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CCAP [Climate Change Action Plan] Implementation [1]

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AGENDA

Green Room Steering Committee
Forrestal West Building, Suite 1J009
Thursday, January 27, 1994
9:30am - 11:30am

- I. Role of the Steering Committee
- II. Climate Change Action Plan Activity Status - OEP/Interagency
- III. Department of Energy Climate Change Action Plan Implementation status
 - Energy Efficiency and Renewable Energy
 - Fossil Energy
 - Policy, Planning & Program Evaluation
- IV. Earth Day Event Planning
- V. Special Topics
- VI. Discussion



Implementation Progress on the *Climate Change Action Plan* (CCAP)

**U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy (EE)**

Overview



- **We are making progress on the implementation plans, stakeholder involvement, and Green Room operation.**
- **We are reconfiguring some actions as we are writing implementation plans in order to streamline the deployment of carbon-saving technologies.**

Next Steps for Implementation



- **Revised Draft Implementation Plans Publicly Available (early Feb.)**
- **Completion of Evaluation Plans for Actions -- Including Measures of Success**
- **Stakeholder Involvement/Communications Strategy Designed and Under Way**
- **Revised Implementation Plans with Extensive Stakeholder Input by mid-April**



The Implementation Team recognizes that a number of deployment channels currently exist and should be teamed up with or expanded. Some examples of these channels include the following:

- **EPA Green Lights**
- **State Energy Conservation Programs**
- **Federal Energy Management Program**
- **Utility DSM Programs**

Each CCAP action must take advantage of existing channels before creating new ones.

Deployment Map



MEASURES

**Codes
and
Standards**

**Underutilized
Existing
Measures**

**New
Measures
and
Technologies**

In mechanical terms, the objective of the CCAP is to use a mixture of approaches to move several kinds of carbon-saving measures (codes, new products) into the marketplace.

**Deployment
"Channels"**

Residences

**Commercial
and
Public Sector
Structures**

**Industrial
Processes
and
Buildings**

**Electric
Industry**

MARKET

Reconfiguration



Our reconfiguration of actions were sparked by the observation that implementing each individual action was not the most efficient use of our resources, nor the most effective way to market to the "customer base."

Overall Progress



- **Implementation Plans**
 - First drafts received on 12/23/93
 - Revised drafts complete by early February
 - Priority hiring under way
 - Reconfiguration of actions under way

- **Stakeholder Involvement/Communications**
 - Plan developed
 - Preliminary implementation under way

- **Green Room Operations**
 - Full-time staff on-site
 - Stakeholders and others assist as available
 - Effective center of effort

STAKEHOLDER ACTIONS



Communications/Stakeholder Involvement Working Group

Fact Finding:

- 1. Interviewed 30 stakeholders and DOE personnel**
- 2. Hosted a two-day meeting with State Energy Offices**

Based on findings, drafted stakeholder involvement and communications strategy

- Includes matrix: stakeholder identification; communications events and channels**
- Working group discussions: specific actions to operationalize strategy**

STAKEHOLDER ACTIONS (Cont'd.)



Communications/Stakeholder Involvement Working Group

Inaugurated Green Room: Open House, Dec. 7

Next steps:

- 1. Draft implementation plans to selected stakeholders and partners for critical review**
- 2. Stakeholder forums "on the road": feedback on draft implementation plans**

COMMUNICATIONS ACTIONS



Communications/Stakeholder Involvement Working Group

- 1. Media analysis completed; op-ed piece written**
- 2. Green Room update: mock-up**
- 3. Standard EE CCAP briefing package produced and used**
- 4. Successful press conference: tied EE's technology building blocks to CCAP**



Communications/Stakeholder Involvement Working Group

MISSION STATEMENT

The mission of the Communications and Stakeholder Involvement Working Group is to create awareness and stimulate participation in the Climate Change Action Plan.

Format for Revised Draft CCAP Implementation Plans

Below is a listing of the proposed elements of the draft 1 implementation plans. Questions that each element should address are given, together with the recommended length.

Goals: What changes in the market are being sought through this action? What markets are being targeted? What is the basic thrust of the action?

Strategy: How will the goals of the action be achieved? In detail, what are the measures being used, through what specific deployment channels into what markets? What are the market barriers to efficiency or renewables that are alleviated or removed by this action? What are the specific series of steps anticipated in FY 1995? Describe these steps in detail. What are the general steps required in subsequent years? Summarize these steps. What are the specific roles and activities of stakeholder partners in the implementation? What is the relationship of this action to other CCAP actions and current EE programs? How does it complement or build on these other programs? This element is the heart of the implementation plan - a reader should be able obtain the specifics of program execution through this section.

Milestones: What are the specific program milestones in FY 1995? List them in a table that includes the anticipated schedule. Milestones should include any described in the Strategy section.

Metrics: Summary of near-term (FY95), mid-term (FY96-97) and long-term (FY98-2000) metrics by which program success will be measured. This section should refer to the action evaluation plan.

Activity Categories: Categories of activities for the action.

Inter/Intra-agency Coordination: What are the key organizations within other agencies (not just agency names)? What is the role of other agencies and how is coordination necessary? How is this coordination to be accomplished?

Partners: All stakeholder groups that will be partners (i.e., suppliers or co-suppliers of services) in the implementation should be listed together with their anticipated implementation roles (a list of partners is not sufficient). Partners should include any described in the Strategy section - again, redundancy is okay. Finally, the roles of the EE support offices and the State Energy Offices should be explicitly described.

Stakeholders: All stakeholder groups indirectly involved in the implementation

should be listed together with their anticipated implementation roles (a list of stakeholders is not sufficient). The strategy for involving these stakeholders in the action should be summarized. Potentially hostile stakeholders should also be listed with a strategy for removing their opposition.

Resource Requirements

Related Private Industry Projects

Lead Program Contact

GREEN ROOM MISSION

Logo:

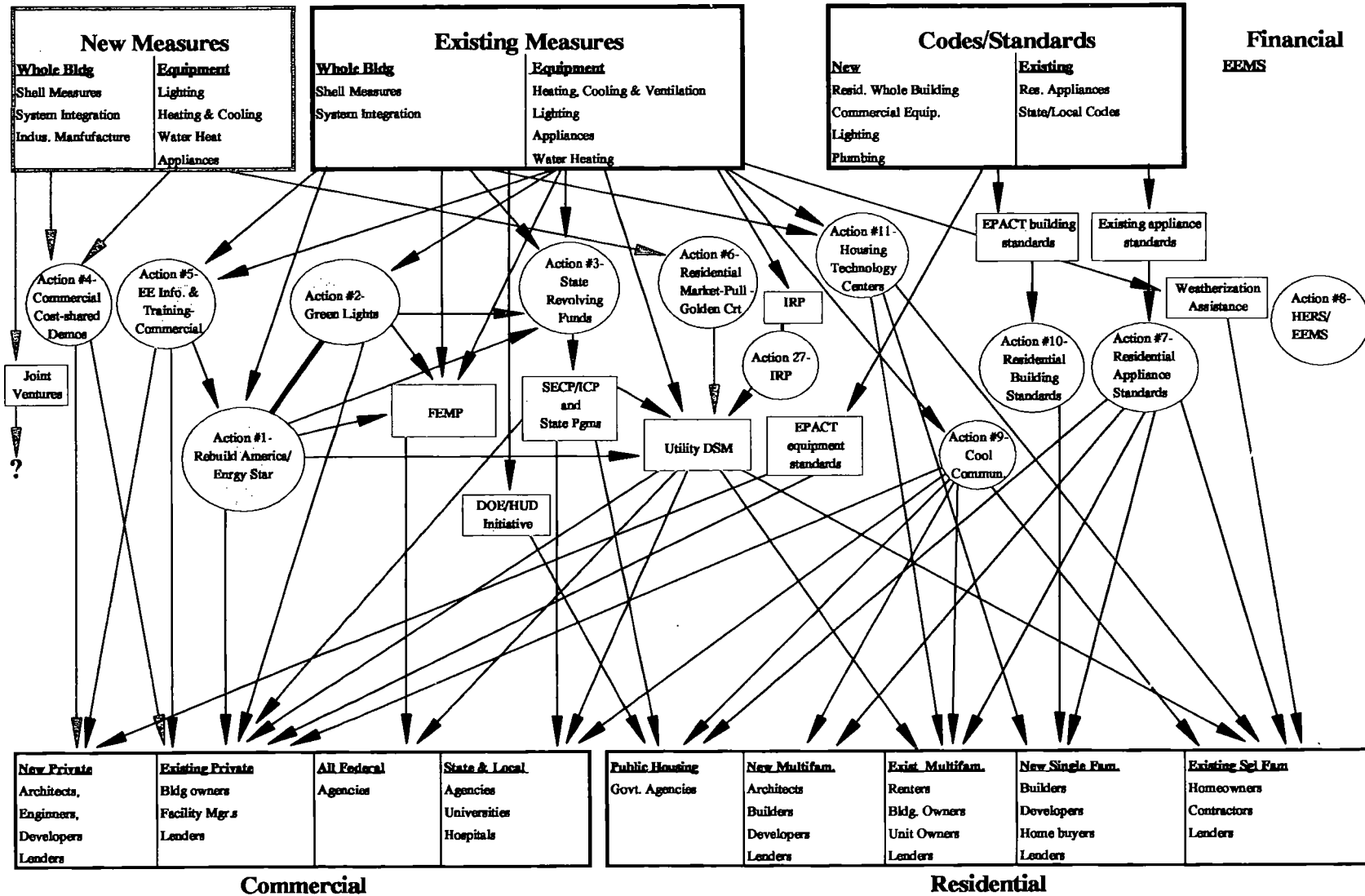
"Energy Partnerships For Climate Action"

The Green Room was established on Dec. 7 to provide EE and DOE with:

- ✧ A "Quick Start" for coordinating and implementing EE Climate Change Action Plan initiatives
- ✧ Makes Partnerships Real by serving as a Conference / Meeting Center to Work with Stakeholders on an ongoing basis
- ✧ Coordinates Input From Multiple Sources
- ✧ Serves as a Central Clearinghouse for Stakeholder Involvement. Examples of Communications and Outreach Products include: Green Room Stakeholder Database, CCAP Action Factsheets, and Briefing Materials
- ✧ Coordinates Development of Common Metrics to Evaluate CCAP Implementation to Track and Report Progress
- ✧ Allows for Cross-Cutting Planning between EE End-Use Sector Offices and Inter and Intra Agency
- ✧ Central Clearinghouse of Implementation Materials
- ✧ Identify Human Resource Needs & Accelerate Hiring

EE/RE Deployment in the Building Sector

DRAFT 1/19/94



**TESTIMONY OF
ROBERT SUSSMAN
DEPUTY ADMINISTRATOR
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR REGULATION
OF THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
U.S. SENATE**

APRIL 14, 1994

Thank you for the opportunity to discuss the Environmental Protection Agency's (EPA's) implementation of the Climate Change Action Plan. When President Clinton released the Plan, he stated it is "the most aggressive and the most specific first step that any nation on this planet has taken in the face of perhaps the biggest environmental threat to the planet." The President committed his Administration to periodically evaluate the emission trends and program effectiveness, and to pursue additional policy initiatives if the trends indicate that our progress is insufficient to attain our goal. Since the President announced the Plan, EPA has focused on establishing programs to reduce greenhouse gas emissions as quickly and efficiently as possible. An integral part of this effort has been the establishment of simple, clear indicators of progress for Plan implementation.

EPA and the Department of Energy (DOE) co-lead an interagency effort to track progress of the Climate Change Action Plan. We have established a framework to evaluate progress towards the national goals. The framework consists of three major activities. First, EPA works with the Department of

Energy's Energy Information Agency (EIA) and the Department of Agriculture to develop and update inventories of emissions of greenhouse gases. The national inventory is the ultimate signal of progress towards meeting the President's commitment to reducing emissions to 1990 levels by the year 2000. But the national inventory is too general to rely upon for detailed evaluation and fine tuning of Action Plan activities. Therefore, the second part of the framework are the goals EPA has established for each element of the plan for which we are responsible, and the related indicators of progress set to gauge the extent to which the initiatives are on track. Program indicators and milestones will help to assure the most cost-effective use of resources possible. Third, EPA is working with the Department of Energy to update and evaluate the relationship between the micro-level effects of individual actions and the macro-level effects demonstrated in trends in the national emissions inventory. This evaluation will allow us to better determine the overall performance of the Plan, to target improvements in program activities to obtain the most cost-effective emissions reductions, and to guide development of later plans.

On the Macro-scale: Emissions Inventories

The ultimate assessment of success of the Climate Change Action Plan will be whether the national inventory of greenhouse gases shows that emissions reach 1990 levels by 2000. Under two memoranda of understanding (MOU) between EPA and the Department of Energy, EPA will continue to work with EIA, the U.S. Department of Agriculture (USDA) and other agencies to maintain and prepare the

greenhouse gas inventories (with full interagency review) needed for reporting to the Framework Convention on Climate Change (FCCC). Only the national inventory will include all sources and gases in a comprehensive manner on a national scale. The national inventory will also avoid double counting and will conform to the guidelines of the Framework Convention. The inventory will be cross-checked with the sometime more detailed and precise data available from other sources, such as EPA's carbon dioxide emission monitoring data. The MOU between EPA and EIA lays the foundation for related sharing of expertise, emission factors, methods and data.

The first U.S. inventory was reported internationally in 1991, and the next will accompany the September 1994 U.S. national communication to the FCCC Conference of the Parties. The national inventory will be disaggregated by sector, fuel and greenhouse gas. Because of a lag in the availability of underlying economic and physical data, the national inventory for a given year (for example, 1996) will be available in preliminary form in the next year (for example, 1997) and in final form the following year (for example, 1998).

On the Micro-scale: Program Indicators and Milestones

The White House asked EPA to co-lead with DOE the monitoring and evaluation of Action Plan performance across agencies. By December 1993, EPA established specific program indicators and milestones in a standard format to track our progress in implementing the Action Plan and in reducing emissions of greenhouse gases. I am submitting for the record a summary of the current

indicators and milestones. This summary reflects our current best estimates of the accomplishments we intend to achieve. EPA will gather information on each indicator on a regular basis -- for some programs as frequently as quarterly. We hope to standardize the reporting system across agencies and use this system to report periodically to the Congress, the Administration and the public on what we achieve with the resources spent. Our report will show the extent to which each action has been implemented, the next steps, plans for program improvement, and an evaluation of the overall success to date of the actions. We expect to periodically revise our procedures and indicators as we learn through experience how to better evaluate and run programs.

The Administration will periodically evaluate and report on progress under the Plan and will update the Plan, if necessary. The Administration will also begin to identify additional opportunities for post-2000 emission reductions. The Administration has also committed to an interagency workgroup to examine policies that could impact greenhouse gas emission levels beyond the year 2000.

In developing the indicators and milestones, we have made an effort to choose measures which are quantifiable, and to the extent possible, linked in a clear manner to emissions reductions. We have worked with the appropriate agencies and departments to ensure that, to the extent feasible, our activities and measures are coordinated with theirs.

Many of the programs will appear to start slowly because they are just beginning. As the programs gain momentum, the rate of emissions reductions will

accelerate. We are already beginning to see emission reductions not just of carbon dioxide, but also of conventional air pollutants regulated under the Clean Air Act.

Here is a sample of the measures and milestones we track on a regular basis: each quarter, EPA's flagship voluntary program Green Lights reports the number of new participants, the square footage of buildings recruited into the program, the square footage surveyed and upgraded, as well as an estimate of the number of pounds of carbon dioxide emissions prevented per year as a result of the implemented upgrades. By May 1994, we expect to have recruited more than 175 partners in our Energy Star Region. By September 1994, we expect to have recruited 150 hospitals and 140 universities, colleges and schools. We expect at least 2000 total Green Lights program participants by December 1994.

Since the President announced the Climate Change Action Plan in October 1993, the number of Green Lights program participants has increased by nearly 200 to more than 1300, with an expected total of more than four million square feet of space slated for upgrades in lighting efficiency. We are already seeing measurable results in terms of emissions reductions from these early actions. The more than 2000 upgrade projects already completed prevent emission of an estimated .35 million metric tons per year of carbon dioxide, 5 million pounds of sulfur dioxide and 2.5 million pounds of NOx. An additional 6000 upgrade projects are already in the pipeline, and the pollution prevention will accelerate as new partners take action. Green Lights participants have reduced their electricity use by an average of 46% and saved a total of \$40.5 million per year on their electric

bills. However, our efforts must be accelerated even beyond the current pace to achieve our overall goals.

EPA's Energy Star Buildings program is operated in coordination with the Department of Energy's Rebuild America program. So far we have enrolled 10 Showcase partners, and expect to enroll a total of 20 corporate Showcase partners by this June, when we plan to formally kick off the program with a signing ceremony. We expect to enroll 25 full Energy Star Buildings partners by September 1995, and to unveil the related Ally program in January 1996 .

The Energy Star Computer program is on track to have the majority of personal computers produced for sale in the U.S. qualify for and display the Energy Star logo by 1995. Resources permitting, we will launch an Energy Star Transformer program and an Energy Star Copier program by Fall 1994.

Programs to reduce emissions of methane and other greenhouse gases are well under way. Over the next three years, we expect that 75% of transmission and distribution pipelines and 50% of natural gas production will be active participants in the Natural Gas Star program. We are on schedule to begin outreach to five states to assist landfills in recovering methane in a profitable manner. This month, we will launch key state outreach programs to encourage profitable emissions reduction from gassy coal mines. In cooperation with the U.S. Department of Agriculture and the Department of Energy, we have expanded our marketing and implementation support to swine producers under the AgStar Program.

The initiative to accelerate source reduction, pollution prevention and recycling expects to present its detailed five-year plan, enroll 15 communities in the Keep America Beautiful "Buy Recycled" program and enroll at least 140 companies in Waste Wise by September 1994. Our original milestone for FY '94 had been 50 partners, but more than 100 companies have already enrolled in Waste Wise, so we have set our target higher. The Climate Wise initiative held a public workshop on program design options in December 1993 for industry, trade associations, and environmental leaders. Fifty companies have expressed an interest in the program, and two have joined as premiere signatories. The U.S. Initiative on Joint Implementation is led by the Department of State, but EPA will co-lead the operational portions with DOE. Draft ground rules were published in the Federal Register in January 1994, and the revision will be issued shortly, following public comment and interagency review. The joint implementation initiative will accept proposals this summer with plans to announce the first round projects by the end of the year.

Assessing the Results of the Climate Change Action Plan in Reducing Emissions of Greenhouse Gases

The question of whether the Climate Change Action Plan will be adequate to meet our year 2000 target will require all three elements of the framework I described earlier. First, the national greenhouse gas inventory will tell us in any given year where we stand relative to our "benchmark" expectations for progress in reducing emissions to 1990 levels by 2000. Second, monitoring and evaluating

the performance of the individual initiatives in the Plan will tell us the extent to which we believe those initiatives are reducing or sequestering greenhouse gases. But the baseline to which reductions are compared will inevitably shift as economic growth, energy prices and other factors fluctuate.

Consequently, the third step to assess progress towards the national goal is to revise projections of greenhouse gas emissions, and revise our expectations for what the Action Plan will achieve, based on their actual performance and changes in factors beyond the control of the Administration, such as economic growth and appropriations for program implementation. EPA and the Department of Energy will co-lead an inter-agency process to accomplish this third step. We will revise projections of program achievements, assess the amounts by which we expect the Action Plan initiative to reduce the projected emissions and evaluate how close we are to the target for 2000. The Administration is committed to making this assessment periodically. If further action is warranted, the Administration is prepared to make necessary modifications to the Plan.

Role of States and Localities

State and local governments will make important contributions to the achievement of objectives established by the Climate Change Action Plan. State and local governments are key partners in several initiatives, including Green Lights, Energy Star Buildings, Waste Wi\$e, Climate Wise, and Mobility Partners, as well as in several DOE and USDA initiatives. For example, Nebraska, Maryland, California, and Douglas County, Oregon have become full partners in the Green

Lights program. They have committed to retrofitting their lighting to achieve the maximum profitable energy savings within five years, with rates of return 6 points better than the prime lending rate. In the Energy Star Buildings program, EPA will work with DOE to use the state energy offices to reach the commercial building sector. States may also play an important role in implementation of the Landfill Outreach action, since full participation of landfills will help states achieve compliance with Clean Air Act regulations.

EPA established a State and Local Outreach Program in 1989, which serves as a foundation program to support the Action Plan. The State and Local Outreach Program will coordinate and promote partnerships with states and localities for all the initiatives in the Plan, and will provide a focal point in the federal government for states and localities to get their questions answered. The program will provide technical and limited financial assistance, including a component to reach out to disadvantaged communities.

Under the State and Local Outreach Program, eight states have prepared greenhouse gas inventories, and seven are working on state climate strategies. Thirteen states are assessing climate impacts such as sea level rise on coastal development or are demonstrating innovative mitigation projects such as telecommuting. Nearly twenty cities are involved in municipal greenhouse gas projects such as Urban Carbon Dioxide Reduction, Cool Communities, and Green Fleets. This year we hope to establish assistance agreements with at least twenty more states and localities. An evaluation component will assess project results

and disseminate the success stories and innovations to a national and international network.

In November 1993, EPA issued new rules requiring state and local transportation planners to consider the air quality effects of new highway projects. These requirements, called conformity determinations, will assure that transportation and air pollution control officials at the state and local levels will work together to design transportation systems that conform to air quality goals, including reducing carbon emissions. Before the publication of the conformity rule, EPA and the Department of Transportation met frequently with regional, state, and local transportation officials to discuss the implications of the rule for the transportation planning process. Since the publication of the rule, several workshops have been held to explain the rule. EPA and DOT continue to provide assistance to transportation planners at all levels.

Need for Additional Legislation

In general, no new legislation is necessary to assure implementation of EPA's portion of the Climate Change Action Plan. We are assisting the Department of Treasury on one action that needs legislative action. The Parking Cash-Out is an incentive for employers to offer new benefit options for commuters -- cash and transit passes to replace subsidized parking. The option requires changes in the tax code. This incentive will relieve traffic congestion and reduce greenhouse gas emissions and urban air pollution, while providing sizeable economic benefits through greater tax fairness, efficiency, and flexibility. EPA is working with the

Treasury Department and the Departments of Transportation and Energy to develop a formal legislative proposal. However, it will be necessary for Congress to fund the Action Plan.

Conclusion

The Administration takes seriously its commitment to the world to reduce greenhouse gas emissions as established in the Framework Convention on Climate Change. We have taken the lead not just to declare policy, but to implement effective programs to meet this goal. We believe that the Climate Change Action Plan is sound, and our commitment is expressed in our policies, in our efforts to implement effective programs and in the more mundane but critical work of developing emissions inventories, program indicators, and milestones that will allow us to track and improve progress.

Some concern has been expressed that recent economic and energy market conditions would make it more difficult to reach the 1990 target level by the year 2000 under the Plan as currently structured. While this plan was predicated on assumptions about the future and about the impact of programs, it was also designed to be responsive and adaptable to changing circumstances. Specifically, we committed to periodic assessment, review, and, if necessary, expansion. However, the timetable for such review reflects the need to discern short run fluctuations from changes in longer term trends, and we are currently assessing the implications of recent shifts in market conditions on our forecasted levels of emissions. At the same time, we are committing our resources and energy to

implementing the ambitious slate of programs currently identified. We continue to have confidence that our programs will deliver the emission reductions that we estimated in October of 1993. Finally, we realize that future economic and energy market conditions may require additional actions in order to return greenhouse gas emissions to 1990 levels by the year 2000. The magnitude of any potential shortfall, however, has not been analyzed, and therefore the kinds of actions that may be required to fulfill the commitment, have not been identified.

We welcome feedback from the Congress on how we might better design and evaluate our programs -- as well as your support for full funding of the package -- and the encouragement of businesses and other partners to help us make this plan a reality. Funding of the Climate Change Action Plan is essential if we are to reduce U.S. greenhouse gas emissions to 1990 levels by 2000. We need Congressional support for our FY '95 budget request of approximately \$107 million and 153 FTE.

**TESTIMONY OF
ROBERT SUSSMAN
DEPUTY ADMINISTRATOR
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
U.S. SENATE**

MAY 10, 1994

Thank you for the opportunity to discuss the Environmental Protection Agency's (EPA's) implementation of the Climate Change Action Plan. When President Clinton released the Plan on October 19, 1993, he stated it is "the most aggressive and the most specific first step that any nation on this planet has taken in the face of perhaps the biggest environmental threat to the planet." The President committed his Administration to take action to reduce greenhouse gas emissions, to periodically evaluate the emission trends and program effectiveness, and to pursue additional policy initiatives if the trends indicate that our progress is insufficient to attain our goal.

In 1990, the United Nation's Intergovernmental Panel on Climate Change (IPCC) made public the findings of the international scientific community upon which the President based his call to action. The scientists concluded that human activities are substantially increasing the emissions and atmospheric concentrations of greenhouse gases, and that the doubling of CO₂ is likely to increase global mean surface temperatures by 1.5° to 4.5° C. While we cannot calculate precisely the magnitude of changes in temperature or precipitation at the local level, we are aware of no scientific evidence which has emerged to challenge fundamental

conclusions of the scientific community on this issue. IPCC predicts this increase will cause an average rate of sea level rise of about 2 inches per decade over the next century, and rapid changes in climate would change the composition of ecosystems. The President's Climate Change Action Plan responds with actions that can begin to curb the potential for serious impacts on the human community and the world's ecosystems. EPA is focusing on implementing the Plan by establishing programs to reduce greenhouse gas emissions as quickly and efficiently as possible on a largely voluntary basis, and establishing a clear, simple system for measuring the progress of the Plan.

I would like to talk today about our current efforts under the Clinton Administration's Climate Change Action Plan and where we see them going.

EPA's Climate Action Plan Activities

Almost three weeks ago here in Washington, D.C., the White House hosted a conference on the Climate Change Action Plan. It brought together more than 850 participants representing state and local governments, utilities, a wide variety of large and small businesses, NGO's, academics, Congressional staff, media, and international guests. (Mr. Chairman, I have here the complete attendee list to be submitted for the record.) The conference successfully showcased progress in voluntary partnerships and other initiatives of the Plan. It also recognized organizations and initiatives that are making significant contributions to climate action; it announced milestones, launched new opportunities to cut greenhouse gas

emissions, and dramatically demonstrated the momentum already beginning to make the Plan a reality.

In his opening remarks to the conference participants, Vice President Gore characterized the Plan as an "aggressive attempt to address the world's most important environmental threat" -- and said its programs will "improve efficiency, save businesses, taxpayers and consumers money and create jobs." Throughout the day, participants confirmed the conference theme and saw for themselves the myriad opportunities to reduce greenhouse gas emissions through voluntary partnerships. Public and private sector organizations are in fact, "Establishing Partnerships to Strengthen Our Environmental Bottom Line." Technology exhibits displayed innovative technologies, and agency program displays provided valuable information on objectives and approaches, progress and milestones for each action in the Plan.

Working primarily through voluntary partnerships, EPA is responsible for a number of Action Plan activities which will reduce greenhouse gas emissions. These actions reduce emissions through changes in building and energy technologies, appliance technologies, materials recycling, transportation, agricultural practices, methane recovery, and the use of certain chemicals. We are making measurable progress already.

For example, EPA spearheads voluntary initiatives with the Green Lights Program, whose 2000 upgrade projects already completed prevent emission of an estimated .35 million metric tons per year of carbon dioxide, 2.7 thousand metric

tons of sulfur dioxide and 1.4 thousand metric tons of NOx. An additional 6000 upgrade projects are already in the pipeline, and the emissions reductions will accelerate as new partners take action. Green Lights participants have already reduced their electricity use by an average of 46% and saved a total of \$40.5 million per year on their electric bills.

EPA's Energy Star Buildings program is operated in coordination with the Department of Energy's Rebuild America program. Energy Star Buildings expands upon the Green Lights program, targeting efficiency improvements in all building systems. It is expected that total energy consumption in many commercial buildings can be reduced by 40% or more at profitable rates of return. This approach is designed to maximize energy savings at the lowest possible cost. It will also reduce the cost of CFC phase out. So far we have enrolled 10 Showcase partners, and expect to enroll a total of 20 corporate Showcase partners by this June, when we plan to formally kick off the program with a signing ceremony. We expect to enroll 25 full Energy Star Buildings partners by September 1995, and to unveil the related Ally program in January 1996, which supports equipment manufacturers and the building industry in their efficiency efforts.

New programs to reduce emissions of methane and other greenhouse gases are well under way. Over the next three years, we expect that owners of 75% of transmission and distribution pipelines and 50% of U.S. natural gas production capacity will be active participants in the Natural Gas Star program. Natural Gas Star aims at encouraging the natural gas industry to use best management

practices that can profitably reduce emissions of methane, the main component of natural gas. A five-state outreach program to assist landfill owners to recover methane in a profitable manner will begin this summer. In cooperation with the U.S. Department of Agriculture, we have expanded our marketing and implementation support to swine producers under the AgStar Program.

The Waste Wi\$e initiative to accelerate source reduction, pollution prevention and recycling expects to present its detailed five-year plan, enroll 15 communities in the Keep America Beautiful "Buy Recycled" program, and enroll at least 140 companies in Waste Wi\$e by September 1994. Our original milestone for FY '94 had been 50 partners, but more than 100 companies have already enrolled in Waste Wi\$e, so we have set our target higher. The Climate Wise Initiative, a joint EPA-Department of Energy voluntary program which provides recognition for significant emissions reductions reported through the EPA's voluntary reporting system, held a public workshop on program design options in December 1993 for industry, trade associations, and environmental leaders. Fifty companies have expressed an interest in the program, and five have joined as premiere signatories.

State and local governments are already making important contributions to the achievement of objectives established by the Climate Change Action Plan. State and local governments are key partners in several initiatives, including Green Lights, Energy Star Buildings, Waste Wi\$e, Climate Wise, and Mobility Partners, as well as in several DOE and USDA initiatives. Mobility Partners is a national

working group which is designing non-regulatory economic incentives to improve the efficiency of transportation systems.

Under EPA's State and Local Outreach Program, eight states have prepared greenhouse gas inventories, and seven are working on state climate strategies. Thirteen states are assessing climate impacts such as sea level rise on coastal development or are demonstrating innovative mitigation projects such as telecommuting. Nearly twenty cities are involved in municipal greenhouse gas projects such as Urban Carbon Dioxide Reduction, Cool Communities, and Green Fleets. This year we hope to establish assistance agreements with at least twenty more states and localities, which through a special component, may include disadvantaged communities. The program also includes an evaluation component which will assess project results and disseminate the success stories and innovations to a national and international network.

The U.S. Initiative on Joint Implementation is led by the Department of State, but EPA will co-lead the operational portions with DOE. The Framework Convention on Climate Change allows parties to implement policies and measures to reduce greenhouse gases jointly with other parties. This process is the basis of our Joint Implementation Initiative. Draft ground rules were published in the Federal Register in January 1994, and the revision will be issued shortly, following public comment and interagency review. The joint implementation initiative is expected to accept proposals this summer with plans to announce the first round projects by the end of the year.

Tracking the Progress of EPA Initiatives

Another important EPA responsibility is co-leading an interagency effort with the Department of Energy to track progress of the Climate Change Action Plan. We have established a framework to evaluate progress towards the national goals. The framework consists of three major activities. First, EPA works with the Department of Energy's Energy Information Agency (EIA) and the U.S. Department of Agriculture (USDA) to develop and update inventories of emissions of greenhouse gases. The national inventory is the ultimate signal of progress towards meeting the President's commitment to reducing emissions to 1990 levels by the year 2000. Under two memoranda of understanding (MOU) EPA will continue to lead work with DOE and EIA, as well as USDA and other agencies, to maintain and prepare the greenhouse gas inventories (with full interagency review) needed for reporting under the Framework Convention on Climate Change (FCCC).

The second part of the framework is a set of program milestones and indicators, or metrics, needed for detailed evaluation and fine-tuning of Action Plan activities. "Milestones" are programmatic events or targets, associated with dates, which are key to carrying out the initiative; for example, dates for launching the program, signing up a target number of partners, performing evaluations, and so forth. "Indicators" are the quantitative measures of how the programs are performing, such as estimated penetration of markets or reductions of greenhouse gases below the baseline of what projected emissions would be without the Plan. EPA has established these for each element of the plan for which we are

responsible in order to help assure the most cost-effective use of resources possible. I am submitting for the record a summary of the current indicators and milestones. This summary reflects our current best estimates of the accomplishments we intend to achieve. EPA will gather information on each indicator on a regular basis -- for some programs as frequently as quarterly. We hope to standardize the reporting system across agencies and use this system to report periodically to the Congress, the Administration and the public on what we achieve with the resources spent. Our report will show the extent to which each action has been implemented, the next steps, plans for program improvement, and an evaluation of the overall success to date of the actions. We expect to periodically revise our procedures and indicators as we learn through experience how to better evaluate and run programs. We also expect to revise and, where possible, supplement our programs as we learn more about which approaches are most cost-effective.

Third, the Administration will periodically evaluate and report on progress under the Plan in achieving the overall goal of reducing total greenhouse gas emissions to 1990 levels by the year 2000. The Administration will update the Plan, as necessary. This third step involves revising projections of greenhouse gas emissions based on current inventories and the actual and projected greenhouse gas emissions. These projected emissions will be governed not only by the performance of Action Plan programs, but by changes in factors beyond the control of the Administration, such as economic growth, energy market conditions, and

appropriations for program implementation. EPA and the Department of Energy will co-lead an inter-agency process to accomplish this third step. We will revise projections of program achievements, assess the amounts by which we expect the Action Plan initiative to reduce the projected emissions and evaluate how close we are to the programs' targets. We are confident that our programs, fully implemented, will deliver the emission reductions that we estimated in October of 1993. We realize, however, that future economic and energy market conditions may require additional actions in order to return greenhouse gas emissions to 1990 levels by the year 2000. The Administration is committed to periodic evaluation of the Climate Change Action Plan and to changes in the plan if necessary. Such an evaluation will occur at least every two years.

If further action is needed, the Administration is prepared to make modifications to the Plan, as necessary. The Plan was designed to be flexible and to allow for adjustments as they are required. We will be constantly evaluating how economic conditions, the response of Action Plan participants, and our own funding is affecting our success in meeting the President's goals, and we will make those changes that are warranted. We continue to welcome the input of Congress, the States, the public, and the private sector in that process.

The Climate Change Action Plan and U.S. Competitiveness Abroad

The Administration seeks to ensure that the U.S. mitigate its share of global emissions of greenhouse gases in a way that enhances our continued competitiveness in the world's economy. The actions in this plan are primarily

voluntary, promote profitable investments, and thus by their very nature should enhance the efficiency of American business, and its competitiveness abroad.

We recognize, also, that there are many important and cost-effective opportunities for greenhouse gas emission reductions in overseas markets -- some of which would not be realized without U.S. assistance. The EPA supports the President's pilot Initiative on Joint Implementation (IJI) included in the Climate Action Plan. We believe it will help engage the rapidly expanding developing economies in the global climate effort. IJI may also have the side benefit of enhancing U.S. access to markets for technologies for energy efficiency and environmental technologies, especially those being developed as part of the Plan. I would like to note that EPA's Climate Change program supports other initiatives which also advance low emission U.S. technologies and their export. For example, we are working within the Environmental Technology Initiative to assist the International Fund for Renewables and Energy Efficiency (IFREE), which we have co-sponsored with DOE and USAID, to overcome barriers to the export of commercial U.S. renewable and efficient energy technologies. Such initiatives can help U.S. business lower the costs of mitigating climate change, and reduce greenhouse gas emissions both here and abroad.

EPA is also concerned that other countries do their share to reduce emissions and increase greenhouse gas sinks. The U.S. Country Studies Program helps developing and transitional economies to build capacities to establish their own national responses to climate change. We also initiated a process coordinated

through the OECD to review the national plans of other Parties to the Climate Convention, and to ensure that we are all on track to meet the commitments under the Framework Convention. The first national communications are due this Fall, and we should be able to report around the end of this year on the status of other countries' plans. I believe the State Department will address these international initiatives in more detail.

Conclusion

The Administration takes seriously its commitment to the world to reduce greenhouse gas emissions to 1990 levels by the year 2000 in accordance with the aim currently contained in the Framework Convention on Climate Change. The U.S. has taken the lead not just to declare policy, but to implement effective programs to meet this goal. EPA is working to achieve our climate change commitments through the Climate Change Action Plan in a way that will enhance our economy and international competitiveness.

Some concern has been expressed that recent economic and energy market conditions would make it more difficult to reach the 1990 target level by the year 2000 under the Plan as currently structured. While this plan was predicated on assumptions about the future and about the impact of programs, it was also designed to be responsive and adaptable to changing circumstances. Specifically, we committed to periodic assessment, review, and, if necessary, expansion. However, the timetable for such review reflects the need to distinguish short-run fluctuations from changes in longer term trends, and we are currently assessing the

implications of recent shifts in market conditions on our forecasted levels of emissions. At the same time, we are committing our resources and energy to implementing the ambitious slate of programs currently identified.

We welcome feedback from the Congress on how we might better design and evaluate our programs. We also would remind you that adequate funding of the Climate Change Action Plan is needed to fulfill our commitment to reduce greenhouse gas emissions to 1990 levels by 2000. This tangible commitment is essential to our leadership in the global climate effort and, frankly, to our success. It obviously will be difficult to persuade other countries to sustain their commitment to meaningful reductions of greenhouse gases if we are underfunded and backtracking ourselves. We therefore ask your support for EPA's FY '95 budget request of approximately \$107 million and 153 FTE.

This concludes my prepared testimony. I would be pleased to answer any questions you may have.

STATEMENT OF CHRISTINE A. ERVIN
ASSISTANT SECRETARY FOR
ENERGY EFFICIENCY AND RENEWABLE ENERGY
BEFORE THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR REGULATION
UNITED STATES SENATE
APRIL 14, 1994

Mr. Chairman, Members of the Subcommittee, I am pleased to appear before you today to report on the substantial progress we have made towards implementing the President's Climate Change Action Plan.

As Assistant Secretary Tierney has just stated, it was six months ago that she appeared before this Subcommittee and testified that the Department of Energy would produce an implementation strategy for the Climate Change Action Plan. Secretary Tierney pledged that this implementation strategy would contain "milestones and metrics" that would enable observers to gauge whether our Plan was working in each successive year, so that we will not approach the year 2000 without a clear sense of whether our Plan is achieving its target.

In the Office of Energy Efficiency and Renewable Energy, we have the direct responsibility to implement almost half of the Climate Plan -- 21 out of 46 total Actions. We have made the Climate Plan our highest planning priority, and we have been working towards implementation almost since the day the Plan was issued. We have developed an implementation strategy that is extremely comprehensive and flexible, and allows us to examine and adjust our portions of the Climate Plan as we observe which are more successful than others. Each of our 21 individual implementation plans has embedded milestones and metrics. We fully expect to be able to report our progress to the Congress, and to the American People, periodically.

Two other Department of Energy offices have responsibility for three additional actions in the hydropower and gas technology areas. The Office of

Policy, Planning and Evaluation and the Office of Fossil Energy are planning for aggressive implementation of these actions.

In my testimony today, I will explain to you the principles and the process we have used to design our Implementation Plan, and why we believe our implementation strategy is flexible and robust. Before I do this, however, two introductory points are in order.

First, up to this moment the vast majority of our efforts towards implementing the Climate Change Action Plan have been planning rather than implementation itself. Although we have the legislative authority to carry out the Plan, we will have no appropriated funds for implementation until FY95. It is our intent to use the time period between the release of the Plan and the beginning of FY95 to ensure that our implementation planning is careful, comprehensive, and ready to execute as soon as possible in FY95. The preliminary result of this effort are the detailed draft program plans which have been provided to the staff of this Subcommittee.

My second point has to do with our ability to calibrate and adjust our programs as we observe our progress between now and the year 2000. We have a very large and diverse group of programs, and it is likely that some programs will exceed their target while others lag behind. Our implementation framework allows us to shift resources towards markets and programs that show greater potential on an annual basis, after careful evaluation and deliberation. We believe that our implementation strategy provides additional assurance that the President's Plan will effectively reduce greenhouse gas

emissions, assuming Congress supports implementation of the Plan as we have designed it.

BACKGROUND

The Climate Change Action Plan (CCAP), announced by the President on October 19, 1993, represents a set of programs designed to meet the Administration's simultaneous goals of creating jobs, decreasing energy costs for homes and businesses, and fulfilling our national commitment to reduce greenhouse gases to 1990 levels by the year 2000 without harming economic growth.

The twenty-one programs in the CCAP that are the primary responsibility of the Office of Energy Efficiency and Renewable Energy are almost entirely drawn from authorities under the Energy Policy Act of 1992 (EPACT) which to this point have been implemented at a modest pace. As a result, the CCAP should be viewed largely as a set of newly or more aggressively implemented EPACT programs. We use the acronym "EPACT/CCAP" to emphasize this point.

OUR PROPOSED EPACT/CCAP PROGRAMS ARE DESIGNED TO AVOID CREATING NEW OR DUPLICATIVE BUREAUCRACIES

Beyond our integration efforts, the programs in this implementation plan reflect a set of "design principles" meant to ensure that each program is likely to be cost-effective and can be monitored, adjusted, altered or terminated as needed, so as to meet our overall economic and environmental objectives. The principles are:

- * Maximum use of existing deployment mechanisms;

- * Integration with on-going programs;
- * Extensive involvement of stakeholders in program design;
- * Tracking and measurement of program success;
- * Leveraging of additional resources through public-private partnerships; and
- * Flexibility for varying geographic and market circumstances.

These design principles are essential if government deployment programs centered on voluntary, cost-effective energy efficiency measures are to be successful.

BUILDING ON EXISTING DEPLOYMENT MECHANISMS AND LEVERAGING DOLLARS

These principles serve as a reminder that any one of our programs is generally not the only or even the largest deployment influence on the energy marketplace. State Energy Offices, Electric and Gas Utilities, Local and County Governments, Community Action Agencies, other Federal agencies, and many other groups have been operating deployment programs for many years. These programs vary in scope, objective, and effectiveness, and each can play a significant role in deployment. These programs exist now and represent an enormously powerful infrastructure. As an example, electric utilities presently spend over \$2 billion per year on energy efficiency programs.

A key component of our action plans is the emphasis which it places on public/private partnerships. From the Golden Carrots, market-pull activities to the renewable energy collaboratives, each plan is contingent on the full partnership of outside constituencies. This partnership approach makes smart

use of limited federal resources while improving program effectiveness by working directly with industry and other constituencies to identify the real barriers to deployment of efficiency and renewable energy technologies.

We seek also to induce competition between existing programs so as to improve all of the programs, not just the ones who win the contest and receive our assistance. As a condition of working with us, we propose to require that existing programs use "best practices" and allow us to ensure that the cost-effectiveness of our activities are clearly measurable. To serve regions of the country where no programs presently exist, and to foster greater competition, we allow for start-up programs to participate as well.

OUR EPACT/CCAP PLANS ARE CAREFULLY INTEGRATED WITH OUR EXISTING BASE PROGRAMS

The original specification of the CCAP initiatives was intentionally flexible in order to accommodate refinements and integration as detailed implementation proposals were developed. Consistent with the guidance of Secretary O'Leary, Energy Efficiency has invested an enormous effort to ensure that our implementation plan is well-integrated with our ongoing or "base" programs.

To understand our integration and coordination effort, note that our base programs increase energy efficiency and the use of renewables by investing in activities that span all parts of the product life cycle, from research at the front end to activities involving mature technologies and markets. Many of our base programs are applied R&D, which means they assist industries with the development of new technologies, though several significant base programs (e.g., Weatherization and the Federal Energy Management Program [FEMP])

increase energy efficiency by deploying mature technologies.

The EPACT/CCAP programs discussed in this implementation proposal are primarily intended to act towards mature technologies. We have integrated the EPACT/CCAP programs with our base. All proposed programs address the impediments to greater use of efficient and renewable technologies without drawing artificial boundaries between base and new programs and do not duplicate existing Federal or state efforts. For example, though our Weatherization program and the Federal Energy Management program are not officially a part of the CCAP, both complement the newer programs. In calculating the size and scope of the EPACT/CCAP effort, existing programs such as FEMP and Weatherization grants were assumed as current contributors to greenhouse gas reduction and greater energy efficiency. With these assumptions in place, the target sectors for achieving enhanced emissions reductions were identified. Each new EPACT/CCAP program was then carefully designed to leverage these existing programs as well as outside resources.

The general program design process began by dividing the energy marketplace into submarkets or segments and studying the barriers to energy efficiency and renewable energy in each segment. We then examined how existing energy efficiency and renewable deployment programs in each segment work and devised a strategy designed to address market barriers in a cost-effective manner.

MAXIMIZE STAKEHOLDER INVOLVEMENT

The third design principle is the involvement of our stakeholders, in the design of the programs as well as their implementation. Early stakeholder

involvement and support for the initiatives is key to the success of the entire program. Because we seek to leverage our resources and use existing deployment mechanisms, the involvement of outside groups takes on an importance unprecedented in the Department's programs.

Key participants in this effort have been the various representatives of the State Energy Offices throughout the country. In addition to the States, local government and regulating officials are working with us and with industry to design the best approach to accomplish the goals of each action item.

To facilitate stakeholder communication and accelerate the program development process, the Office of Energy Efficiency and Renewable Energy created a coordination center called the Green Room. The Green Room facility embodies Secretary O'Leary's new way of doing business and the Administration's efforts to reinvent government. Through this facility, program managers share information about Plan initiatives, coordinate with one another, brainstorm creative solutions, and seek input from industry, regulators and local government representatives. State Energy Offices have loaned personnel to the effort, thus leveraging additional resources. This co-location of personnel is designed to foster the coordination and focus needed to develop effective, targeted programs as swiftly as possible.

To further increase stakeholder involvement, we are hosting a series of workshops around the country to solicit input from States, localities, industry, utilities, non-profit organizations and others. By taking the Plan beyond the Washington, DC area we hope to receive a variety of views which

reflect the regional diversity of our constituency. To date, we have received excellent input that will substantially improve the effectiveness of these programs.

TRACKING AND MEASURING PROGRAM PERFORMANCE IS BUILT IN TO THE DESIGN

Performance measurement, including milestones and metrics, for CCAP actions is one part of an on-going effort within the Office of Energy Efficiency and Renewable Energy to establish Quality Metrics for all of our programs. The overarching result we seek from our portion of the CCAP actions include: \$50 billion of private capital investment by the year 2000, greenhouse gas emission reductions of nearly 40 million metric tons and energy cost savings of \$30 billion by the year 2010.

The measures of success we propose for the individual CCAP implementation plans include the long term impacts of the program on **the economy**, such as capital investment generated and energy productivity; **energy**, for example, energy savings and renewable production; **environment**, such as the amount of carbon and waste reduction; and **equity**, to include incidence of cost and benefit, demographic impacts and risk.

We also propose short term indicators such as: progress toward program objectives, market penetration and assessments, client satisfaction, changes in public opinion, cooperation and coordination. As appropriate, we propose to measure: new technology developed from R&D; workshop, seminar and information/education results; partnerships and replications from demonstrations; applications of technical assistance; observations of

adoptions from regulations and standards; intergovernmental agreements; response to incentives; and cites or interactions from communications.

Milestones and metrics are included in each action implementation plan. Including the need for this information in the program design will enable us to report to you in subsequent years on the progress we are making and on the very specific benefits of our work. We propose to monitor a variety of factors which together should keep us well on track with our objectives.

FLEXIBILITY FOR VARYING GEOGRAPHIC AND MARKET CIRCUMSTANCES

The final guiding design principle was to keep in mind that what works in one part of the country or in one segment of the market may or may not work in another. These actions are carefully designed to build solutions to market impediments with as much flexibility for differences as possible. The CCAP actions target specific segments of the energy use sectors with different approaches. Taking advantage of the stakeholder partnerships to accurately define the idiosyncrasies of the problem in the design process has proven to be an effective tool to provide our plans with the necessary flexibility.

SUMMARY AND CONCLUSION

In closing, the EPACT/CCAP programs in this implementation proposal have been carefully designed to complement our existing programs and complement each other. In some cases, reading the text of individual implementation plans one by one does not adequately illustrate the amount of integration and comprehensive planning embodied in our proposal.

EPACT and CCAP together represent an important attempt to demonstrate the significance of pursuing cost-effective commercialization and deployment activities to make our economy more efficient, create jobs, and meet important environmental commitments. The Office of Energy Efficiency and Renewable Energy recognizes that the design of cost-effective deployment programs in an era of enormous Federal budget pressures demands that we carefully target and account for our efforts. Each of the individual programs that follow carefully articulate their objective and their strategy for achieving their objective. We recognize that only through such major planning efforts will we create, in the most reliably and objective manner, programs that meet the Administration's broadest economic and environmental goals.

With respect to the federal budget, let me repeat the points that Sue Tierney made. We are eager to implement the Climate Change Action Plan and to succeed in meeting the President's objectives to achieve the emissions reduction goals. To accomplish this we are counting on the Congress to provide the bulk of the amount requested in the President's budget for Climate Change programs. We respectfully ask for your help to achieve this goal.

Let me repeat another point which Sue Tierney made concerning the possibility that we may have difficulty achieving the President's goals because of declining oil prices, changes in economic growth and other factors. We have a good deal of confidence in the Plan that we prepared. That Plan notes that we will make changes as circumstances warrant. We are reviewing comments by various groups who are skeptical about the prospects of our success. We need time to digest these criticisms. We look forward to working with you on any

changes which may be needed.

Thank you for the opportunity to present this testimony. I am happy to address any questions you may have.

STATEMENT OF SUSAN F. TIERNEY
ASSISTANT SECRETARY FOR
POLICY, PLANNING AND PROGRAM EVALUATION
BEFORE THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR REGULATION
UNITED STATES SENATE
APRIL 14, 1994

Mr. Chairman, Members of the Subcommittee, when I appeared before you and your full Committee last October 26 to present the President's Climate Change Action Plan, I promised to come back at your request and give you a progress report. With the Action Plan almost six months old and Earth Day a week away, it gives me great pleasure to appear before you today to bring you up to date on the activities of the Department of Energy in this arena.

When we view DOE's climate change activities over the past six months, we see several things: programs implementing policies enacted by the Energy Policy Act of 1992 and expanded by the Action Plan, and initial activities toward the development of new policy initiatives as announced in the Plan itself. I plan to talk about our overall progress, while Christine Ervin, the Assistant Secretary for Energy Efficiency and Renewable Energy, joins me today to address the implementation of climate-related actions by DOE programs.

TECHNICAL SUPPLEMENT TO THE CLIMATE CHANGE ACTION PLAN: Since we last met, the Framework Convention on Climate Change entered into force. As a consequence, the National Communication of the United States required by the Convention is due on September 21, 1994. The Administration expects the Climate Change Action Plan released last October to provide the cornerstone of this communication. This cornerstone will be greatly strengthened by our release last month of a document, coordinated with the Environmental Protection Agency (EPA), and the Departments of Agriculture and Transportation, that fully explains the analyses that underlay the President's decisions reflected in the Climate Change Action Plan.

I would ask that the document "The Climate Change Action Plan: Technical Supplement" be made part of the record to explain further the original Plan document. This Technical Supplement documents the assumptions and parameters used in analyses supporting the Action Plan. It is intended to meet the needs of government, private sector and independent energy and environmental analysts who wish to better understand the Plan, its analytical underpinnings, and the efforts that are needed for emission reductions to be realized.

The Technical Supplement describes the origins and context of the Climate Change Action Plan. It details the emission baselines for all the gases tracked in the Plan, the year-by-year reductions in emissions of each gas that are associated with each program in our plan, and other pertinent information for each of the proposed actions. A description of the integrating framework and a report detailing integrated modeling results for all energy-related actions are also provided. We believe this Technical Supplement will make the Plan more transparent and credible.

DOE'S INTERNATIONAL ROLE: The Department has also been actively involved with the Department of State and the EPA in the development of international reporting rules for the national communications required by the Framework Convention on Climate Change in order to assure transparency and consistency to enhance their usefulness. The policies underlying how much and in what format greenhouse gas information should be reported in these communications have been the subject of two recent international meetings, including the ninth session of the Intergovernmental Negotiating Committee (INC) this past February in

Geneva. At this meeting, the U.S. position met with approval; namely, that all gases should be reported, that "sinks" should be included, and that global warming potentials may be used. We expect to continue to be actively involved on the U.S. team as we move forward to INC-10 and -11 and the first Conference of the Parties in March, 1995 in Berlin.

I would like to make the Subcommittee aware of a related environmental program in which DOE actively participates together with ten other agencies. Through the Country Studies program, we are making a concerted effort to help other nations who are signatories to the Framework Convention on Climate Change meet their commitments. Through this program, we will fund studies for up to 60 developing countries and countries in transition who do not have the financial, and often the technical, resources to develop their inventory of greenhouse gases, a requirement of the Convention. In addition to the inventory, we are encouraging nations to look at their vulnerabilities to climate change and possible adaptation measures in sectors such as agriculture and forestry, and to look at possible mitigation actions. A unique aspect of the Country Studies Program is the objective to build the capability to do climate work in the countries themselves. This leads to "buy in" from these governments to take constructive action once they have a baseline inventory of their greenhouse gas emissions.

Finally, let me mention that during this past month, the Departments of Energy and State represented the United States at an international meeting on global climate change and energy policies, attended by the Energy Ministers of the member countries of the International Energy Agency. The Ministers' informed, off-the-record discussion focused on how nations

are devising energy policies that will help enable their countries to meet their international climate change commitments. There was serious interest in our Climate Plan's innovative use of market-based strategies and government/private partnerships.

SECTION 1605(b) OF THE ENERGY POLICY ACT OF 1992: Reference is made in the Action Plan to voluntary reporting of some of the results of the individual actions. The Department of Energy, in consultation with the EPA, is preparing guidelines to allow for voluntary reporting of greenhouse gas emissions to the Energy Information Administration as authorized by Section 1605(b) of the Energy Policy Act of 1992. DOE has held six public workshops in which it solicited stakeholder views on a series of working papers in order to guide our efforts. Issues regarding the scope of the program (e.g., who can report, what gases can be reported, whether both source and sink projects are reportable) and the use of reference cases were two major topic areas. We plan to issue draft guidelines for public comment shortly and hope to have final guidelines published within this fiscal year. We expect the database that will eventually be created through companies' voluntary reporting of reduction strategies will be a source of valuable information on greenhouse gas reduction activities.

DOE STRATEGIC PLAN AND CLIMATE CHANGE: Now let me turn to another important activity underway at DOE, our strategic planning exercise, which is the overall priority setting context in which our critical climate change work is taking place. This strategic plan weaves the President's climate change priorities fully into the fabric of DOE's

work. It is my pleasure to report that this document was released yesterday to the Congress and ask that it be placed in the record. This Plan was provided to all of our employees last week. Because this plan charts the Department's course for the 1990s, I would like to describe briefly this plan's purpose and overall contents, and then focus on the sections that relate to the Climate Change Action Plan.

The Department of Energy's priorities are changing in line with significant changes in the character of the Department's job. The end of the Cold War, the increasingly global character of our economic markets and environmental issues, and the public's desire for change as expressed by the election of President Clinton and Vice-President Gore, have brought on significant changes in the environment in which the Department of Energy operates. Secretary Hazel O'Leary challenged the Department's employees to think strategically about how best to deploy the Department's scientific and technological assets to help solve the country's changing needs. Our strategic plan is the result.

Through our strategic planning efforts, we identified five businesses that most effectively utilize and integrate our unique scientific and technological assets, engineering expertise, and facilities for the benefit of the Nation. These new businesses which directly affect the security and the quality of life of every American, are:

Industrial Competitiveness: Promoting economic growth and the creation of high-wage jobs through research and development partnerships with industry; driving products into the domestic and international marketplace; and, helping industry become more competitive by cost-effectively shifting from waste management to resource efficiency and pollution prevention.

Energy Resources: Encouraging efficiency and advancing alternative and renewable energy technologies; increasing energy choices for all consumers; assuring adequate supplies of clean, conventional energy; and, reducing U.S. vulnerability to external events.

Science and Technology: Using the unique resources of the Department's laboratories and the country's universities to maintain leadership in basic research; focusing applied research in support of the Department's other business lines; and, maintaining world technical leadership through long-term, systemic reform of science and mathematics education.

National Security: Effectively supporting and maintaining a safe, secure, and reliable enduring weapons stockpile without nuclear testing; safely dismantling and disposing of excess weapons; and, providing the technical leadership for national and global nonproliferation activities.

Environmental Quality: Understanding and reducing the environmental, safety, and health risks and threats from DOE facilities and decisions; and, developing the technologies and institutions required for solving domestic and global environmental problems.

We recognize that our organizational systems need realignment and integration so that we can most effectively produce results for the American people. We have identified four such critical success factors: Communication and Trust; Human Resources; Environment, Safety, and Health; and, Management Practices. Part of our plan indicates how we must do things differently in these four critical sets of systems in order to produce the results we hope to accomplish for the American people.

The strategic plan relates to the Climate Change Action Plan in two principal ways, through the Industrial Competitiveness and Energy Resources business lines. In both, we have developed visions, goals, strategies, and success indicators that address global warming issues.

Industrial Competitiveness. Industrial competitiveness requires partnering with industry and other Federal agencies to put the vast scientific and technological assets of the Department and its laboratories and facilities to the best use in advancing the U.S. position in a global market that is increasingly competitive. Continued scientific and technological innovation is the key to sustaining long-term economic growth to the year 2010 and beyond.

High-wage jobs will be created by economic growth based on technological innovation. At the same time, a cleaner environment, both here and abroad, will result from continued DOE-led research in energy and material efficiency for industrial processes. Industrial resource efficiency prevents pollution and increases competitiveness by improving overall process efficiency, while simultaneously helping to promote the knowledge-based jobs that are the key to enduring economic success. This technology strategy is also the key to sustainable development, which in turn is critical to our meeting our climate change commitments.

Energy Resources. A strategic energy policy is essential to promoting economic growth, high-wage jobs, and energy security while preserving the environment. Improving the efficiency with which the Nation uses energy is essential to reconciling these goals. Our strategy for efficient energy use is built on the foundations established by the Energy Policy Act of 1992, and is further supported in the Climate Change Action Plan.

Fossil fuels will remain critical components of energy supply in every nation for the foreseeable future. Domestically, coal, natural gas, and oil will continue to provide the majority of energy for electricity generation and for the commercial, industrial, and transportation sectors. We must focus on using these fossil fuels more efficiently and cleanly, reducing their contribution to global warming and ground-level pollutants.

The Federal Government can set an example for the Nation through the improved energy management of its buildings and facilities and through the wider use of energy efficient,

alternative fuel vehicles. The President recognized this by signing a recent Executive Order, "Energy Efficiency and Water Conservation in Federal Facilities" (Executive Order 12902, March 8, 1994). The President's Climate Change Action Plan supports this Federal leadership, and will also provide a catalyst for mobilizing the public/private cooperation necessary to increase the use of energy efficiency and renewable energy.

LONG-TERM STRATEGIES, JOINT IMPLEMENTATION AND LEGISLATIVE

ACTIONS: Before I turn to Christine Ervin to address program implementation of the Climate Change Action Plan, I would like to address the long-term and joint implementation strategies identified in the Action Plan and the two actions in the Plan that require legislation: (1) the "parking cash-out" action and, (2) the hydro leasing action.

Long-term Strategies: The Plan calls for the National Economic Council, the Office on Environmental Policy and the Office of Science and Technology Policy to co-chair a working group "to examine all budget, technology, R&D, regulatory and economic policies that could impact greenhouse gas emission levels beyond the year 2000." While this group is still in the information gathering stage, the Department expects to be actively involved as it moves to consider post-2000 possibilities. A similarly chaired working group will "develop measures to significantly reduce greenhouse gas emissions from personal motor vehicles." DOE is also participating in this working group.

Although the Climate Change Plan contains several measures to reduce greenhouse gas emissions from the transportation sector, the Plan recognized the need for significant, cost-effective, longer-term efforts to reduce greenhouse gas emissions from automobiles and light-duty trucks. The Climate Plan directed three policy offices in the Executive Office of the President -- the Office on Environmental Policy (OEP), the Office of Science and Technology Policy (OSTP) and the National Economic Council (NEC) -- to co-chair a process, in consultation with other relevant agencies of the Federal Government, to develop policies to significantly reduce greenhouse gas emissions from personal motor vehicles in the years after 2000. The Department of Energy has been an active participant in the planning of this process.

We will soon announce the establishment of an Advisory Committee as the means to attempt to develop this consensus. The goals of the Advisory Committee will be to attempt to develop a consensus among major stakeholders on the sets of policies that would, if adopted, most cost-effectively return greenhouse gas emissions from cars and light trucks to 1990 levels within three optimal time frames (i.e., the years 2005, 2015, and 2025) with no upturn thereafter. The Advisory Committee will consider a broad range of policy alternatives, including policies affecting: (i) demand for personal vehicle travel; (ii) vehicle and fuel technology changes (including increases in vehicle and fuel system operating efficiency); and (iii) shifts in consumer choice among vehicle and fuel technology options. This dialogue will consider those policies that can be implemented by the Federal government, but such policies will be considered in the context of what can and should be accomplished at the State, local,

and regional levels, and by private parties, both consumers and producers.

Joint Implementation: As you know, "joint implementation" refers to the provision in the Climate Convention that allows Parties to undertake their greenhouse gas commitments jointly with other Parties. Such joint implementation actions are a recognized approach in the Framework Convention. We are extremely excited by the large potential joint implementation has for combatting the threat of global warming and for promoting sustainable development. The Administration is mindful of the many questions that have arisen about the details on how best to proceed on joint implementation projects. For this reason, the State Department has called for public comment on our U.S. Initiative on Joint Implementation, which was described in the Climate Change Action Plan. DOE is actively participating in the review of those comments and expects to be closely involved in providing technical assistance and in evaluating potential projects in this initiative.

The cooperation among agencies in these programs is also exemplary. For example, DOE, EPA and the State Department have set up integrated management teams on elements of the program that require daily interaction at the staff level.

Parking Cash-out: DOE is also involved in developing the "Cash-out" initiative, led by EPA and the Department of Treasury. This initiative will convert an existing parking subsidy targeted at employer-paid parking into an incentive for commuters to carpool, ride mass transit, or find other non-auto ways to work. Employees given subsidized parking at work

will have the option of retaining the parking space or accepting a cash allowance equal to the market cost of the parking space. Commuters would then have the opportunity to "cash out" a fringe benefit, at no cost to their employers.

The Administration supports changes in the tax law necessary to bring about parking subsidy reform. The change will specifically require employers who pay for employee parking to also offer the choice of an equivalent (taxable) cash payment or (tax-free) transit pass. Certain businesses will be exempted, including small businesses and those for which employee parking costs fall below a *de minimus* level. In addition to the tons of greenhouse gas emissions that will be reduced as a result of this initiative, at least \$650 million in new Federal revenue is expected to be raised through the year 2000.

Hydro leasing: In the Climate Change Action Plan, the President directed the Administration to propose legislation to enable non-Federal developers to invest in environmentally sound upgrades at existing Federal hydroelectric projects and to sell the incremental power at market rates. Although significant technological potential exists for increasing generation at hydroelectric facilities, without changing streamflows, in the past, institutional barriers have stifled efforts to make these profitable efficiency upgrades. Investments to upgrade the efficiency of these facilities would increase generation at them, displacing fossil fuel-fired generation elsewhere on the grid.

In January the Department conducted a workshop with representatives of all stakeholders of this initiative. We received a great deal of positive feedback from industry, from environmental groups, and from taxpayer and public interest groups. Opposition was expressed by the public power groups. We have continued our discussions since that time and are committed to accommodating as many of those concerns as possible.

In the meantime we are moving ahead on two fronts. First, we are assisting in drafting legislation which the Administration hopes to submit to the Congress by the end of June. Second, we have requested reprogramming of funds to commence reconnaissance studies of existing Federal hydroelectric projects to determine the potential for upgrades. We are working with the Corps of Engineers, the Bureau of Reclamation, and the Power Marketing Administrations on both of these efforts.

We believe that the legislation that we are preparing will be a win-win proposal for all stakeholders. It will be a win for the environment because it will reduce greenhouse gas emissions. It will be a win for energy consumers because it will provide up to 2 gigawatts of new, cost-effective hydroelectric capacity. It will be a win for the economy of the communities in which these projects are located because it will stimulate investment of over a billion dollars. It will be a win for current Federal power customers because it will reduce their power costs by reducing operating and maintenance costs, improving reliability, and extending the life of the improved facilities. In addition, Federal power customers will continue to receive, under the existing pricing structure, all of the hydroelectric power they

currently receive. Finally, this initiative will be a win for taxpayers because it will generate non-tax revenues for the Treasury from lease payments by developers. These revenues will help reduce the deficit.

CONCLUDING REMARKS: In closing, some concern has been expressed that recent economic and energy market conditions would make it more difficult to reach the 1990 target level by the year 2000 under the Plan as currently structured. While this plan was predicated on assumptions about the future and about the impact of programs, it was also designed to be responsive and adaptable to changing circumstances. Specifically, we committed to periodic assessment, review, and, if necessary, expansion. However, the timetable for such review reflects the need to discern short run fluctuations from changes in longer term trends, and we are currently assessing the implications of recent shifts in market conditions on our forecasted levels of emissions. At the same time, we are committing our resources and energy to implementing the ambitious slate of programs currently identified. We continue to have confidence that our programs will continue to be effective provided we receive strong Congressional support for our Fiscal Year 1995 budget request. Finally, we realize that future economic and energy market conditions may require additional actions in order to return greenhouse gas emissions to 1990 levels by the year 2000. The magnitude of any potential shortfall, however, is in the process of being analyzed, and we are continuing to identify additional actions that may be utilized to address any shortfall. We stand committed to meet the President's Climate Change goal.

My comments to this point have been directed primarily at the policy-driven climate activities of the Department. Once policies have been determined, it is the responsibility of the program offices to turn them into reality, into meaningful programs that can deliver a reduction in greenhouse gas tons. To that end, our program offices have developed detailed implementation plans to carry our climate policies forward. Assistant Secretary Christine Ervin will now address the activities of the program offices in this regard. Following her statement, I will be happy to answer any questions you may have.

STATEMENT OF HAZEL R. O'LEARY

SECRETARY OF ENERGY

BEFORE THE ENERGY AND NATURAL RESOURCES COMMITTEE

UNITED STATES SENATE

MAY 10, 1994

INTRODUCTION

Mr. Chairman and Members of the Committee:

Thank you for giving me the opportunity to highlight the Department's efforts and achievements in implementing the Energy Policy Act of 1992 and to present the Administration's strategy for addressing global climate change. I am happy to appear today with my colleague Bob Sussman from the Environmental Protection Agency and with Rafe Pomerance, our able State Department delegate in international climate change negotiations.

In 1992, the Congress, through this Committee's leadership, enacted the Energy Policy Act. That legislation gave the Department of Energy new authority and responsibility to address both near-term and long-term energy and environmental issues, and to pursue a wide range of voluntary and mandatory public and private actions. The philosophy embodied in the Energy Policy Act has become a central part of our vision and mission.

Key sections of the Energy Policy Act also motivated much of the President's Climate Change Action Plan, which emphasizes voluntary partnerships with utilities, states, and industry to achieve the goals of greenhouse gas emission reduction, job creation, and economic growth. The Department is aggressively implementing programs that focus on rapid market deployment of energy efficiency and renewable energy technology and that encourage voluntary and flexible approaches to attaining important environmental goals. Owing to the strong statutory foundation provided by the Energy Policy Act, these Action Plan programs will reduce emissions quickly while creating jobs in the near-term.

We are now entering a crucial phase. At this stage:

- aggressive deficit reduction forces us to consider how we can meet our goals with less money through rigorous **priority setting**;
- some Members of Congress and some in the environmental community and Members of Congress question **whether our plan can really meet the President's goal**;
- the Department is committed to **implementing our Energy Policy Act and Climate Change Action Plan programs and systematically tracking our progress**;
- the Intergovernmental Negotiating Committee has begun to assess the Framework Convention on Climate Change with a **long-term, global perspective**.

We have made substantial progress in setting priorities to meet our commitments. Actions already underway have garnered tremendous support from our partners in the public and private sector who have embraced the principles of flexibility and cost-effectiveness upon which the plan

is built. We are exploring opportunities for increased international cooperation and global emission reductions. Finally, we will conduct an open and public dialogue as we develop long-term policies to address climate change.

SETTING PRIORITIES TO MEET OUR COMMITMENT

We developed implementation plans for the Climate Change Action Plan recognizing that budgets were tight. We made every effort to streamline and focus the programs to deliver results with limited funds, to work better and to cost less. But there is a limit to how far we can sharpen our pencils in budgeting for these programs. One reason that our private sector partners have responded so enthusiastically to our programs is that they know that the Department stands ready to commit its resources to making them work. The key word here is *partnership* -- and as full partners in these efforts we must bring our talent and our resources to the private sector to help make the kinds of cost-effective emission reductions that we know are possible.

If fully funded, the Climate Change Action Plan would cost the Federal government \$1.9 billion between now and the year 2000. But our partners would leverage this spending by investing over \$60 billion in environmental technologies. These investments offer competitive rates of return, and would save over \$260 billion in energy costs between now and the year 2010. This new private investment will occur -- with some government encouragement -- because it makes good economic sense.

Specifically, the Administration has made a substantial request for funding the Energy Efficiency and Renewable Energy program because we believe that it represents the best approach to reach the emission reduction target to which the President has committed our nation. Our \$978 million request for Energy Efficiency is based on a balanced portfolio of Energy Policy Act programs that will help American industries, firms, and consumers improve energy productivity, increase competitiveness, and reduce waste. Of that total, \$119 million supports Energy Policy Act initiatives associated with climate change. I know that full funding of new or expanded initiatives is a tough sell in the current budget, and I have directed my staff to leave no stone unturned in finding savings that will not compromise our objectives.

We began by analyzing the Energy Efficiency budget. Through this preliminary analysis, we have concluded that a \$100 million reduction in our request for Energy Efficiency would reduce our capability to deliver program results. Nevertheless, our analysis shows that we could still meet the year 2000 emission reduction goal by carefully preserving priority programs, by making selective cuts in base programs with little emission impact, and by downsizing or deferring lower-priority and longer-term climate programs. However, we would need to make up any shortfalls in subsequent budget requests. A \$120 million dollar reduction would significantly impair our effectiveness and put the emission reduction target at substantial risk. According to our analysis, reductions beyond the \$120 million level will make the President's commitment virtually impossible to meet. For example, a \$150 million dollar cut would raise emissions in the year 2000 above the projected level by 11 million metric tons -- or 17% percent of the 66 million metric ton reduction that the energy sector is expected to contribute to meeting

the commitment. Under that scenario, we would be forced to examine alternative policy options to make up for the lost tons. Beyond a \$150 million dollar cut, the program is crippled and emissions would rise dramatically.

The impacts of funding cuts at these levels cannot be confined to the climate programs - under each scenario other key Energy Policy Act programs are affected. The Department cannot shield all high-priority programs and still maintain a balanced portfolio of activities. The bigger the cut, the more likely that Presidential initiatives, Department of Energy priorities, and programs with recognized Congressional support face significant risks. Moreover, many of these programs complement Action Plan initiatives and reduced support would further erode emission reductions. Further cuts would also diminish the national security, job creation, and energy cost savings benefits that these programs provide.

This is not a budget negotiating tactic -- this analysis is the Department's preliminary assessment of what we all face under some truly painful budget scenarios. As we refine this analysis, we will be glad to share the details with you at your convenience to show how we set priorities and their implications for key Energy Policy Act initiatives.

As you know, a few environmental groups have also raised concerns regarding our ability to meet our goals with reduced budgets. We share their concern regarding Congressional funding for many programs in the Plan -- funding, I would like to emphasize, that they strongly support.

The same groups have also raised concerns about the Action Plan's ability to return greenhouse gas emissions to 1990 levels by the year 2000 because the technical assumptions used in the Plan differ with recent short-term developments in energy markets, especially oil prices. Furthermore, they disagree with the use of carbon offsets from forestry programs in meeting emission reduction goals. With respect to the first point, it is a fact of life that oil prices are volatile -- and we share their concern that low oil prices could undercut the progress that we expect under the Action Plan. On the other hand, oil prices have rebounded nearly \$2.50 since the beginning of April, confirming our belief that long-term plans should not chase short-term fluctuations. Second, the Framework Convention permits countries to count emissions sequestered from improved forestry management and tree planting programs, and these options offer a significant low-cost opportunity to reduce net greenhouse gas emissions. In addition, many of the specific suggestions put forward by these groups might not only increase costs to businesses and consumers, but also would require significant additional federal resources beyond those that we have requested for our program.

Finally, some critics also question the ability of voluntary programs to deliver the promised results. I have found that most companies are eager to demonstrate progress in solving environmental problems. I know that American business is ready to take on the challenge, because I have personally enlisted many of my former colleagues in industry to join our programs. Of course, my sales pitch has been effective because I am able to point out that our programs are very cost-effective, and in many cases profitable. They are also responding because they understand that the alternative -- command and control mandates -- could impose

unnecessary costs on them. We are prepared to consider those less attractive options -- but only if our more flexible approach doesn't work.

We recognize that the year 2000 is only six years away. With this short time horizon, our best hope for reaching our goal is to use existing authority to leverage cost-effective, market-based actions that include alliances with the private sector. We simply lack the time for a drawn-out legislative and regulatory battle. If we attempted to reach the President's goal through legislation, it could take years to pass bills and to promulgate regulations. That is not what we want: we want results, and we need them now. Given sufficient resources from Congress, our partnership approach will get the job done quickly and cost-effectively. Mr. Chairman and Members of the Committee, we need your help to ensure the success of our programs.

IMPLEMENTATION IS GENERATING SUCCESS

We are confident that we can attain our goals, because we are already moving ahead and getting real commitments to take significant actions. Let me cite a few examples of our early success and demonstrate how the Energy Policy Act and the Climate Change Action Plan work together.

Section 1605(b) of the Energy Policy Act authorized the Department to establish a voluntary registry of greenhouse gas emissions and emission reductions. By submitting reports to the Energy Information Administration on activities that reduce greenhouse gas emissions, organizations can gain recognition for emission reductions. The Climate Change Action Plan uses Section 1605(b) to give electric utilities and large industrial utilities an opportunity to report their emission reductions undertaken to meet their commitments. Companies agree to set emission reduction targets and are given the flexibility to meet their individual emission targets by whatever means works for them -- responding to the President's call for creativity and ingenuity.

The response has been impressive. As of this Earth Day, five organizations representing 766 electric utilities volunteered to respond to the President's call to action by signing "The Climate Challenge Accord" with the Department of Energy. Each company can set specific goals, which recognize unique circumstances, and the agreements will require annual reporting of greenhouse gas emissions and regular review to help track progress toward meeting commitments. We expect that individual companies will sign agreements after the Section 1605(b) guidelines are published later this year. We will have proposed guidelines issued by the end of this month.

Some individual companies have already pledged emission reductions. For example, New England Electric Service committed to reduce its greenhouse gas emissions by 20 percent after 2000, and has entered into a partnership with the Conservation Law Foundation and other local public interest groups to continue to improve environmental performance. Public Service Electric and Gas Company has agreed to reduce emissions and work with the Environmental Defense Fund. These stories are being replicated by other utilities who are committed to change.

Companies such as AT&T, Weyerheuser, Quad Graphics and Martin Marietta have pledged to participate in similar programs for industrial emitters and many more are expected to join. For example, DuPont has pledged to reduce its greenhouse gas emissions by 40 percent -- 10 million metric tons -- by 2000. United Parcel Service has pledged to reduce greenhouse gases in its delivery operations. The Department is exploring broad-based program options for oil producers such as the Sun Company and BP America and is working with the American Petroleum Institute to design an industry-wide approach. Finally, 18 member companies of the National Coal Association are working with the Association and the Department to see how best to achieve emission reductions. This response confirms an old adage that the best in Americans comes out when they are issued a challenge.

Many other Climate Change Action Plan programs based on the Energy Policy Act will complement and reinforce corporate-wide efforts to reduce greenhouse gas emissions. For example, Section 2105 establishes a research, demonstration, and deployment program for efficient industrial electric motor systems. Sixty-three utility and manufacturing companies, such as 3M Corporation and Dow Chemical, have pledged to improve the efficiency of their motor systems through the Department's Motor Challenge program.

The response has been overwhelming, because we developed our programs in concert with our prospective partners. Seven workshops throughout America have brought in over seven hundred stakeholders to comment on and participate in the crafting of detailed Climate Change implementation plans for programs in every sector of the economy. The Department's climate coordination center has responded to over 3,000 inquiries for information about participating in the Plan's programs and has sent out over 5,000 pieces of literature in response to request for information. The plans are also available on State Energy Office electronic bulletin boards for ready access.

The Climate Change Action Plan programs are the Department's most recent response to the Energy Policy Act, but there are many other programs called for by the legislation that are being implemented and that have met with great success. The Department is moving aggressively to implement the Federal Energy Management Program and the authority granted to initiate performance contracting. The Department has just issued a Notice of Proposed Rulemaking to establish procedures and facilitate the issuance of these innovative financing contracts. We plan to develop 25 contracts with energy service companies within the next year which will leverage approximately \$100 million in private funds.

Programs to accelerate the deployment of alternative fuel vehicles are also well underway. Through the Federal Fleet purchase program, 10,900 alternative fuel vehicles have been purchased since the program's inception, with an additional 7,700 scheduled for purchase in this year alone. The Department has also established the Clean Cities program to help align the federal purchases of alternative-fueled vehicles with the specific economic and environmental needs of urban areas. The program leverages the buying power of the purchase program to catalyze a local and industry commitment to install the infrastructure to support deployment. Since its inception only a few months ago, eight cities have joined the program and installation

of over 21 compressed natural gas refueling stations can be directly attributed to this program.

These are just a few examples of the progress we have made and the interest we are generating in response to the Congressional direction provided under the Energy Policy Act. In response to this legislation we are changing the way we do business. Drawing in partners from industry, utilities, the States and local government has proven to be a smart way to leverage limited federal resources and stimulate voluntary cooperation to national energy goals.

We are pleased with our initial success and look forward to the challenges ahead. In order to assure our success, the Department will continuously measure the performance of our programs using the milestones and metrics which have been built into each implementation plan. Programs will be monitored in clear terms -- such as audits completed and buildings retrofitted - - so that we can track the economic and environmental benefits from the Action Plan. These indicators will assure us that progress is being made toward the ultimate goals of greenhouse gas reductions. The annual inventory of greenhouse gas emissions provided by the Energy Information Administration under Section 1605(a) of the Energy Policy Act, as well as organizations reporting emission reductions under Section 1605(b), will also provide information on the progress of the Action Plan.

INTERNATIONAL AND LONG-TERM PERSPECTIVE

As you see how forcefully we are moving ahead, it is natural for concerns about the international context of our actions and the implications of long-term climate change policy to be raised. First, I want to stress how strongly we believe that action on this issue must be global in nature. Just as all nations contribute to the problem, all must be part of the solution. The United States is at the forefront of the developed world in addressing this issue with a detailed and aggressive Action Plan. We expect that our Action Plan will inspire similar efforts in other developed countries.

Unfortunately, some of the nations now experiencing the greatest growth in emissions are not those with the technological and financial resources needed to address the problems. Just a few weeks ago, the Energy Information Administration released a study, *Energy Use and Carbon Emissions: Some International Comparisons*. Figures from that report tell a powerful story:

- Since 1970, most of the increase in energy-sector carbon emissions came from non-OECD countries (including developing and formerly centrally-planned economies).
- Within the last decade, the non-OECD countries surpassed the OECD countries in producing the dominant share of energy-sector carbon emissions.
- When we chart different nation's energy consumption per dollar and compare it with their income per capita, it shows that the nations with the capital to spend to improve carbon emissions are already fairly efficient. And conversely, those with the least efficient energy use are also those with the least financial strength.

Mr. Chairman, from your participation in last year's trade mission to China, I know that you have seen this first hand. If we do not find innovative ways to get the financing and technology to the places experiencing the greatest emissions growth, they will emit more. Our reductions, by themselves, will hardly make a dent in the problem unless our international neighbors in the developed and developing world make improvements. We believe that joint implementation will emerge as one of the most powerful tools for connecting the nations with growing emissions to those with technology and capital. That is why our Energy Policy Act programs to export environmentally superior technology and our pilot initiative on joint implementation are so vitally important.

In the international technology export area, for example, we have requested funding to demonstrate a U.S. clean coal technology demonstration project in the fastest growing electric power market in the world-- China. The proposed integrated gasification combined-cycle project will introduce advanced U.S. technology to a country expected to develop over 135 gigawatts of new capacity in the next decade. The result will be U.S. jobs, a cleaner global environment, and experience in the use of these technologies that will accelerate their commercial introduction.

Another recent project demonstrates the kind of global environmental benefits we expect from cooperative projects. Three of our utility partners recently announced their intent to develop a project in the city of Decin in the Czech Republic. This project, assisted by the Center for Clean Air Policy, will bring U.S. financing and technology into one of the Czech Republic's most polluted cities. According to Decin Mayor Milan Kunc, people in his town die as much as five years sooner than people in cleaner parts of their Republic because of severe air pollution. They plan to retrofit an inefficient coal-fired district heating plant to burn natural gas, and to improve the efficiency of the distribution network. They expect the project to reduce greenhouse gases by 12,000 tons per year, while dramatically improving local air quality. Each U.S. utility and the Czech host will get shares of the greenhouse gas emission reduction proportional to their investment.

These projects are emerging as potential candidates for the U.S. Initiative on Joint Implementation. As more come forward, we hope to offer appropriate technical assistance to project sponsors to ensure that the practical experience gained advances the prospects for credible joint implementation activities.

Finally, I want to discuss the "adequacy of commitments" issue. The same concerns that motivate the U.S. effort to advance joint implementation point out the need for more global action as we face the adequacy of commitments issue. The U.S. position on adequacy recognizes that existing science warrants that the international community make a serious effort to explore how we might take further action to achieve the ultimate objective of the Convention. Although developed countries must lead the way in considering additional long-term actions, all countries must be engaged in a global effort if we are to effectively combat the threat of climate change.

The Action Plan established a process to examine climate policy beyond the turn of the century, and the Department of Energy expects to work intimately with the White House and

other agencies in that process to produce initial recommendations over the next year. The Department is also deeply involved with the Personal Vehicle Greenhouse Gas Reduction Project chaired by the White House. The Department of Energy also is working on the 1995 National Energy Policy Plan required by Congress, which will emphasize a long-term perspective on our Nation's energy future. Finally, the Department has been actively supporting the President's Council on Sustainable Development, which is also exploring the U.S. energy situation from the perspective of sustainable development. All of these initiatives share a common vital element of broad public participation. By engaging stakeholders in industry, environmental groups, the Congress and the general public, we are confident that the long-term U.S. response to global climate change will continue to reflect the common sense of the American people.

The Department of Energy is already engaged in research and development into the technologies that could contribute to greenhouse gas emission reductions that will be a critical part of the long-term effort. Research priorities to reduce energy demand include advanced building systems, transportation equipment and systems, and manufacturing technology to reduce energy and material requirements. Research priorities for low-carbon energy supply technologies include sustainable biomass energy systems, advanced natural gas turbine and fuel cell technologies, cogeneration systems, energy storage systems, renewable energy technologies, hydrogen fuel systems, and continued research into nuclear safety and waste disposal options that could maintain the option of commercial nuclear power. The core of a long-term strategy must ensure that a constant stream of improved technology is available and that market conditions are favorable to their adoption.

In conclusion, the Climate Change Action Plan deserves the strong support of the Congress because it represents the best approach for meeting the President's goal. I would be pleased to report back to you later this year with an update on our progress and to showcase new recruits and partners in our efforts. I know that both our allies and our skeptics will want to hear the story, and with your support, I am confident that the story will be a positive one.

Thank you for this opportunity to discuss these issues with the Committee.

United States Government

Department of Energy

memorandum

DATE: May 23, 1994

SUBJECT: CCAP Evaluation Efforts by the DOE Office of Energy Efficiency and Renewable Energy

TO: Wesley Warren, Office of Environmental Policy

Attached please find the CCAP evaluation materials you requested. There are four items:

- 1) The executive summary of the DOE/EE evaluation strategy paper, which summarizes the motivation, key issues and methods and should give you a quick overview of our effort;
- 2) The evaluation form for each action (from the full paper) that we are using internally for tracking individual action progress toward performance targets;
- 3) The summary evaluation form for all actions (also from the full paper) that is our proposed means of communicating overall progress toward performance targets; and
- 4) The full DOE/EE evaluation strategy paper, which provides the details on our approach.

Contrary to what you heard from the EPA Policy Office late last week, EPA and DOE (Air and Energy Efficiency) have not completely closed on a summary evaluation reporting form. The EPA form is much more brief than the DOE form. Relative to item 2 above, it contains only the action name, an infrastructure measure (analogous to column 4), floor space retrofits, and carbon reduction. Our broader and more flexible set of measures reflects both the diversity of our programs and our corporate experience to date in implementing program evaluation in the Office of Energy Efficiency and Renewable Energy. EPA's form reflects a desire to keep the information very brief.

While differences remain, the two agencies are not that far apart. I suggest that I meet with the EPA Air Office on Tuesday (I am in Atlanta most of today) and we plan on getting together as a group later this week in your office to resolve any remaining issues.

If you have any questions, please give me a call.

Eric

Eric C. Petersen, Director
Climate Change Plan Implementation
Office of Energy Efficiency and Renewable Energy

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

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- Table Note -

The proposed data identified in the Targets column (the first column) of the Individual Action Progress and Performance Targets form we propose be reported quarterly and used for both internal management and program improvement for each individual action. These data will subsequently be posted to the more summary report the "Climate Change Action Progress" report for EE internal management and summary representation of EE progress.

These are currently draft proposed metrics, forms and reporting periods. The final working documents will include more specifics and details such as definition of the methods for the metric (e.g., formula), planned targets (e.g., 50 partners and 0.1 MMTCE each year), actual accomplishments (e.g. 65 partners and 0.05 MMTCE in 1994, 40 and 0.2 in 1995 ...), and only the metrics specific to the action in the Individual report versus the sample list in the model report.

Where appropriate the Climate Change Action Progress report would indicate the sums or weighted average of the common metrics such as tons of carbon or partners. As an example -- the total number of partners committed/the total number expected or a weighted customer satisfaction level over the weighted baseline.



**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
BUDGET REVIEW & CONCEPTS DIVISION**

*Dick Emery, Deputy Assistant Director (395-4632)
Rowe Ewell, Administrative Support Assistant (395-6149)
Bob Barker, Branch Chief, BRB (395-3822)*

COVER SHEET

Number of pages (excluding cover sheet): _____ Date: _____

TO: NAME: Wes Waizen

ORGANIZATION: _____

TELEPHONE NO: _____ FAX NO.: 456-2710

FROM: NAME: Steve Goldberg

ORGANIZATION: _____

TELEPHONE NO: _____ FAX NO.: 395-4768

SPECIAL INSTRUCTIONS:

(PLEASE DELIVER TO ADDRESSEE IMMEDIATELY!!!)



THE DIRECTOR

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

May 25, 1994

Honorable David R. Obey
Chairman
Committee on Appropriations
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The purpose of this letter is to provide the Administration's views on the Energy and Water Development Appropriations Bill, FY 1995, as reported by the House Subcommittee. While the Administration has some concerns, the most critical of which are discussed below, we urge the Committee to approve the Subcommittee bill, which largely supports the President's initiatives. Your consideration of the Administration's concerns would be appreciated.

Army Corps of Engineers

The Subcommittee has added over 100 unrequested studies and projects -- at a cost of nearly \$150 million -- to the President's FY 1995 request. Some of these projects are uneconomic or would expand the Corps' mission to areas that have traditionally been non-Federal responsibilities. In addition, within this total, the Subcommittee has provided funding for new start construction projects for which there are no Corps reports or reports that have not undergone Administration review.

Department of Energy

The Administration objects to earmarks in appropriations bills. This Subcommittee bill contains numerous earmarkings in the solar, geothermal, and electric energy systems and storage programs. The Administration feels these types of projects should be competitively awarded and is concerned that these earmarkings would endanger funding for high priority Administration investments, including the Climate Change Action Plan and Energy Policy Act activities.

The Subcommittee has appropriated funds for some lower priority projects, including the Gas Turbine Modular Helium Reactor and the Los Alamos Meson Physics Facility (LAMPF), as well as funds to produce molybdenum 99. The Administration urges the Committee to redirect funds from these lower priority items to high priority projects.

- Wes

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PPF

Panel asked not to cut energy-efficiency plan

ASSOCIATED PRESS

WASHINGTON - Proposed deep cuts in the administration's budget for energy efficiency would seriously jeopardize President Clinton's plan to combat the threat of global warming, Energy Secretary Hazel O'Leary told Congress yesterday.

Environmentalists predicted that the Clinton plan, which is aimed at reducing "greenhouse" gases to 1990 levels by the end of this decade, would fall short anyway because of low

energy prices and the proposal's reliance on voluntary action.

Shortly after taking office, President Clinton outlined his plan, which depends heavily on energy conservation because carbon dioxide, the leading greenhouse gas, is a product of burning fossil fuels.

O'Leary, along with State Department and Environmental Protection Agency officials, said the administration's climate goals can be achieved, but only if Americans conserve energy and Congress provides enough money for

energy conservation programs.

The administration has asked for \$978 million for energy conservation initiatives for the 1995 fiscal year, beginning next October.

If that budget is cut by \$120 million it "would ... put the emission reduction target at substantial risk. Reductions beyond the \$120 million level will make the president's commitment virtually impossible to meet," O'Leary said at a hearing of the Senate Energy and Natural Resources Committee.

According to congressional and administra-

tion officials, the tight budget has prompted lawmakers to consider shifting money from energy efficiency to other parts of the Energy Department's budget, including more financing for nuclear programs, which the administration has earmarked for cuts.

The committee chairman, Sen. Bennett Johnston, Democrat of Louisiana, agreed that "uncertainties in the regulatory climate and the ... budget process may make the president's greenhouse gas-reduction targets difficult, if not impossible, to achieve."

THE CLINTON CLIMATE CHANGE ACTION PLAN ONE YEAR LATER

On Earth Day 1993, the President reversed previous administration policy and made a historic commitment to reduce greenhouse gas emissions to 1990 levels by the year 2000. To fulfill that commitment he announced the Climate Change Action Plan.

In one year, the CCAP has evolved from a conceptual framework into a working document. Through the President's plan, these programs have forged new partnerships, demonstrated international leadership, and provided low cost and profitable opportunities for businesses and local governments nationwide. The build-up of greenhouse gases in the atmosphere is a serious threat to the environment due to the dramatic and potentially devastating climate that may result.

The CCAP is a set of comprehensive action items that will produce cost-effective reductions in greenhouse gas emissions from the residential, commercial, agricultural, and transportation sectors. The CCAP is expected to leverage over \$60 billion in private investment by the year 2000, creating clean jobs for the future. In addition, this investment will produce energy savings of over \$60 billion by the year 2000 and yield over another \$200 billion between 2001 and 2010.

Great strides have been made in implementing the CCAP in the past year. Congress enacted or provided initial funding for over 40 of the 44 action items. The agencies principally responsible for its implementation -- the Department of Energy (DOE), the Department of Transportation (DOT), the Environmental Protection Agency (EPA), and the U.S. Department of Agriculture (USDA) -- have efforts well underway to secure commitment from hundreds of potential partners in industry, public interest groups, and state and local governments.

The Administration is committed to the goal of 1990 levels of greenhouse gas emissions by the year 2000 and will continue to monitor progress under this program and adjust the plan as necessary to achieve this goal.

Attached are some of the highlights from the previous year.

ONE YEAR LATER HIGHLIGHTS

- Over 800 electric utilities, representing 80% of U.S. electricity generating capacity, have indicated a willingness to undertake voluntary measures to reduce their greenhouse gas emissions.
- 361 new participants have joined Green Lights since last October of 1993, for a total of more than 1,600. Participants have reduced electricity bills by an average of 46% for a total savings of \$40.5 million per year.
- Climate Wise, carried out jointly by EPA and DOE, is designed to stimulate emission reduction actions across all sectors of the economy. Several industrial companies, representing 3% of U.S. industrial energy use, have become partners in Climate Wise and pledged to reduce annual emissions by 10 million tons carbon equivalent by the year 2000.
- The Motor Challenge which assists companies to install high efficiency motor systems, has over 100 partners, has established a national technical assistance hotline and is soliciting sites for 25 showcase technology demonstrations. These showcases will lead to rapid transfer of high-efficiency motor systems throughout industry.
- Corporate response to Waste Wi\$e, which encourages voluntary source reduction and recycling of business waste, has over 300 businesses signed on and over 750 waste reduction programs are underway.
- Nine major grants through six states have been awarded through the National Industrial Competitiveness for Energy, Environment and Economy (NICE³) program. These grants will improve industrial process efficiency, reduce waste and cut greenhouse gas emissions in several key industries.
- The Natural Gas Star program, designed to reduce methane losses from gas transmission and distribution lines and coal mines, has expanded to include over 30 corporate partners, representing over 50% of the transmission company pipeline miles, 20% of distribution company pipeline miles, and 30% of all service connections.

Qs & As FOR CLIMATE CHANGE ACTION PLAN ANNIVERSARY

Q: Tomorrow is the one year anniversary of the CCAP, how is it doing? What are you prepared to do to cover the gap? Are you going to reach your goal?

A: The Climate Change Action Plan is up and running and making significant progress. Efforts are well underway to secure commitment from hundreds of potential partners in industry, public interest groups, and state and local governments.

We are committed to our goal of reducing greenhouse gas emissions to 1990 levels by the year 2000 and to reviewing progress in order to make changes as necessary to meet that goal.

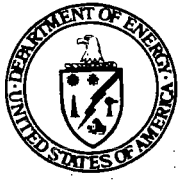
Q: What will the U.S. be pushing in climate treaty negotiations? (adequacy)

A: Along with many other nations, the US believes the Climate Change Convention does not adequately address policies and measures to be taken beyond the year 2000. The United States' first and overriding objective is to establish a new aim to guide our efforts in the post-2000 period.

The US also supports linking common actions or measures with this new aim, and enlisting private sector experts more centrally in the work of the Convention.

Q: How does the Partnership for a New Generation of Vehicles (alias Clean Car) this relate to what you are doing on climate change?

A: Clean Car is one of many initiatives underway to reduce greenhouse gas emissions. As a part of our efforts to combat climate change, we have established a Federal Advisory Committee to make recommendations for reducing emissions from the transportation sector. The Advisory Committee has been charged with developing proposals that will improve fuel efficiency, reduce vehicle miles traveled, and promote use of clean fuels. Later this week, the Advisory Committee will be holding its second meeting and is expected to present its recommendations in one year.

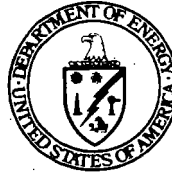


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any questions

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Eric C. Petersen
Director
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memorandum

DATE: May 23, 1994

SUBJECT: CCAP Evaluation Efforts by the DOE Office of Energy Efficiency and Renewable Energy

TO: Wesley Warren, Office of Environmental Policy

Attached please find the CCAP evaluation materials you requested. There are four items:

- 1) The executive summary of the DOE/EE evaluation strategy paper, which summarizes the motivation, key issues and methods and should give you a quick overview of our effort;
- 2) The evaluation form for each action (from the full paper) that we are using internally for tracking individual action progress toward performance targets;
- 3) The summary evaluation form for all actions (also from the full paper) that is our proposed means of communicating overall progress toward performance targets; and
- 4) The full DOE/EE evaluation strategy paper, which provides the details on our approach.

Contrary to what you heard from the EPA Policy Office late last week, EPA and DOE (Air and Energy Efficiency) have not completely closed on a summary evaluation reporting form. The EPA form is much more brief than the DOE form. Relative to item 2 above, it contains only the action name, an infrastructure measure (analogous to column 4), floor space retrofits, and carbon reduction. Our broader and more flexible set of measures reflects both the diversity of our programs and our corporate experience to date in implementing program evaluation in the Office of Energy Efficiency and Renewable Energy. EPA's form reflects a desire to keep the information very brief.

While differences remain, the two agencies are not that far apart. I suggest that I meet with the EPA Air Office on Tuesday (I am in Atlanta most of today) and we plan on getting together as a group later this week in your office to resolve any remaining issues.

If you have any questions, please give me a call.



Eric C. Petersen, Director
Climate Change Plan Implementation
Office of Energy Efficiency and Renewable Energy

**OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY
U.S. DEPARTMENT OF ENERGY**

**EVALUATION OF THE
PRESIDENT'S CLIMATE CHANGE ACTION PLAN**

Prepared by
Office of Planning and Assessment
with assistance of Sandia National Laboratories

May 9, 1994
Revised - Rough Final DRAFT

Comments to: Darrell Beschen, 202-586-1732
Gretchen Jordan, 703-516-6203

Executive Summary

This evaluative effort addresses the EE/CCAP implementation strategy, a compendium of the 21 energy efficiency and renewable energy initiatives to be carried out by DOE's Office of Energy Efficiency and Renewable Energy. The majority of these programs are drawn from authorities under the Energy Policy Act of 1992 (EPACT). Funding initially requested for the EE FY 1995 for the Implementation Plan, which is available for public review, was \$191 million.

The goal of this effort is to establish targets, measure progress, evaluate impact, report those data, and based upon them -- improve the effectiveness and success of the Department of Energy (DOE) Climate Change activities between 1993 and 2000 in an objective manner credible to partners, stakeholders, Congress, and the world community.

The EE/CCAP evaluation activity anticipates the requirements of the Government Performance and Results Act of 1993. It will regularly both measure performance and evaluate programs, using those findings to improve and report results. Each action in the Plan could be evaluated individually, but this would be time consuming, costly and increase potential duplication and confusion. Significant economies of scale in the evaluation can be achieved if the diverse actions in the Plan are drawn together through their common programming and performance elements. Keeping the focus of the common performance elements, the logical flow from those activities to outputs and then to desired outcomes can be identified. A visual summary of this focus is provided when we construct the resulting *Corporate Logic Chart*, which shows how the Plan's various actions work together to achieve the Plan's objectives.

Using the focus provided by a EE/CCAP Corporate Logic Chart, success and cost-effectiveness evaluation issues were identified and prioritized. These will be tracked by all EE Actions and reported for EE/CCAP quarterly to measure progress toward EE performance targets of the October 1993 Climate Change Action Plan.

Key Performance Evaluation Issues:

In the simplest sense, the success of EE's Plan depends on answering one question:

- (1) By how much were greenhouse gas emissions reduced, in term's of carbon dioxide (in Million Metric Tons, MMTCE) by the Plan's actions? The goal is to reduce greenhouse gas emissions in the year 2000 by 30 MMTCE.

Other factors key to the success of the Plan are

- (2) How much energy savings and zero-emission, clean energy, did the Plan generate? The goal is for cumulative energy savings of \$40 Billion by 2000.
- (3) How much non-federal investment did the Plan lever or stimulate? The goal is cumulative non-federal investment of \$40 Billion by 2000.
- (4) How many jobs did the plan create or sustain? The goal is 150,000 jobs.

The success of many of the Plan's actions depends upon the success it enjoys in attracting people, businesses, and organizations to participate in its actions as partners on a voluntary basis. It will thus be important to evaluate the success of this approach as well as the barriers, if any, impeding participation.

Key Progress Evaluation Issues:

- (5) How many partnerships/joint ventures have been formed and how significant are they in terms of market potential?
- (6) To what degree are participants/partners satisfied that the Plan is delivering, and delivering well, what is important to them?
- (7) What has been the market penetration for the Actions, compared to annual targets?
Market penetration measures will differ by Action and end-use sector. New initiatives will track progress in establishing the necessary program infrastructure. Commercial buildings may track number of building surveys and floor space retrofitted, steps leading to energy savings.

If necessary to achieve the energy, emissions, and economic performance goals for the year 2000, EE/CCAP plans to add or reprogram activities. Thus it will be important to measure the cost-effectiveness of individual actions as well as the Plan as a whole.

Key Cost-Effectiveness Issues:

- (8) What other benefits, both intended and unintended, resulted from Plan activities?
- (9) How did the various Sectors, (Buildings, Industrial, Utility, Energy Supply), and the individual Actions, contribute to the key outcomes?
- (10) How did the various programming instruments (grants, technical assistance, etc.) contribute to the key outcomes?

Individual Action Evaluation Issues:

Individual Actions are defining the steps their programs must take to arrive at contributions to key outcomes. What are that Action's representative outputs from the EE/CCAP activity groups? Those and other activities unique to the Action, lead to shorter-term progress (partners, customer satisfaction, and market or program penetration), which ensures contributions to the EE/CCAP energy and emissions goals. Other outcomes and evaluation issues unique to each Action will be added to that Action's priorities.

Methods, Resources, and Reports:

Once all Action evaluation issues are identified, including EPACT and base program requirements where they overlap, we will cooperatively determine the best portfolio of Corporate and Action evaluation methods, and the associated costs.

Evaluation for EE/CCAP fortunately can build from existing data collection and analysis efforts. These include the energy efficiency/renewable energy computer simulation models such as IDEAS, the "Quality Metrics" project in EE to consistently measure key impacts of all EE programs, the program performance measures being developed for measuring performance in the DOE strategic plan, and the voluntary reporting guidelines developed under EPACT section 1605(b).

An EE/CCAP tracking system similar to that underway for the Energy Policy Act will provide quarterly reports on intermediate progress and how we stand in meeting the targets set by the President for carbon reduction by the year 2000. These performance monitoring reports, drafts of which are attached, will provide evidence, in terms of key metrics, that the EE/CCAP is living up to its expectations. Progress will be reported in terms of hard indicators -- such as number of audits being acted upon and number of buildings retrofitted -- compared to targeted progress. The final evaluation report will be ready by 2000, and two interim evaluations, in 1996 and 1998, will be provided.

Working Draft 5/5/94

S A M P L E

U. S. Department of Energy
 Climate Change Action Progress
 Quarterly Report as of _____

	Performance: Progress in Meeting Annual Targets						Annual Performance on Longer Term Outcomes			
DOE's CCAP Programs	Partner Partici- pation	Partner/ Customer Satisfaction compared to baseline	Percent Infra- structure complete	Depends on program steps to goals	Depends on program steps to goals	Depends on program steps to goals	Carbon equivalent MMTons	\$Energy Savings/ Increase Clean Energy	\$ Non- federal Invest- ment	Employ- ment Impacts (net)
"Umbrella" Cross-cutting										
CW: Climate Wise										
Commercial Energy Efficiency										
1: Rebuild America (sample numbers)	120/1000	35%	10%	# audits	n/a	5K/20K	0/0	.025/.040	\$500/630	100/140
Residential Energy Efficiency										
6: Market-pull partnerships										
Industrial Energy Efficiency										
12: Motor Challenge				# people trained	use rate- our tools	adoption breadth				
Energy Supply										
26: Renewable Collaboratives, etc.				#!/\$ new deploymnt projects	#targeted consortia partners	%annual growth in sales				
27: Promote Integrated Resource Planning				#!/\$ grants awarded	% new IRPs fit criteria	resulting renewabl capacity				
Totals	(Not all Progress factors will be totaled)						MMTon	\$ B	\$ B	XXX

Individual Action Progress and Performance Targets
(reported to the EE CCAP tracking system quarterly)

Progress Targets	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 1994-2000 TOTAL
New Partner Participation	50	100	200	0	0	0	0	350
Customer Satisfaction (EE surveys)	baseline 75%	80%	82%	82%	85%	85%	85%	85%
Percent Infrastructure complete (judgement)	12%	100%	n/a	n/a	n/a	n/a	n/a	n/a
<i>dependent on steps to goals, ideally 3/Action, as uniform as possible across types of Actions:</i>								
audits, surveys completed								
floor space retrofit								
grants awarded								
participants recognized								
training events held								
demonstrations in place								
unit sales (\$ value)								
<i>more to be determined</i>								
Longer Term Outcomes- Targets	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 1994-2000
Carbon equivalent emissions savings (MMTons)								
Total primary energy savings due EE program (Quadrillion Btu)								
Total Non-Federal Investment (\$)								
Employment Impacts (net '000 jobs)								
<i>Key unique outcomes for the specific Action</i>								
Non-Energy Cost Savings and Impacts								
Waste reduction, Housing cost, etc.								

- Table Note -

The proposed data identified in the Targets column (the first column) of the Individual Action Progress and Performance Targets form we propose be reported quarterly and used for both internal management and program improvement for each individual action. These data will subsequently be posted to the more summary report the "Climate Change Action Progress" report for EE internal management and summary representation of EE progress.

These are currently draft proposed metrics, forms and reporting periods. The final working documents will include more specifics and details such as definition of the methods for the metric (e.g., formula), planned targets (e.g., 50 partners and 0.1 MMTCE each year), actual accomplishments (e.g. 65 partners and 0.05 MMTCE in 1994, 40 and 0.2 in 1995 ...), and only the metrics specific to the action in the Individual report versus the sample list in the model report.

Where appropriate the Climate Change Action Progress report would indicate the sums or weighted average of the common metrics such as tons of carbon or partners. As an example -- the total number of partners committed/the total number expected or a weighted customer satisfaction level over the weighted baseline.

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Profile of Programs To Be Evaluated

The Mandates

In 1992, world leaders and citizens of more than 200 countries at the Earth Summit in Brazil drafted the Framework Convention on Climate Change, an international agreement that formalizes their intent to "achieve...stabilization of greenhouse gas concentrations in the atmosphere...and to enable economic development to proceed in a sustainable manner." In November of the same year, the U.S. Congress passed the Energy Policy Act of 1992 (EPACT), a broad piece of legislation giving the U.S. Department of Energy (DOE) the authority and responsibility to actively pursue energy efficiency.

On October 19, 1993, President Clinton released the Climate Change Action Plan (CCAP). It is a compendium of 46 actions that, taken together, promise to honor our commitment to the international community and reduce greenhouse gas emissions to 1990 levels by the year 2000.

The Programs

This evaluative effort addresses the EE/CCAP implementation strategy, a compendium of the 21 efficiency and renewable energy initiatives to be carried out by DOE's Office of Energy Efficiency and Renewable Energy. The majority of these programs are almost entirely drawn from authorities under EPACT, which were either not yet implemented or implemented at a modest pace.¹ Funding initially requested for EE CCAP programs for FY 1995 is \$200 million.

More than 60 percent of the U.S. Climate Change Plan's reductions are to come from the energy sector because most carbon dioxide emissions, which account for 80 percent of U. S. greenhouse gas emissions, emanate from the combustion of fossil fuels. The EE/CCAP Plan includes ten building sector initiatives, comprising a multi-faceted approach to greater efficiency in energy use. Several Actions would stimulate the market for energy efficient appliances. Some provide training and recognition for builders and local code officials; another showcases a range of energy efficient building technologies.

The six programs serving the industrial sector would improve the efficiency of motors and other industrial equipment; assist industry in preventing pollution as an alternative to expensive clean-up; stimulate public-private partnerships to improve efficiency and minimize waste; and expand research efforts to develop technologies for recovering methane from landfills.

Three utility sector programs are intended to increase the contribution of energy efficiency and renewable energy technologies to the mix from which utilities draw to meet the demand in their service areas. One action consists of demonstrations of renewable energy technologies; one is intended to expand the use of Integrated Resource Planning by utilities and their regulators; and one may lead to improved efficiency of electrical transformers.

Two overarching programs provide the foundation for program interconnections and interagency coordination, primarily between DOE and EPA. Called "foundation" actions, Climate Challenge is a comprehensive program of voluntary actions being developed in partnership with the utilities it is designed to serve, and *ClimateWise* is its industrial and commercial counterpart.

¹Three additional programs are the responsibility of other DOE Offices and the remaining programs are the responsibility of the Environmental Protection Agency and the Departments of Agriculture, Transportation, and the Treasury. Where appropriate, our implementation plans have been worked out in consultation with these other agencies through the White House Office of Environmental Policy.

Defining the Framework for Coordinated Evaluation

Tracking progress and program evaluation is one of six guiding principles of EE/CCAP implementation Plan design. Each action in the Plan could be evaluated individually, but this would be time consuming, costly and inefficient. Moreover, this approach breeds the potential for considerable duplication and overlap, not to mention confusion and conflict. In addition, significant economies of scale in the evaluation can be achieved if the diverse actions in the Plan can be drawn together through their common programming and performance elements. Keeping the focus of the common performance elements, the logical flow from those activities to outputs and then to desired outcomes can be identified. A visual summary of this focus is provided when we construct the resulting *Corporate Logic Chart* which shows how the Plan's various actions work together to achieve the Plan's objectives. This discussion presents the construction of a CLC for the 21 EE/CCAP actions that fall under the mandate of Energy Efficiency and Renewable Energy (EE). A graphic of this is attached.

Three principal elements make up a logic chart -- activities, outputs and outcomes. These elements normally combine to represent a coherent whole, or *logic*, for a program (or service, law, regulation, action, etc.). A Corporate Logic Chart, partly because it focuses on common programming and performance elements and partly because of the need to summarize, is made up of key activity groups, key outputs and key outcomes.

Analysis of EE's 21 CCAP actions revealed that, while each of the actions is unique, many of them share common activities, outputs and outcomes. These common elements provided the foundation for constructing the CLC.

Activity Groups

In essence, the 21 EE actions rely on six basic activity groups, which represent different programming instruments: (1) Research and Development, (2) Education and Training, (3) Demonstrations, (4) Technical Assistance, (5) Incentives (financial and recognition) and (6) Regulation (Standards); and two more activity groups, which draw the various actions into a cohesive whole: (7) Partnerships (coordinated delivery of services among government agencies and with the private sector), and (8) Information Dissemination (communications broadcast broadly to influence public opinion). These activity groups are further defined in the Attachments.

Each of the 21 EE actions in the CCAP uses at least one of these activity groups to make its contribution to achieving the Plan's objectives. However, each of these activity groups embraces a more detailed set of activities, not all of which may be used by individual EE actions. Indeed, the specific set of activities employed may differ substantially from one EE action to another. For example, the Regulation (Standards) activity group would be composed of certain common activities (such as Set Regulations/Standards (in consultation with ...), Monitor/Inspections, Enforcement and Complaint Resolution) and certain optional activities (such as Public Relations, Inquiry Services, Public Education and Technical Assistance). For this reason, care has been taken in constructing individual Action logic charts, within the corporate logic chart, for the individual EE actions.

Key Outputs

Each activity group creates outputs. Outputs provide the link between the activities of an action and its customers. For example, an obvious output from government Partnership activities would be some type of inter- or intra-agency agreement spelling out how diverse actions would complement each other. A less obvious output of the same activities would be increased government dollars reaching customers because

reduced duplication allowed an expansion of planned efforts.

From the many possible outputs associated with each activity group, one has been selected as representing, perhaps, the most critical of them all.

- | | |
|-------------------------------|-------------------------------------|
| (1) Partnerships | -- Agreements to participate |
| (2) Research and Development | -- New Technology Adoptions |
| (3) Education/Training | -- Workshops/Seminars |
| (4) Demonstrations | -- Replications |
| (5) Technical Assistance | -- Advice applied |
| (6) Incentives | -- Rebates/recognitions |
| (7) Regulation (Standards) | -- Observed Standards |
| (8) Information Dissemination | -- Media Cites |

Clearly, some of these key outputs apply to more than one activity group, and that should be recognized in the logic charts for each individual action. To the extent coordinated evaluation and individual Action evaluation sets performance targets and concentrates measurement on these key and representative outputs, rather than measuring activities or many unique outputs, the resulting information will be richer.

Key Longer Term Outcomes

The CCAP identified a number of impacts arising from its successful implementation, the single most important of them all being: (1) **Reduce Greenhouse Gas Emissions** in 2000 by 30 MMTCE. From EE's point of view, the key to reducing greenhouse gas emissions comes from achieving (2) **cumulative energy savings (and increasing the use of low- and zero-carbon energy)** of \$40 Billion by 2000. Other key impacts identified in the CCAP include: (3) **Net Jobs Created** (150,000 from EE Actions), and (4) **cumulative Non-federal Investment Leveraged/Stimulated** of \$40 billion.

It may be tempting to introduce other key longer term outcomes. Care must be taken to avoid this temptation when such outcomes, while important, have not been clearly identified within the CCAP, are derived from achieving the four key impacts, and/or do not have overall (or "corporate") importance. Such outcomes may, however, be introduced into the logic charts for the individual EE actions in the CCAP. Some of these are deficit reduction, economic competitiveness, lower costs for industry, non energy savings, affordable housing, oil savings, pollution prevention and waste minimization.

Key "Progress" Outcomes

While preliminary estimates of the early success of these four outcomes can be produced, it will take some time for them to fully manifest themselves. In the shorter term, therefore, it may be useful to measure more immediate impacts which may indicate if the Plan's actions are on track. A very important intermediate outcome is (1) **Program or Market Penetration**. This will vary by the end-use Sector involved and the type of programming. For commercial buildings, a penetration target may be measured in square feet of existing and estimated new building floorspace retrofitted with energy efficient lighting. For new initiatives, a penetration measure is the percent of the necessary infrastructure put in place. This would measure the success of an action in meeting technical and commercialization objectives, or in reaching a pre-defined targets for the program. Other common and key intermediate outcomes are: (2) **Customer Satisfaction**, (3) **Increased Government Cooperation** (all levels), and (4) **Favorable Public Opinion** (measured only for the Plan as a whole).

Evaluation Strategy

Most public sector programs need several years before they can demonstrate that they have achieved their objectives. The Climate Change Action Plan is no exception. Indeed, to fully realize its potential, the Plan needs a longer-than-usual time horizon. Despite this, Congress can not wait until the year 2000 to learn how well the CCAP has performed in terms of reducing carbon emissions, saving energy, creating jobs, etc. For that reason, the evaluation of the CCAP will employ a phased, segmented approach. It will be "phased" in the sense that evaluative reports will be produced over time. It will be "segmented" in the sense that various evaluative approaches will be employed. Phasing and segmenting ensures Congress that it will receive the right information at the right time to assess the performance of the CCAP.

The evaluation encompasses three key segments -- performance monitoring reports, ad hoc implementation evaluations and the final evaluation -- each with their own reporting timetable.

Performance monitoring reports will provide Congress with a condensed quarterly overview of the progress that the Plan is making in meeting its goals. It will provide evidence, in terms of key metrics, that the CCAP is living up to expectations. Progress will not be measured in "soft" activity terms, such as number of meetings held or deadlines met. Rather, it will report in terms of hard indicators -- such as number of audits being acted upon and number of buildings retrofitted -- compared to targeted progress. These output indicators assure us that progress is being made towards the CCAP's longer term outcomes, such as energy saved. Drafts of a quarterly report form and an Action metrics tracking form are attached.

The more detailed information underlying the performance monitoring reports will alert the individual action plan managers to any deviations from target. While these deviations may simply pinpoint easily remedied managerial problems, they may signal flaws in the action's design. In such cases, the second segment of the evaluation approach kicks in. Ad hoc studies will be mounted to identify and solve barriers to performance. Where solutions are not evident, the action may be dropped from the program and the funds reallocated to more effective efforts. In all cases, the ad hoc evaluations will seek to improve the Plan's performance.

The third segment will build on its two counterparts. It will combine their information, supplement it where necessary (using EPACT evaluation information, where available), and provide a complete and final assessment of how well the CCAP achieved its objectives. It will not only discuss the overall success of the Plan, but it will also reveal how well the various end-use thrusts (eg., commercial buildings, residential appliances, etc.) succeeded, how well the various programming instruments (eg., grants, regulations, awards, etc.) worked and last, but certainly not least, how well the individual actions worked and what unique benefits they provided over and above those mandated in the Climate Change Action Plan.

Evaluation Issues

Many ways exist to approach evaluation issues. One broadly accepted way to group issues looks at a program's relevance, success and cost-effectiveness .

Relevance asks the question "Should we be doing this?" This question does not challenge policy decisions. Rather, it asks whether a program continues to serve the socio-economic need served by its objectives, whether circumstances have not changed the need for the program since it was created and whether the program's approach remains a viable way to achieve its objectives. In the case of the CCAP, these questions are largely irrelevant. The Plan has barely started and it would be premature to question why it was created without giving it a chance to succeed.

Success asks "Is the program working?" Several other questions make up this question: is the program achieving its objectives? do clients understand the program's objectives and accept that the program is serving their interests? is the program delivered according to acceptable service quality dimensions? what other impacts -- good or bad -- is the program causing? Success forms the foundation for the CCAP evaluation. As a new initiative, we are more concerned with how well it is working than any other broadly-stated issue. However, as shown below, many policy concerns envelop CCAP's success.

Cost-effectiveness asks "Can we achieve what we want at a lower cost?" While cost occupies the preeminent position in this question, it really seeks to know whether another programming instrument, or mix of instruments, would be more effective, whether the best delivery approach has been selected from among feasible alternatives and whether procedural, structural or organizational gaps exist. Cost-effectiveness is an issue with the CCAP, but largely from the point of view of the many actions which combine to create it. Some may be more or less effective than the others. Some may yield greater returns per dollar invested. These issues will be raised in the evaluation of CCAP.

Both the success and cost-effectiveness issues will be blended in the set of evaluation issues identified below. Each issue will be expanded by a set of questions. It may prove useful to think of the evaluation issues as policy concerns, while the questions represent data points or facts which serve to inform the policy debate.

Issues: Success in Achieving Key Outcomes

In the simplest sense, the success of the Climate Change Action Plan depends on answering one question:

- (1) By how much were greenhouse gas emissions reduced, in terms of carbon dioxide (MMTCE), by the Plan's actions?

But other factors underpin the success of the Plan. These questions reveal those factors:

- (2) How much energy savings did the Plan generate?
- (3) How much non-federal investment did the Plan lever or stimulate?

and,

- (4) How many jobs did the Plan create?

While the CCAP's success will be judged largely in terms of these key factors, it would be naive to

suggest that the answers to these questions alone would satisfy the discussion. It is much more reasonable to expect that the discussion will seek to explore these questions in some detail. For each of them, therefore, it will be important to consider dissecting them in terms of:

- (5) What other benefits, both intended and unintended, resulted from Plan activities?
- (6) How did the various sectors (eg., commercial buildings, residential buildings, etc.) contribute to these key metrics?
- (7) How did the various programming instruments (eg., grants and loans, regulations, etc.) contribute to these metrics?
- (8) How did the individual Plan actions contribute to these metrics?

Exploring the answers to these questions places in perspective the relative success of the Plan's diverse approaches and informs the policy discussion, to some extent, about future, perhaps more cost-effective, alternatives.

In any evaluation of the CCAP, the answers to the first four questions would be assigned a high priority. They must be answered. The answers to the four remaining questions, however, could be accorded a medium priority, although it is difficult to imagine a policy discussion which would not consider their answers essential.

Issues: Success and Barriers in the Voluntary Approach

The success of the Plan's many actions depends upon the success it enjoys in attracting people, businesses and organizations to participate in, and provide feedback on, its many actions on a voluntary basis. Embedded within the concept of "voluntarism" are notions that would be addressed by the answers to these questions:

- (1) How many partnerships/joint ventures were formed and how significant were they in terms of market potential?
- (2) How many people, businesses and organizations participated in the various Plan actions?
- (3) How was the Plan changed in response to feedback received from partners and potential partners?
- (4) What was the market penetration for the Plan and its actions?
- (5) To what degree were participants/partners satisfied with the way the Plan ran? What was important to them and how did the Plan's delivery rate in comparison?
- (6) What barriers, if any, were identified as impeding participation? How were these dealt with? Did participation and impact increase as a result of addressing these barriers? If so, by how much?

Naturally, the answers to these questions could be explored in the same terms as the answers to the key outcomes: other benefits, by sector, by programming instrument and by action. The same set of priorities would probably prevail.

The corollary of participation is non-participation, and value may be added by exploring:

- (6) Why did some people, businesses and organizations decide not to participate in the CCAP? What, if anything, would have persuaded them to participate?

By placing participants in comparison with non-participants, and controlling for demographic variables, insights into how to increase participation in voluntary programs might be gained. While important, the issue of non-participation rates only a medium priority.

Issue: Success in Government Cooperation

One other issue which captured the attention of policy-makers when designing the Climate Change Action Plan was the degree to which government agencies, at all levels, cooperated to reduce duplication of effort and to avoid further burden on those people, businesses and organizations that volunteer to support the government in this and related initiatives. As this issue is not absolutely critical to the success of the Plan, it is assigned medium to low priority.

Issues: Success of Public Opinion/Awareness Efforts

A final issue concerns the effectiveness with which the Plan's public opinion/communication efforts served to shape favorable public opinion and, to some degree, to elicit support for, and participation in, the Plan.

- (1) Did the Plan's public opinion/communication efforts lead to more favorable opinion about the Plan and its objectives?
- (2) Did the Plan's public opinion/communication efforts influence people, businesses and organizations to participate in the various Plan actions? If so, to what extent? Were particular actions more appealing than others in this regard?
- (3) Did the Plan's public opinion/communication efforts influence behavior in any other ways that served the Plan and its objectives?

Most participation is likely to come from more direct solicitation and referrals, and public awareness and opinion changes slowly and often for reasons unrelated to DOE actions. As this issue is not absolutely critical to the success of the Plan, it is assigned a low priority.

Evaluation Methods

The EE/CCAP evaluation anticipates the requirements of the Government Performance and Results Act. It will both measure performance and evaluate programs, using those findings to "manage for results" and improve programs. A preliminary discussion of methods follows, and a chart that looks at possible evaluation methods for the evaluation issues is attached. After further discussion with plan authors and managers about planned, EPACT, and existing evaluations, more specific methods recommendations will be determined. These will be examined for areas in which one instrument may be used to gather data on multiple questions. It is the intention to use multiple lines of inquiry for each evaluation question.

Costs for evaluation options will be estimated after an analysis of methods and their associated costs have been determined in coordination with individual Actions.

Existing Measurement Efforts

There are several data collection and impact estimation efforts that exist or are being formulated for the broader EE programs. These include computer simulation models that have been developed by the Office of Energy Efficiency and Renewable Energy. The March 1994 Technical Supplement to the Climate Change Action Plan describes the use of the IDEAS model to estimate the results of program options. Guidelines for voluntary reporting of emission reductions under the Energy Policy Act Section 1605(b) will be forthcoming soon, and these figures are expected to contribute to evaluation information. The customer surveys required under recent executive order will provide a vehicle for much needed client satisfaction information. EE programs are responding to DOE requirements to propose metrics for programs during the internal budget review process.

An initiative new to EE as of Fall 1993 will also be useful for estimating results. The "Quality Metrics" effort has defined preliminary data collection and aggregation across end-use sectors for five areas -- the four key outcomes we seek to evaluate and the impact on socio-economic and political equity. Data collected for quality metrics will indicate what portion is separate CCAP activity, where it is determined this distinction is necessary.

A CCAP tracking data base is being developed similar to one in use for the past year for reporting progress on EE Energy Policy Act activities. Standards will be defined for collecting these progress measures and these will be reported at least quarterly for each Action.

Distinguishing CCAP from Existing Programs

EE has integrated the CCAP (and EPACT) programs with its base programs in two important ways to ensure programmatic success without drawing artificial boundaries and without duplicating existing Federal or state efforts. First, base programs such as Weatherization program and the Federal Energy Management not officially a part of the CCAP are assumed to contribute the baseline reduction, not the EE/CCAP Plan's reduction, in greenhouse gases and greater energy efficiency. Second, each specific EE/CCAP program was carefully designed to operate so as to leverage but not duplicate these programs.

However, for purposes of evaluation, it will be essential to clarify the relationship between the CCAP action and existing programs. Where the activities of the two are separate, the new initiative will be evaluated. Where the CCAP activity is just more of the same, the plan authors must determine if there are quality differences between the CCAP and the base program. If there has been "creaming", getting the easiest of the impacts, in the base programs, it would be misleading to evaluate the actions together. Where there are not quality differences, it will be possible to evaluate any part of the whole program and attribute results to CCAP as a proportion of funding.

Measuring Client Satisfaction

The success of the Climate Change Action Plan depends on the goodwill of a broad range of American people, businesses and organizations. If they do not participate -- by entering into partnerships and joint ventures and by participating in new, somewhat unconventional, ventures -- to carry out the Plan's actions, the CCAP can not achieve its objectives. Their satisfaction with the products of the Plan and with the way the Plan deals with them -- in terms of timeliness, responsiveness, reliability and accessibility -- becomes, therefore, a critical element in measuring the Plan's performance.

The variety of CCAP clients, or "volunteers," dictates a pluralistic approach to measuring client satisfaction. Focus groups, client surveys, complaint boxes and motivational research are just a few of the means available to determine the satisfaction of the Plan's volunteers and potential volunteers. Each provides a unique perspective on how the Plan's clients rate the importance of, and satisfaction with, the various quality dimensions that surround the Plan's delivery. Is the Plan doing the right things, providing what is important? What needs to be changed to make it worthwhile to participate? Was the information received on time? Was it complete? Was it accurate? How easy was it to contact Plan staff? When contacted, how did they treat the client? Were they courteous? Knowledgeable? etc. Answers to these questions may reveal barriers to participation that are easily removed. They may also expose unimportant, unwanted services. These may be discontinued in favor of diverting funds to close the gaps in the quality of service delivery which may impede participation.

One of the more common approaches to identifying service improvement prospects comes when clients rate how important certain aspects of service delivery (such as timeliness and accuracy) are to them in comparison to how well they feel that service quality has been delivered. Plotting the results in a simple matrix reveals significant delivery improvement opportunities.

Measuring "Importance" vertically and "Performance" horizontally,

I M P O R T A N C E	Opportunities for Improvement	Continue and Improve
	Discontinue and Redeploy	Redeploy or Promote
	PERFOR	MANCE

Analyzing the CCAP actions in these terms will serve to improve service delivery which, in turn, will lead to greater Plan take-up or participation and, ultimately, greater likelihood of saving energy and reducing carbon emissions. The performance monitoring reports will include an estimate of overall client satisfaction for each action and will track improvements over time.

Evaluation Options

We have identified as high priority evaluation issues, performance on our four key goals, and questions related to the voluntary nature of the Plan. Medium priority issues include detailed, segmented information for those high priority issues. Medium to low priority issues are those related to government cooperation and public awareness and perceptions. The range of evaluation issues and questions, their priorities and the various means to address them, provide an infinite number of ways to evaluate the CCAP. While flexibility provides choice, too much choice leads to confusion. Given limited resources and time, choices must be made.

Careful thought, therefore, is required to craft meaningful evaluation options. An approach to crafting evaluation options used successfully in Canada is to offer choices from options which build on each other, starting from what is considered the base minimum.

In the case of the Climate Change Action Plan the minimum evaluation could have been one which simply accounted for the basic performance metrics: how many MMTCE were saved compared to the targets? how much energy was saved compared to the targets? how much non-federal investment was levered compared to the targets? Such an "Accountability" evaluation option, while often acceptable, has already been implicitly dismissed because it provides no information on which actions worked and which did not. Nor does it reveal how well various programming or sector initiatives performed. The evaluation strategy outlined earlier -- the phased, segmented approach -- denies the value of the "Accountability" option - - "We promised X and we delivered more (or less) X." However, this option could be revisited.

Option 1: High Priority Issues Only Coordinated Evaluation at EE/CCAP Plan Level Only

The first option goes beyond the accountability option, but maintains a "global" perspective. Under this option, issues would be addressed, but only at the Plan level. Virtually no sector (eg. commercial buildings, residential buildings) or programming (eg., grants, regulations) performance would be assessed. The only performance information, if any, that would be reported on individual action performance would be that gathered by the individual action managers. It would, however, report on how well the program worked and, in general, how and why this happened. It would also explain corrective actions taken as a result of ad hoc evaluations undertaken during the course of the Plan's life.

Option 2: High and Medium Priority Issues Coordinated Evaluation Investigates Sector and Programming Thrusts

The second option builds on the first. It would supplement the global perspective, with information about sector and programming thrusts. This would provide greater insight into where value for money was received. It lays the foundation for future choices among programming and sector options should further carbon emission actions be required.

Option 3: High, Medium and Low Priority Issues Full Coordinated Evaluation and Coordinated Detailed Action Evaluation

The final option provides the greatest detail. Over and above the information coming from Option 2, it would report in detail on the individual performance of each action, not only in terms of the global performance indicators, but also in terms of performance indicators unique to each Plan action.

The cost and time required to complete each evaluation option varies, with both growing as the options build on one another.

Before cost and time requirements for these Evaluation Options are completed, it is necessary to identify individual Action evaluation issues and related program evaluation activities, as well as related EE performance measurement activities. Fortunately, evaluation for EE/CCAP can build from several existing data collection and analysis efforts.

In summary --

	<u>Cost</u>	<u>Elapsed Time</u>
Accountability		
Option 1		
Option 2	To Be Determined	
Option 3		

The final evaluation report should be ready by 2000, when funding for the CCAP terminates. Two interim evaluations will be provided before then -- in 1996 and 1998 -- to meet the biennially reporting requirement.

EE/Climate Change Action Plan *Final Draft*

Corporate Logic Chart

ACTIVITY GROUPS

Partnerships

Research &
Development

Education/
Training

Demonstrations

Technical
Assistance

Incentives
Fiscal,
Recognition

Regulation/
Standards

Information
Dissemination

KEY OUTPUTS

Agreements

New
Technology
Adopted

Workshops/
Seminars

Replications

Advice
Applied

Rebates/
Awards

Observed
Standards

Media
Cites

KEY PROGRESS OUTCOMES

Increased
Government
Cooperation

Customer
Satisfaction

Program/
Market
Penetration

Favorable
Public
Opinion

KEY LONGER-TERM OUTCOMES

Jobs
Created

Non-federal
Investment
Stimulated

Carbon
Emission
Reductions
(MMTons)

Energy
Savings/
Substitution

Individual Action Progress and Performance Targets
(reported to the EE CCAP tracking system quarterly)

Progress Targets	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 1994-2000 TOTAL
New Partner Participation	50	100	200	0	0	0	0	350
Customer Satisfaction (EE surveys)	baseline 75%	80%	82%	82%	85%	85%	85%	85%
Percent Infrastructure complete (judgement)	12%	100%	n/a	n/a	n/a	n/a	n/a	n/a
<i>dependent on steps to goals, ideally 3/Action, as uniform as possible across types of Actions:</i>								
audits, surveys completed								
floor space retrofit								
grants awarded								
participants recognized								
training events held								
demonstrations in place								
unit sales (\$ value)								
<i>more to be determined</i>								
Longer Term Outcomes- Targets	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 1994-2000
Carbon equivalent emissions savings (MMTons)								
Total primary energy savings due EE program (Quadrillion Btu)								
Total Non-Federal Investment (\$)								
Employment Impacts (net '000 jobs)								
<i>Key unique outcomes for the specific Action</i>								
Non-Energy Cost Savings and Impacts								
Waste reduction, Housing cost, etc.								

Working Draft 5/5/94

S A M P L E

U. S. Department of Energy
Climate Change Action Progress
Quarterly Report as of _____

Performance: Progress in Meeting Annual Targets							Annual Performance on Longer Term Outcomes			
DOE's CCAP Programs	Partner Partici- pation	Partner/ Customer Satisfaction compared to baseline	Percent Infra- structure complete	Depends on program steps to goals	Depends on program steps to goals	Depends on program steps to goals	Carbon equivalent MMTons	\$Energy Savings/ Increase Clean Energy	\$ Non- federal Invest- ment	Employ- ment Impacts (net)
"Umbrella" Cross-cutting										
CW: Climate Wise										
Commercial Energy Efficiency										
1: Rebuild America (sample numbers)	120/1000	35%	10%	# audits	n/a	5K/20K	0/0	.025/.040	\$500/630	100/140
Residential Energy Efficiency										
6: Market-pull partnerships										
Industrial Energy Efficiency										
12: Motor Challenge				# people trained	use rate- our tools	adoption breadth				
Energy Supply										
26: Renewable Collaboratives, etc.				#\$ new deploymnt projects	#targeted consortia partners	%annual growth in sales				
27: Promote Integrated Resource Planning				#\$ grants awarded	% new IRPs fit criteria	resulting renewabl capacity				
Totals	<i>(Not all Progress factors will be totaled)</i>						MMTon	\$ B	\$ B	XXX

Coordinated CCAP Evaluation Plan
Evaluation Issues/Evaluation Methods (and data sources)

Issue/Method	Priority	QM Effort	Models	CCAP Tracking	Survey	Focus Group	Peer Review	Stakeholder Review	Case Study	Partner Reports	EPACT 1605 (b)	File Review-Success Stories	Existing Eval.	Other
Key Outcomes														
How much carbon reduction	High	X	X				X	X			X			
Energy Savings	High	X								X	X	X		
Non-Federal Investment	High	X		X							X	X		
Net jobs	High	X	X						X	X		X		
Probes on Key Outcomes and Voluntary Aspects														
Other/unintended benefits	Med			X					X	X		X		
Sector contributions	Med	X		X			X	X				X		
Programming instruments contributions	Med			X		X			X					
Individual Action's contribution	Med			X				X	X	X		X	X	
Voluntary Approach														
Partnerships: Number/\$/ significance	High			X					X	X		X		

Issue/Method	Priority	QM Effort	Models	CCAP Tracking	Survey	Focus Group	Peer Review	Stakeholder Review	Case Study	Partner Reports	EPACT 1605 (b)	File Review-Success Stories	Existing Eval.	Other
Number people, organizations	High			X						X	X			
Market penetration	High	X	X	X				X	X					
Participant satisfaction	High			X	X	X								
Barriers identified, how overcome, improved	High					X			X			X	X	
Non-participants: Why? What's needed?	Med				X	X							X	
Government Cooperation	Low			X								X		
Public Opinion/Awareness														
more favorable due to plan?	Low				X							X		
influence more people/what most effective?	Low				X	X				X				
unintended benefits?	Low					X				X		X		

Definitions for CCAP Common Activity Groups

Underline indicates Energy Policy Act of 1992 (EPACT) activity tracking category

Double underline indicates new or substantial difference

EPACT Study/Planning would be an input for one of these categories

1. **Partnerships** - Cooperation with government and private entities to co-fund or co-deliver a service. Joint ventures are partnerships. Activities to coordinate planning of programs within the Department, with other Federal agencies, with state and local governments, and with utilities are partnerships. Any of these activities may also be a partnership activity.
2. **Research and Development** - Scientifically based analysis of a subject area and its advancement, progress, and improvement. Projects to jointly research and develop (or further develop) a technology would be included.
3. **Education/Training** - Targeted activities involving dissemination of technical information or training by formal instruction, supervised practice, or knowledge development. Likely formats are seminars, workshops and conferences, where participants actively pursue the information.
4. **Demonstrations** - Projects designed to prove, display, or show, the viability, merits, and benefits of a product or process. It may or may not be full-scale or carried out under all actual-use conditions. It includes field validations, projects designed to test the viability of a technology (or application of a technology) under actual-use, full-scale conditions. Joint ventures may or may not be demonstrations.
5. **Technical Assistance** - Imparting scientific and technical advice based on specialized knowledge of the field, usually in response to individual, specific requests. A number of technology transfer activities would fall in this category.
6. **Incentives/Financial and Recognition** - Provisions that provide some form of financial encouragement to those who participate. This may be in the form of monetary payment such as grants, tax credits, and production incentives. Awards and recognition are incentives that may contribute to financial health by advertising and building good will.
7. **Regulation/Standards** - Actions that develop, establish, or monitor authoritative rule(s) having force of law, such as a rule making process to set maximum emission levels. Standards may set or validate criteria for a particular dimension, such as energy efficiency, for comparison and information purposes.
8. **Information Dissemination** - Communication of information, primarily summary and non-technical, to a broad audience, usually for the purpose of changing attitudes or behavior, or influencing the awareness or public view of the subject matter. This would be separately measured for an individual Action only if it was a unique and large part of its activities.

Strawman 5/1/94

EE/CCAP Actions and Activity Groups for Coordinated Evaluation

Action #	Information Dissemination	Partnerships Pvt.&Gov't	R&D	Education/ Training	Demonstration	Technical Assistance	Incentives Fiscal,Awards	Regulate/ Standards
1		X		X	X	X	\$	
3		X					\$ + R	X?
4		X	X?	X	X		\$	
5		X		X		X?		
6		X	X?			X	\$	
7								X
8		X		X		X?	\$ + R	X
9		X	X?	X	X?	X	\$	
10				X		X	\$	X?
11		X		X	X	X	R	
12		X		X	X	X	\$?	
13		X	X?	X	X		\$ + R	
14		X	X	X		X	\$?	
15		X		X		X	\$?	
16		X	X?		X	X	\$	
26		X	X	X	X	X	\$	X
27		X		X		X	\$	
29		X			X			X
CW	X	X		X		X	R	

Note: There are DOE actions in addition to the EE Actions above.