stage of the process, a full assessment of the costs and benefits of action would be taken prior to committing the United States to any new legal obligation.

The U.S. proposal for an agreement does not specify the frequency of IPCC Assessments. These reports (the third of which is anticipated to be released in late 2000 or early 2001), have so far been scheduled on a five year cycle – long enough to allow new scientific information to develop, but frequently enough to provide the policy community with regular updates on the state of knowledge regarding the climate change issue.

26. Q: The Global Climate Coalition sent a letter to the Department of State on February 14, 1997, raising a number of questions about the January 17, 1997, version of the U.S. draft protocol, particularly in regards to trading. The Administration has not yet responded to those questions. Please respond to them as part of your reply to this inquiry.

A: [EGC]

27. Q: The EU proposal made recently in Denver was developed last March as an EU "negotiating position for the ongoing negotiations on the Berlin Mandate" and it includes burden-sharing of a 10% reduction among EU members of the "overall emission reduction objective by the Community as a whole." This appears to be a form of differentiation, a concept the U.S. is not supporting. The existing FCCC bubble applicable to the EU presumably only covers policies and measures and, when adopted, it only covered the 12 Parties that were members of the EU in 1992. Does the U.S. understand that the EU is seeking, by its submissions and discussion with the U.S. delegation, to extend a form of the FCCC bubble to a protocol and another legal instrument that may be adopted in Kyoto, to expand the bubble to cover any target and timetable or financial obligations and not just policies and measures, and to expand the bubble to include all present and future members of the EU, such as countries from Central and Eastern Europe? Why is such an expanded bubble in the economic and competitive interests of the U.S.?

A: The EU has made clear that it believes the bubble covers not only policies and measures, but also any target and timetable. IT has argued that it may use the bubble not only in meeting the non-binding aim of the Convention, but also in meeting any new obligations established under the protocol or other legal instrument. To date, the EU has not discussed with us whether it also covers financial issues. They have also indicated they have not yet determined how or under what circumstances the bubble would apply to new member states.

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The United States believes it is the interest of a stable Europe that the European countries continue to develop economically, and has so far been disinclined to intervene in the domestic affairs of any European nation. However, in the context of any new agreement under the Climate Convention, we have not yet accepted that the European member states should be allowed to "bubble" their obligations, nor would we support their doing so unless we were satisfied that such an agreement would not disadvantage the United States.

28. Q: What is the potential impact of such an expanded EU bubble on the U.S. proposal for international emissions trading? Would it ensure that the EU would get the benefit of any emissions deficit derived from such Central and Eastern European Members and deprive the U.S., Japan, Australia, and Canada of that deficit? Would the U.S. then have to rely primarily on Russia's emissions deficit in order to derive any of the benefits of trading?

A: The impact of an expanded EU on any emissions trading provisions is dependent on the level of the target, and the restrictions placed on a trading regime. If country targets or trading restrictions were set so that they required "real" reductions, no specific benefit would necessarily accrue to the European Union, and any reductions would entail real costs. Neither is it clear that the European Union would necessarily claim all the benefits of an expanded membership – emissions trading should in theory equalize the price of reducing a unit of emissions regardless of whether it is in Europe or Russia or the United States. Most analysis does suggest that if the U.S. is to use emissions trading to substantially offset its domestic emissions, even the entirety of the Eastern European country emissions would not suffice; Russia is the only country large enough to accommodate our current levels.

29. Q: Article 22.3 of the FCCC requires that regional economic integration organizations must declare the "extent of their competence" with regard to obligations under the FCCC. Does the U.S. believe that the EU has the competence to carry out legally binding targets and timetables and to enforce any differentiated targets for its members if they fail to achieve them?

A: It is not yet clear how the EU competence will be applied in its implementation if any new obligations under a new legal instrument. We, along with others (e.g., Australia and Japan) have insisted that the issue of EU competence be made fully transparent and provisions for compliance be made acceptable to all Parties before we would agree to allow the EU to undertake its commitments as a single entity rather than individually through each member state.

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30. Q: The State Department's September 9, 1996, reply to the Committee stated that the U.S. did not agree to an "EU Bubble in Berlin" and that the U.S. delegation "successfully opposed including language in the Berlin Mandate which might have suggested that any country or group of countries could "bubble" in the post-2000 period." The reply then said:

Clearly, the question of "bubbling" with respect to post-2000 commitments is complex, and one that will be closely scrutinized and carefully considered as negotiations progress. The Administration has consistently and continuously consulted with Congress, as well as with U.S. industry and U.S. NGOs, on all aspects of the negotiations concerning post-2000 commitments and will continue to do so.

The Administration has not yet held meaningful discussions with this Committee on the issue of the EU bubbling to "meet target and timetables," its implications for the U.S., its merits, or its complexities. Given the fact that the negotiations are just approaching a conclusion in Bonn and Kyoto, when do you plan to consult us on this aspect of the negotiations?

A: [EGC]

31. Q: Since 1992, the composition of the only "regional economic integration organization," namely the EU, has grown from 12 to 15 members and several countries want to expand it further. Under what circumstances would the U.S. agree to an EU bubble that is or could be expanded?

A: The U.S. has made it clear throughout these negotiations that there is no EU entitlement to a so-called "bubble" in the Kyoto agreement. Indeed, how a bubble would operate upon EU expansion is one of the many concerns that we and others (for example, the Japanese) have raised in connection with the EU proposal.

32. Q: The EU has proposed an amendment to the Convention to provide for a vote to adopt all future protocols by three-fourths if all efforts at consensus are exhausted. The proposed amendment would appear to have a retroactive effect for Kyoto.

- a) Under this proposal, is it possible that three-fourths of the FCCC Parties could vote to "adopt" any Protocol that imposed new obligations for Annex I and/or non-Annex I Parties and then decide not to deposit an instrument of ratification, etc.?

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b) Does the U.S. support such an amendment to the Convention?

c) Has the U.S. changed from its June 19, 1996, response to this Committee in regards to any of these matters? Would the Administration agree to a resolution of one of these matters, namely voting on a protocol, without a resolution of the financial and budget matters for both the Convention and all future protocols?

A: (a) Yes. Under the current Climate Convention, as well as this proposal, Parties could adopt an agreement (pursuant to whatever rule of procedure governs adoption) and then not ratify.

(b) We have substantial concerns about the provisional application aspect of the proposal. In effect, it amends the treaty without waiting for the Parties to ratify the amendment.

(c) [Unsure of response to Committee in July 1996 must cross-reference.]

33. Q: Does the Administration intend that any international emission trading program would apply in the same way and to the same extent to public and private entities internationally and in the U.S.? For example, would it apply to local governments and to defense or other agencies of each Party and to the emissions of such entities? What will be the impact on the U.S. Defense Department of an international, or, for that matter, a domestic, emissions trading program?

A: [Seidel]

34. Q: Greenhouse gases not covered by the Montreal Protocol are not pollutants within the meaning of the Clean Air Act and are not subjected to the command and control provisions of the Act or other environmental laws. It is our understanding that although the U.S. has cited (in a September 9th reply to this Committee) authority to implement the Climate Change Action Plan with voluntary measures, the U.S. draft protocol, because it may call for mandatory measures, could not be given full effect in the U.S. without the enactment of new legislation by Congress. Do you share that understanding? Is the Administration considering a domestic emission trading legislative program patterned on the 1990 Clean Air Act?

A: [Seidel]

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35. Q: I understand that the Administration has recently established the White House Climate Change Task Force, a Deputies Group and an Assistant Secretaries group. Please explain the role and purpose of each in regards to the development of the Administration's position and policies for the international negotiations for a protocol or another legal instrument in 1997 and for the development of implementing legislation in the U.S. Please identify the members of each group. Please provide any documents regarding the formation of these groups, their membership, mission, tasks, and/or assignments.

A: [Scidel]

36. Q: Please provide a table of all contracts, cooperative agreements, grants, and interagency agreements and any extensions thereof (hereinafter referred to as "agreements") entered into with any individual, agency, or public or private entity (foreign or domestic) by or through any federal Department or Agency, including the Departments of State, Commerce, and Energy, the Environmental Protection Agency, for the period beginning July 1, 1994 to the present that relates to, or includes (directly or indirectly) climate change matters or issues of any kind. These should include matters relating to (a) domestic or international emission trading, including economic and other analysis of such trading, the administration and verification of such trading in the U.S. and elsewhere, (b) public outreach, general and specific public education, grass roots, community outreach, workshops, (c) transportation efficiency, alternative fuels, transportation generally, utilities, impact on pollutants like ozone and particulate matter, and (d) any legal analysis of these matters and of the Convention or of any statutes concerning climate change or trading. Each table should identify the date of the agreement, the agreement recipient, the amount of Federal funds, the term, including extensions, a brief description, the product, and whether it is publicly available, and the status. Please include with each table the applicable "Statement of Work," including any revision thereof, for each agreement.

A: [Interagency]

Schaefer Q's & A's

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Questions for the Record Submitted by Chairman Schaefer to
Under Secretary of State Timothy Wirth
House Committee on Commerce
Energy and Power Subcommittee
July 15, 1997

Hearings
Congressional
Hearings
Testimony
WIRTH

1. Q: Please identify each member of the Interagency Analytical Team (IAT) from the date of its inception to the present time, any other participants inside or outside the Administration, and specify their responsibilities.

A: Attached is former Under Secretary Ehrlich's list of people to call regarding IAT meetings. Members of the IAT had varying levels of participation and responsibility.

2. Q: When was the IAT formed and what were the IAT's instructions? Please provide any documentation regarding the formation of the IAT and its mission, responsibilities, membership or assignments.

A: Previously, Agencies worked independently on climate change economic analysis. Beginning in February 1996, however, the Department of Energy and the Environmental Protection Agency began to work together on global climate change analysis and called it the IAT. Their joint efforts provided the analytical foundation for the Springfield Global Climate Change Workshop in June 1996.

Former Under Secretary Ehrlich joined the Administration's climate change analysis effort shortly after the June 1996 Climate Analysis Workshop. He oversaw the analysis from mid 1996 to May 1997. ~~Under Secretary Ehrlich's instructions were to use the IAT to provide a set of analytic tools that would allow the Administration to better understand the economics of the climate change issue.~~

3. Q: Please indicate the total costs of the IAT's efforts and the share paid annually by each Department or Agency that was involved and please identify the source of the funds within each Department or Agency.

A: Costs for the IAT were primarily for personnel. No effort was made to ~~accumulate~~ costs related to the IAT activities. DOE and EPA, who had primary responsibility for the analysis efforts, did have some contract costs for modeling.

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4. Q: Is the LAT still in existence? If so, what are its current responsibilities?

No LAT economic analysis of global climate change is underway.

5. Q: Please provide a copy of all drafts of the LAT report in addition to the May 16th and 30th, 1997 drafts, both earlier and later.

A: Enclosed with this response are photocopies of the May 12th, May 16th, and May 30th drafts of the LAT paper. The May 12th draft was circulated among members of the LAT and senior members of the Administration involved in climate change policy. The May 16th draft was circulated to the peer reviewers, members of the LAT, and senior members of the Administration involved in climate change policy. The May 30th draft was released to the public on July 15th.

6. Q: Please explain how the peer reviewers were selected? What instructions were those peer reviewers given? Please provide copies of any correspondence or instructions that were sent to the peer reviewers.

A: The peer reviewers were selected based on recommendations from senior LAT members. Former Under Secretary Ehrlich made the final selection after consultation with the LAT and members from the White House Task Force on Climate Change.

Former Under Secretary Ehrlich sent letters and attachments to each of the reviewers as well as personally contacting each of them. The letter dated March 20th is a copy of the initial letter sent to Professor Jorgenson. Identical letters were sent to the other peer reviewers over a period of weeks. Enclosed with this letter ~~were~~ a technology note and information on the LAT models and baseline. The undated letter is a copy of the letter that was sent to all reviewers on May 16th with copies of the May 16th draft of the LAT report. Copies of materials sent to the reviewers are enclosed.

7. Q: If the LAT effort is in fact a "failed" project as indicated in Administration testimony at the Subcommittee hearing how will the Administration determine the appropriate level of future international climate change commitments for Kyoto and later?

A: The LAT effort generated ~~much~~ useful information about how to model constraints on greenhouse gas emissions and their potential economic effects. However, the LAT process was unsuccessful in providing a ~~sufficiently narrow range of estimated economic effects to support~~ the Administration's overall decision-making process. As part of the

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ongoing Administration decision process, a number of different economic and other analyses are being evaluated as guides to the likely effects of reducing greenhouse gas emissions.

8. Q: As late as last May when Dr. Ehrlich and others in the Administration held briefings on the then draft analysis and assessment there was no hint that the Administration considered this effort a failure and the models to be unreliable. What occurred since May that caused the Administration to apparently reach a different conclusion from that of Dr. Ehrlich?

A: When the Administration provided briefings on the work being done by the IAT, the focus was on determining baselines for emissions levels, economic growth, and other key variables and for explaining the different models that were being used. As the work done by the IAT proceeded, the wide range of economic outcomes called into question the benefits of continued work on these economic models, given the many other competing claims on agency resources.

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results and the concerns raised by the peer reviewers

9. Q: The IAT draft Analysis referred to three scenarios which resulted in costs of future climate commitments of approximately \$200, \$100, or \$50 per ton carbon tax equivalent. Has the Administration concluded that a \$200 per ton carbon tax equivalent cost will not harm the U.S. economy, jobs, and global competitiveness? Has the Administration concluded that a \$100 per ton carbon tax equivalent cost will not harm the U.S. economy, jobs, and global competitiveness? Has the Administration concluded that a \$50 per ton carbon tax equivalent cost will not harm the U.S. economy, jobs, and global competitiveness. Please provide the basis for any of the above conclusions. If the Administration does not support any of the above costs, what analysis or other information does the Administration intend to rely on to support a different amount?

A: The implicit price of carbon for the United States reported by the IAT ranged from \$9 to \$145, depending on the situations ~~models~~, and the assumptions and models used. Similarly, the impact on the U.S. gross domestic product ~~spanned a wide range~~. The IAT found that the estimates of the costs to the U.S. economy of a carbon emissions reduction policy depended on factors, including targets and timetables, technology assumptions, and the implementation of international emissions permit trading. As Dr. Janet Yellen remarked in her July 15, 1997, testimony to the House Commerce Subcommittee on Power, "It boils down to this: if we do it dumb, it could cost a lot, but if we do it smart, it will cost much less, and indeed could produce net benefits in the long run."

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the use of market based incentives

and revenue recycling.

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A: The IAT's analysis ^{→ for comparing model results} focused on a standard emissions target widely used in the academic literature. The Administration is in the process of determining its position on targets and timetables. The Administration's negotiating position is still in development.

12. Q: The Administration frequently cites the 2000 economists who say they support controlling greenhouse gases. Their statement supports as the mechanism either carbon taxes or emissions permits. In the past, the Administration has said it opposes the use of taxes. Is that still the Administration's position?

A: The Administration's position on implementation options ^{and} strategies relating to greenhouse gas emissions reductions is still under development. This position will be determined in conjunction with a position on targets and timetables, which is also under development.

13. Q: The IAT draft explains that these emissions reductions to achieve stabilization would be through "issuing tradable permits at the earliest point of energy production or when imported into the U.S." and that the permits "are initially auctioned in a way that is revenue neutral: i.e., all revenues generated would be recycled through the economy." Would these revenues be deposited in the treasury as miscellaneous receipts under the Economy Acts? Would they then

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have to be recycled through changes in the tax laws or by appropriation? How would they be recycled?

A: The IAT considered a range of revenue recycling possibilities at a very abstract level. The IAT did not examine the legal framework under which these abstract options might be implemented in the United States.

14. Q: Does the Administration believe that permit auctions are the equivalent of a new tax? If not, please explain.

A: In general, they are not equivalent. Auctions focus on fixing quantities and leave prices free to fluctuate, while taxes focus on prices and allow quantities to adjust ~~to~~ ~~change price levels~~. ✓

15. Q: The IAT draft states that "among fuels, demand for coal bears the brunt of greenhouse gas stabilization." What is the impact on the U.S. economy as a whole and on the relevant coal regions of this policy towards coal? What will be the job impact? Is the Administration adopting an anti-coal policy? How is the policy consistent with President Clinton's 1995 reply to Mr. Dingell that the U.S. will not agree to any protocol that harms our economy and jobs or our competitiveness?

A: The IAT analysis found that the implicit price of carbon would range from \$9 to \$145 per ton depending on the model and assumptions used and the specific scenario analyzed. Economic and job impacts would similarly span a range depending on the factors, such as the rate of technological change, targets and timetables, and international emissions permit trading. ✓ Several ✓

It is important to stress that the IAT analysis is just that – analysis – and not policy, as the question suggests. The IAT examined a wide variety of different analytic scenarios as part of its work, and explicitly was not charged with making policy recommendations.

16. Q: How long after December 1997 does the Administration think it will take to obtain Senate advice and consent of any Kyoto agreement, to ratify that agreement, and to enact implementing legislation?

A: There is little information on which to judge the timeframe for the advice and consent process, or for the enactment of implementing legislation in the climate arena. The U.N. Framework Convention on Climate Change was ratified by the Senate in October 1992, only four months after it was signed by President Bush at the Earth Summit in Rio de Janeiro in June 1992. That Convention required no implementing legislation. However,

other Conventions, such as the Law of the Sea, have yet to be ratified, more than a dozen years after signature.

17. Q: Which agency or department would be responsible for implementing the provisions of any agreement reached in Kyoto, including provisions relating to joint implementation, emissions trading and advancing Article 4.1?

A: It is anticipated that several Departments and agencies would have a role in the implementation of provisions related to joint implementation, emissions trading and Article 4.1, including the Department of State, the Department of Energy, The Department of Justice, the Treasury Department, the Department of Agriculture, the Agency for International Development, the Environmental Protection Agency, and possibly the National Oceanographic and Atmospheric Administration and the National Aeronautics and Space Administration. The precise role of each could only be determined once specific provisions had been decided upon.

18. Q: What consideration has been given or plans made regarding passage of legislation necessary to implement any agreement reached in Kyoto?

A: While some consideration has been given to the activities required under various agreement provisions (particularly those introduced by the United States), the lack of general acceptance of any of these provisions in the international negotiations makes the development of any specific legislative proposals premature. The Administration would intend, as part of its package of material to be sent to the Senate, to include it proposals for legislation that would be required to fully implement any agreement.

19. Q: Article 17.4 of the Framework Convention on Climate Change (FCCC) specifies that only "Parties to the Convention may be Parties to a protocol." However, there is no assurance that all or even a majority of the 167 Parties to the FCCC will deposit instruments of ratification, acceptance, approval or accession to any protocol adopted by the Parties by consensus or otherwise in Kyoto. What assurances does the U.S. now have that most, if not all, developing country parties to the FCCC will become Parties to a Kyoto protocol? Why is it in the U.S. interest to agree, without assurances, to a protocol that proposes to set legally binding post-2000 targets and timetables for Annex I Parties only and also imposes on the U.S. new and legally binding commitments to advance implementation of Article 4.1 of the FCCC, such as those prescribed in paragraph 1, 2, 3, and 4 of Article 5 of the U.S. draft protocol?

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A: [EGC]

20. Q: In a July 18, 1994, letter to the then House Committee on Energy and Commerce [the State Department] said:

We agree that there are substantial commitments beyond 2000 for all parties to the Framework Convention under Article 4. Article 4.1 (applicable to both developed and developing countries) contains commitments that are not limited by any specific timetable.

- a) Is there any evidence to date that the U.S. is not abiding by these Article 4.1 commitments? If there is none, why should the U.S. voluntarily agree to reaffirm, as required by Article 5.1 of the June draft, to what the U.S. already agreed to when it ratified the FCCC in 1992?
- b) Is the U.S. asserting that other Annex I Parties are not abiding by such commitments? If so, please identify those Parties.

A: [EGC]

21. Q: Paragraph 2 of Article 5 of the U.S. draft Protocol mandates each Party to "strengthen its legal and institutional framework to advance implementation" of Article 4.1 commitments. What "framework" does the Administration have in mind? Does this suggest a new Federal or international agency or program? Would this be done through new legislation? If not, how would it be achieved in the U.S.?

A. The Berlin Mandate calls for the negotiating process to "continue to advance the implementation" of Article 4.1 commitments, which also apply to developing countries. The primary U.S. objective, in proposing paragraph 2 of Article 5, was to encourage developing countries with inadequate legal and institutional frameworks to strengthen such frameworks so as to improve implementation of Article 4.1. However, it was considered that there was no reason why such an obligation could not apply to all Parties, namely that all Parties could reasonably be asked to do something to strengthen their frameworks. Even the United States, with its highly developed legal and institutional system, could, for example, enhance its existing administrative abilities to collect and report on inventories of greenhouse gas emissions. It was not intended that any international institutions or processes would be needed to implement such a provision.

22. Q: Article 5.3 requires that each Party take "measures to facilitate investment in climate-friendly technologies." What "measures" does the Administration contemplate? How would they be implemented in the U.S.? What are their regulatory and budgetary implementations?

A: [Seidel]

23. Q: Article 16 of the draft provides that the Parties "shall adopt, by [2005], binding provisions so that all Parties have quantitative greenhouse gas emissions obligations and so that there is a mechanism for automatic application of progressive greenhouse gas emissions obligations to Parties, based upon agreed criteria."

- a) Does this mean that there could be a second protocol or another legal instrument by [2005] which is only 7 years after the December meeting in Kyoto?
- b) Do the words "all Parties" in this Article mean that only the "Parties" to the U.S. draft protocol would be required to "adopt" by 2005 such an instrument? Unless developing country Parties to the FCCC, such as China, India, and Brazil, become Parties to the Kyoto instrument (as proposed by the U.S.) prior to [2005], how does this Article address the issue of greenhouse gas emission growth by all non-Annex I Parties?
- c) Could such a new instrument adopted by [2005] impose new and additional obligations on the U.S. beyond those proposed to be adopted in Kyoto? Why is that possibility a good result for the U.S. economy, trade, and competitiveness?
- d) What "mechanism for automatic application of progressive greenhouse gas emissions obligations" does the Administration contemplate by this proposal? What are its implications for the U.S., including its sovereignty?

A: [EGC]

24. Q: Article 16.1 of the Convention provides that "annexes shall be restricted to lists, forms, and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character." The U.S. draft protocol states, that it may not be "appropriate" to adopt the Article 16.1 Convention example.

Please explain why. Does the U.S. support annexes that would be substantive and mandatory?

A: You correctly note that Article 16.1 of the Convention limits the use of annexes to certain types of material. This is not because there is any inherent reason why annexes should be so restricted. Rather, it is because Article 16 goes on to provide an entry-into-force procedure for annexes (and amendments to annexes) under which an annex (or amendment to an annex) enters into force for a Party unless a Party affirmatively does not accept it. (Other modifications to the Convention must be affirmatively accepted by Parties to be binding on them.)

In the context of the Convention, as well as other treaties, the U.S. insisted that the quid pro quo for such a "tacit" amendment procedure with an "opt-out" provision was that annexes be limited to material of a technical (scientific, etc.) nature. This view is consistent with views expressed by the Senate. The purpose of the U.S. comment with respect to the climate change protocol was to flag that annexes are not automatically entitled to "opt-out" procedures; rather, it depends on their context.

25. Q: Article 9 of the U.S. draft provides that Parties "shall cooperate" in establishing a "long-term goal" regarding concentrations of gases. Article 10 calls for meetings at "regular intervals" to, among other things "periodically review the adequacy" of the Protocol and Article 8 calls for periodic review of the Protocol and guidelines "in light of evolving scientific knowledge related to climate change." Article 2 already suggests a minimum of two budget periods. Article 16 tells the parties to adopt "binding provisions" by [2005] for progressive "obligations." Does the State Department contemplate, over the next several decades a continuing process of meetings of both the protocol and Convention Parties annually and a series of IPCC assessments, special reports and technical papers leading to a series of protocols or other legal instruments that are likely to have significant economic impacts on the Parties and their people? Why is there a need for such frequent meetings and reviews?

A: The U.S. has proposed a periodic review of the agreement to insure that any changes in the science are fully taken into account by the Parties. Such flexibility insures that if new information emerges indicating a reduced need to act, the agreement could be modified; conversely, if additional actions needed to be taken to address the threat of climate change, appropriate action would not be delayed. The U.S. proposal also seeks to insure that Parties would be fully informed regarding the compliance of all other Parties – thus removing a potential problem of one Party gaining a competitive advantage though not fully meeting its obligations, while other complying Parties might be penalized. Finally, the U.S. proposal, while setting specific commitments for developed countries, recognizes the need for all Parties to participate. It therefore calls for the negotiation of a new agreement by [2005] that would require all countries – including developing

countries – to adopt legally binding limits on their emissions. We assume that at each stage of the process, a full assessment of the costs and benefits of action would be taken prior to committing the United States to any new legal obligation.

The U.S. proposal for an agreement does not specify the frequency of IPCC Assessments. These reports (the third of which is anticipated to be released in late 2000 or early 2001), have so far been scheduled on a five year cycle – long enough to allow new scientific information to develop, but frequently enough to provide the policy community with regular updates on the state of knowledge regarding the climate change issue.

26. Q: The Global Climate Coalition sent a letter to the Department of State on February 14, 1997, raising a number of questions about the January 17, 1997, version of the U.S. draft protocol, particularly in regards to trading. The Administration has not yet responded to those questions. Please respond to them as part of your reply to this inquiry.

A: [EGC]

27. Q: The EU proposal made recently in Denver was developed last March as an EU “negotiating position for the ongoing negotiations on the Berlin Mandate” and it includes burden-sharing of a 10% reduction among EU members of the “overall emission reduction objective by the Community as a whole.” This appears to be a form of differentiation, a concept the U.S. is not supporting. The existing FCCC bubble applicable to the EU presumably only covers policies and measures and, when adopted, it only covered the 12 Parties that were members of the EU in 1992. Does the U.S. understand that the EU is seeking, by its submissions and discussion with the U.S. delegation, to extend a form of the FCCC bubble to a protocol and another legal instrument that may be adopted in Kyoto, to expand the bubble to cover any target and timetable or financial obligations and not just policies and measures, and to expand the bubble to include all present and future members of the EU, such as countries from Central and Eastern Europe? Why is such an expanded bubble in the economic and competitive interests of the U.S.?

A: The EU has made clear that it believes the bubble covers not only policies and measures, but also any target and timetable. IT has argued that it may use the bubble not only in meeting the non-binding aim of the Convention, but also in meeting any new obligations established under the protocol or other legal instrument. To date, the EU has not discussed with us whether it also covers financial issues. They have also indicated they have not yet determined how or under what circumstances the bubble would apply to new member states.

The United States believes it is the interest of a stable Europe that the European countries continue to develop economically, and has so far been disinclined to intervene in the domestic affairs of any European nation. However, in the context of any new agreement under the Climate Convention, we have not yet accepted that the European member states should be allowed to "bubble" their obligations, nor would we support their doing so unless we were satisfied that such an agreement would not disadvantage the United States.

28. Q: What is the potential impact of such an expanded EU bubble on the U.S. proposal for international emissions trading? Would it ensure that the EU would get the benefit of any emissions deficit derived from such Central and Eastern European Members and deprive the U.S., Japan, Australia, and Canada of that deficit? Would the U.S. then have to rely primarily on Russia's emissions deficit in order to derive any of the benefits of trading?

A: The impact of an expanded EU on any emissions trading provisions is dependent on the level of the target, and the restrictions placed on a trading regime. If country targets or trading restrictions were set so that they required "real" reductions, no specific benefit would necessarily accrue to the European Union, and any reductions would entail real costs. Neither is it clear that the European Union would necessarily claim all the benefits of an expanded membership – emissions trading should in theory equalize the price of reducing a unit of emissions regardless of whether it is in Europe or Russia or the United States. Most analysis does suggest that if the U.S. is to use emissions trading to substantially offset its domestic emissions, even the entirety of the Eastern European country emissions would not suffice; Russia is the only country large enough to accommodate our current levels.

29. Q: Article 22.3 of the FCCC requires that regional economic integration organizations must declare the "extent of their competence" with regard to obligations under the FCCC. Does the U.S. believe that the EU has the competence to carry out legally binding targets and timetables and to enforce any differentiated targets for its members if they fail to achieve them?

A: It is not yet clear how the EU competence will be applied in its implementation if any new obligations under a new legal instrument. We, along with others (e.g., Australia and Japan) have insisted that the issue of EU competence be made fully transparent and provisions for compliance be made acceptable to all Parties before we would agree to allow the EU to undertake its commitments as a single entity rather than individually through each member state.

30. Q: The State Department's September 9, 1996, reply to the Committee stated that the U.S. did not agree to an "EU Bubble in Berlin" and that the U.S. delegation "successfully opposed including language in the Berlin Mandate which might have suggested that any country or group of countries could "bubble" in the post-2000 period." The reply then said:

Clearly, the question of "bubbling" with respect to post-2000 commitments is complex, and one that will be closely scrutinized and carefully considered as negotiations progress. The Administration has consistently and continuously consulted with Congress, as well as with U.S. industry and U.S. NGOs, on all aspects of the negotiations concerning post-2000 commitments and will continue to do so.

The Administration has not yet held meaningful discussions with this Committee on the issue of the EU bubbling to "meet target and timetables," its implications for the U.S., its merits, or its complexities. Given the fact that the negotiations are just approaching a conclusion in Bonn and Kyoto, when do you plan to consult us on this aspect of the negotiations?

A: [EGC]

31. Q: Since 1992, the composition of the only "regional economic integration organization," namely the EU, has grown from 12 to 15 members and several countries want to expand it further. Under what circumstances would the U.S. agree to an EU bubble that is or could be expanded?

A: The U.S. has made it clear throughout these negotiations that there is no EU entitlement to a so-called "bubble" in the Kyoto agreement. Indeed, how a bubble would operate upon EU expansion is one of the many concerns that we and others (for example, the Japanese) have raised in connection with the EU proposal.

32. Q: The EU has proposed an amendment to the Convention to provide for a vote to adopt all future protocols by three-fourths if all efforts at consensus are exhausted. The proposed amendment would appear to have a retroactive effect for Kyoto.

- a) Under this proposal, is it possible that three-fourths of the FCCC Parties could vote to "adopt" any Protocol that imposed new obligations for Annex I and/or non-Annex I Parties and then decide not to deposit an instrument of ratification, etc.?

- b) Does the U.S. support such an amendment to the Convention?
- c) Has the U.S. changed from its June 19, 1996, response to this Committee in regards to any of these matters? Would the Administration agree to a resolution of one of these matters, namely voting on a protocol, without a resolution of the financial and budget matters for both the Convention and all future protocols?

A: (a) Yes. Under the current Climate Convention, as well as this proposal, Parties could adopt an agreement (pursuant to whatever rule of procedure governs adoption) and then not ratify.

(b) We have substantial concerns about the provisional application aspect of the proposal. In effect, it amends the treaty without waiting for the Parties to ratify the amendment.

(c) [Unsure of response to Committee in July 1996 – must cross-reference.]

33. Q: Does the Administration intend that any international emission trading program would apply in the same way and to the same extent to public and private entities internationally and in the U.S.? For example, would it apply to local governments and to defense or other agencies of each Party and to the emissions of such entities? What will be the impact on the U.S. Defense Department of an international, or, for that matter, a domestic, emissions trading program?

A: [Seidel]

34. Q: Greenhouse gases not covered by the Montreal Protocol are not pollutants within the meaning of the Clean Air Act and are not subjected to the command and control provisions of the Act or other environmental laws. It is our understanding that although the U.S. has cited (in a September 9th reply to this Committee) authority to implement the Climate Change Action Plan with voluntary measures, the U.S. draft protocol, because it may call for mandatory measures, could not be given full effect in the U.S. without the enactment of new legislation by Congress. Do you share that understanding? Is the Administration considering a domestic emission trading legislative program patterned on the 1990 Clean Air Act?

A: [Seidel]

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35. Q: I understand that the Administration has recently established the White House Climate Change Task Force, a Deputies Group and an Assistant Secretaries group. Please explain the role and purpose of each in regards to the development of the Administration's position and policies for the international negotiations for a protocol or another legal instrument in 1997 and for the development of implementing legislation in the U.S. Please identify the members of each group. Please provide any documents regarding the formation of these groups, their membership, mission, tasks, and/or assignments.

A: [Seidel]

36. Q: Please provide a table of all contracts, cooperative agreements, grants, and interagency agreements and any extensions thereof (hereinafter referred to as "agreements") entered into with any individual, agency, or public or private entity (foreign or domestic) by or through any federal Department or Agency, including the Departments of State, Commerce, and Energy, the Environmental Protection Agency, for the period beginning July 1, 1994 to the present that relates to, or includes (directly or indirectly) climate change matters or issues of any kind. These should include matters relating to (a) domestic or international emission trading, including economic and other analysis of such trading, the administration and verification of such trading in the U.S. and elsewhere, (b) public outreach, general and specific public education, grass roots, community outreach, workshops, (c) transportation efficiency, alternative fuels, transportation generally, utilities, impact on pollutants like ozone and particulate matter, and (d) any legal analysis of these matters and of the Convention or of any statutes concerning climate change or trading. Each table should identify the date of the agreement, the agreement recipient, the amount of Federal funds, the term, including extensions, a brief description, the product, and whether it is publicly available, and the status. Please include with each table the applicable "Statement of Work," including any revision thereof, for each agreement.

A: [Interagency]