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Climate Change Other Credit for Early Action [1]

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001. email	[Personally Identifiable Information] [partial] (1 page)	10/29/1999	b(6)

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Clinton Presidential Records
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Roger Ballentine
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FOLDER TITLE:

Climate Change Other Circuit from Early Action [1]

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RESTRICTION CODES

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

- P1 National Security Classified Information [(a)(1) of the PRA]
- P2 Relating to the appointment to Federal office [(a)(2) of the PRA]
- P3 Release would violate a Federal statute [(a)(3) of the PRA]
- P4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
- P5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]
- P6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

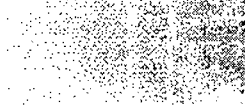
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Freedom of Information Act - [5 U.S.C. 552(b)]

- b(1) National security classified information [(b)(1) of the FOIA]
- b(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]
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- b(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
- b(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
- b(9) Release would disclose geological or geophysical information concerning wells [(b)(9) of the FOIA]



Janet Anderson

05/16/2000 04:33:42 PM

Record Type: Record

To: Roger S. Ballentine/WHO/EOP@EOP
cc: David Gardiner/CEQ/EOP@EOP, Angela C. Mizeur/WHO/EOP@EOP
Subject: CO2 reporting

EIA puts out the report on ghg (CO2) emissions from energy use. The emissions numbers are by industry sector and come from a variety of sources. Industry is required to complete every 3 years the Manufacturing Consumption of Energy survey (requirement under the census laws and reported to EIA). Energy use (Mcf, tons, barrels, etc) is converted to Btu and then with an emission factor to tons of CO2. As this survey is only completed every third year, EIA augments it with data from industry associations, but this fill-in data doesn't represent all entities. And given discussions I've heard at industry meetings, different companies report data differently to their associations. Utilities are required to report actual CO2 emissions annually. Other industries would have a hard time with a continuous emission monitor standard, but other methodologies could give very good results and may not be considered too onerous.

I won't be able to reach the EIA guru of these reports until tomorrow if you want more details.

THE CEO COALITION

THE CEO COALITION TO ADVANCE SUSTAINABLE TECHNOLOGY

The CEO Coalition is a group of senior business leaders shaping policies that advance an ecologically sustainable basis for long-term prosperity. It provides a forum for CEOs to explore major issues of technology, public policy, resource productivity and economic development among themselves, to develop policy proposals that reflect their unique perspectives and experience, and to personally lobby key national decision-makers.

The CEO Coalition brings together leaders from many sectors of the US economy. It is not a trade association and instead takes an interest in policies and practices that stand to benefit the public good and the economy in the broadest measure.

Formation of the CEO Coalition was inspired in part by White House conferences on environmental technologies and the Technology for a Sustainable Future Initiative. The coalition maintains close working relationships with the White House, members of both Houses of Congress, and many federal and state departments and agencies.

The Coalition's Mission

The CEO Coalition to Advance Sustainable Technology is a consortium of business leaders committed to advancing innovative technologies and sustainable development practices. Sustainable development addresses local and global environmental challenges in meeting the needs of the present without compromising the ability of future generations to meet their needs. CEO Coalition member companies:

- see the challenges of sustainable development as promising major opportunities for competitive advantage, job creation and shared economic prosperity;
- look to take advantage of such opportunities to improve resource efficiency in their own companies; and
- are willing to join with other CEO Coalition members to educate opinion-leaders, government officials and other businesses about the need for programs (such as Early Action Crediting) to encourage resource efficiency, remove regulatory barriers and speed the commercialization of efficient new technologies.

Working Groups

The Coalition has formed working groups to pursue initiatives in three policy areas: climate change; regulatory reinvention; and support for technology research, development and deployment.

Climate Change

The preponderance of scientific evidence indicates that human activity is causing changes in the earth's atmosphere that could damage the earth's ecosystems. The CEO Coalition believes that voluntary early action to reduce greenhouse gas emissions and mitigate the possible effects of prior, present and future emissions is both an urgent priority and a great opportunity. It is an opportunity because a dedicated effort to reduce emissions can increase overall efficiency and productivity, stimulate innovation, and promote wiser use of scarce resources.

The Climate Change Working Group:

- Seeks consensus among CEO Coalition members regarding Climate Change issues and communicates those conclusions to policy makers and other stakeholders.
- Works to build consensus among business groups, non-government organizations and other committed parties in support of constructive Climate Change policies and programs.
- Actively advocates in support of policies, legislation, regulations and practices that encourage climate change practices that reflect the priorities of our coalition.

The Coalition's climate change initiatives include:

Early Action Crediting

In 1998-99, the CEO Coalition developed a detailed technical proposal for Early Action Crediting. This voluntary program is intended to protect the interests of US companies who have already begun to reduce greenhouse gas (GHG) emissions, and to encourage other companies to do so now, before statutory reduction requirements are in place. This proposal has been favorably reviewed by Administration, Congressional and corporate decision-makers and by environmental NGOs.

The CEO Coalition approach to Early Action Crediting:

- Is voluntary;
- Uses CO2/\$ of revenue as the key metric. This treats the emissions of companies across most industries on a comparable basis; does not penalize growing businesses; and facilitates adjustments for mergers/acquisitions or divestitures.
 - Electric generators use a metric of CO2/kWh; government agencies use CO2/\$ of budgetary expenditure plus amortized capital expenditures.
- Addresses the emissions of the entire corporation, and not just divisions or subsidiaries.

- Promotes a flexible approach to mitigating emissions that encourages companies to seek reductions through improvement in internal operating efficiencies but also considers sequestration; creation of offsets by transferring efficient technologies to developing countries through Joint Implementation/Clean Development Mechanism protocols; and/or trading of offset credits.

The CEO Coalition uses this detailed technical proposal in its efforts to develop broad business support for a policy of Early Action Crediting. In addition, the Coalition also supports state and regional efforts to organize voluntary emissions reduction registries and carbon trading programs.

Global Climate Change Educational Foundation and Registry

In early 2000, the CEO Coalition created the Global Climate Change Educational Foundation and Registry to meet the need for a national clearinghouse to record verified emissions reductions.

The Global Climate Change Educational Foundation and Registry (the Registry) is an independent, not-for-profit corporation governed by participating organizations. Businesses, state agencies, universities, churches and other public and private organizations all may use the Registry to record emissions baseline data and their verified emissions reductions.

The Registry uses the international standard protocol for reporting GHG emissions developed by the World Resources Institute. It offers technical assistance to help companies learn how to monitor their emissions and structure and implement organization-wide emissions reductions programs, and education to explain the public environmental and economic benefits of action to improve resource efficiency.

The Registry qualifies third-party auditors who provide independent verification of emissions reductions, and assists participating organizations to select and retain such auditors. The auditors verify that reductions are unique and sustainable and vet quantity calculations, including those achieved through internal efficiency improvements, sequestration, or through technology transfer that reduces or obviates emissions in developing countries through JI or CDM protocols. The Registry then maintains records of all such verified reductions.

The cost of the Registry's technical assistance and record-keeping functions is paid largely by the organizations that use its services, while the cost of its outreach and educational programs is supported by funding from educational/charitable foundations.

Regulatory Reinvention

The structure and practices of many current regulations emphasizes compliance with static standards, can discourage development of more efficient technologies, at times includes incentives for perverse behavior, and so doesn't encourage progress toward resource efficiency and an ecologically sustainable economy.

Yet regulation can be an engine of ecologically sustainable economic progress—if it is recast to inspire constant learning and improvement, innovation and new technologies.

The goal of the CEO Coalition's Regulatory Reinvention Working Group is to develop a legislative and regulatory reform package proposing new initiatives in several areas. These areas include:: promotion of technological innovation as an explicit environmental objective; elimination of structural features in current law that impede innovation; and creation of a new framework for standard-setting and enforcement. By moving away from dictating specific technologies, the Environmental Protection Agency's rule can shift from a prescriber of solutions to one focusing on science, standard setting, and enforcement backstop.

The Working Group's action plan centers around these major components:

- **New Vision:** Involve CEOs and key government leaders in developing a consensus vision of the structure and operation of a new regulatory regime. This vision may include replacing current environmental permits with enforceable "integrated environmental plans" that address water, air and other impacts holistically but with one basic filing; the development of industry-specific environmental agendas establishing ten-year improvement trajectories for broad industry sectors; validation of experimental reforms (such as Project XL) now underway; and other approaches to building incentives for technological progress and constant environmental improvement into everyday regulation.
- **Build Business Support** for this vision around a program of specific policy proposals.
- **Enact New Legislation:** Create sufficient political support to enact a regulatory program based in this consensus vision.
- **Remove Existing Biases:** Create political support sufficient to encourage present regulatory bodies and Congress to remove existing barriers to application of more efficient technologies and encourage implementation of new technologies and behaviors to advance environmental objectives.
- **Legitimize Reforms Now Underway:** Build support for extending Project XL (which offers flexible regulatory treatment for companies exceeding current requirements) and the Common Sense Initiative (which integrates regulatory requirements across statutory regimes) to more companies and industries.

Research, Development and Deployment

Faced with abundant natural resources and a small human population, industrialization proceeded for centuries largely unaware of its ecological consequences. Today, labor surpluses and a constrained ecosystem encourage a qualitatively different approach to resource productivity—and one which requires accelerated development of new technologies.

Striking advances in many scientific disciplines now make it possible to envision a new industrial revolution—one in which materials and processes are intentionally designed not to be toxic or carcinogenic, not to create emissions or other waste; one in which all materials are either compostable or capable of being reconfigured and indefinitely reused.

Dramatic improvements in resource efficiency—and correspondingly large reductions in waste and other ecosystem stresses—are readily achievable entirely with current scientific understandings. But realizing this progress requires rapid development of technologies that bring expanding scientific understandings into the daily economy.

The mission of the Research and Development Working Group is to:

- Identify specific barriers to the commercialization of new technologies, and communicate the location of such barriers in existing legislation and regulation to Congress and key government decision-makers;
- Promote better understanding of the significance of such barriers among key opinion-leaders;
- Build broad business support for legislation to remove such barriers; and
- Build business support for measures that encourage and support application of new technologies.

Membership

The CEO Coalition is a not-for-profit corporation supported entirely by its member companies. Membership is open to companies and other organizations who subscribe to the CEO Coalition Mission Statement noted above.

Most of the Coalition's work is pursued by its three working groups which meet frequently (often by telephone), as required by their particular action programs. The Board of Directors meets monthly. The full Coalition membership meets at least twice each year.

The Coalition has four classes of membership: Regular Members; Patrons; Start-up Companies; and non-voting Associate Members.

Regular Members: Large-company Members (company revenue >\$100 million) pay dues at \$10,000/year; small-company Members (revenue <\$100 million) pay dues at \$5,000/year.

Patrons: A seat on the CEO Coalition Board of Directors is reserved for each Patron member. Patrons pay dues at \$50,000/year.

Start-Up Company Members. Consistent with the Coalition's support for the development of new technologies, we reserve 10% of our membership for small and/or not-yet-profitable technology companies. Start-Up is defined as having negative net income and/or revenue of <\$10 million/year. Start-up companies pay dues at \$1,000/year.

- Start-up Company Members have the same voting privileges as regular Members. Like all members, they agree not to use the CEO Coalition as a forum for marketing their companies' products or services to other Coalition members.
- Start-up companies may remain in this category of membership for up to three years, in exchange for a pledge to join the Coalition as full dues-paying members as soon as they achieve revenue >\$ 10 million and/or their second year of profitability.

Associate Members. As an organization of businesses, the CEO Coalition reserves voting rights to company members. We also recognize that individuals and not-for-profit NGOs may be able to help extend the Coalition's mission. Any Coalition member may nominate individuals or NGOs to be Associate Members. The Board of Directors reviews such nominations once each quarter and decides whether or not to invite nominees to join as Associate Members. Associate Members pay no dues and have no voting privileges.

Representation: Titular membership is limited to the Chairmen, Presidents, CEOs or other senior officers of member companies. Such officers may appoint others in their organizations to attend CEO Coalition working meetings in their stead, but agree to list themselves (rather than their deputies) as the official Coalition member in all public announcements.

CEO Coalition Officers and Directors

Board of Directors

Ralph Peterson
President and CEO
CH2M Hill

Charles J. McDermott
President and CEO
The RockPort Group

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THE CEO COALITION

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2000 MEMBERSHIP

The following are recommended dues established by the Board of Directors of the CEO Coalition:

Start-up Companies	\$ 1,000
(negative net income and/or revenue of <\$10 million/year)	
Small Companies	\$ 5,000
(<\$100 million in revenues/year)	
Large Companies	\$10,000
(\$100 million or more in revenues/year)	

Please make check payable to CEO-CAST.

Dues in the CEO Coalition are not tax deductible as a charitable contribution, but may 90% tax deductible as a business expense because the CEO Coalition could engage in lobbying activities of up to 10% of dues receipts. Please consult your tax advisor.

MEMBERSHIP INFORMATION

1. Name: _____
2. Corporation/Organization: _____
3. Title: _____
4. Address: _____
5. City: _____ State: _____ Zip Code: _____
6. Telephone: _____ Facsimile: _____
7. E-mail Address: _____ Format _____
(i.e. Word Perfect, Word, RTF)
8. Secretary/Assistant Name, Telephone Number, and E-mail:

THE CEO COALITION

THE CEO COALITION TO ADVANCE SUSTAINABLE TECHNOLOGY

Climate Change Working Group

Mission Statement

There is a preponderance of scientific evidence that indicates that human activity is precipitating a rise in the earth's atmosphere temperature that could damage the earth's ecosystems. The CEO Coalition believes that voluntary early action to reduce greenhouse gas emissions and mitigate the possible effects of prior, present and future emissions is both an urgent priority and a great opportunity. It is an opportunity because a dedicated effort to reduce emissions can increase overall efficiency and productivity, stimulate innovation, and promote wiser use of scarce resources.

The Climate Change Working Group of the CEO Coalition will:

- Seek consensus among CEO Coalition members regarding Climate Change issues and communicate those conclusions to policy makers and other stakeholders.
- Work to build consensus among business groups, non-government organizations and other committed parties in support of constructive Climate Change policies and programs.
- Actively advocate in support of policies, legislation, regulations, and practices that encourage climate change practices that reflect the priorities of our coalition.

Action Plan

The Climate Change Working Group will undertake the following activities in support of its mission statement:

1. Identify and convene a group of businesses and industry organizations which support early action crediting. This group will develop a set of principles to which the members of the group sign on. The purpose of the principles is to demonstrate business and industry support for the concept of early action crediting (without asserting positions on divisive details of proposals).
2. After developing the principles, the business and industry groups led by the Climate Change Working Group shall develop and implement a dissemination strategy to inform Members of Congress, key

Administration leaders, and other organizations about the principles and seeking these officials' support for an early action initiative.

3. The Working Group shall work with the business and industry groups and other groups to educate Members of Congress, the Administration, and business leaders about the issues of climate change and the importance of adoption of an early action crediting system.
4. The Working Group shall work with individual Members of Congress and appropriate personal and/or committee staff to craft legislation establishing an early action crediting system and legislative package.
5. The Working Group shall work with senior Administration officials toward reaching consensus on an early action legislative package.
6. The Working Group shall continue to develop and refine the Secretariat proposal, now known as the Global Climate Change Educational Foundation and Registry.
7. Discussions toward the finalization of a partnership with one or more other organizations for the establishment and operation of the Foundation and Registry shall be completed.
8. Potential leaders, i.e. the Chairman and Executive Director, for the Foundation and Registry are to be identified and these positions filled as part of the establishment of the organization.
9. The Working Group will work to identify businesses to participate in the Foundation and Registry and shall begin recruitment efforts.
10. The Working Group will facilitate work of the Foundation and Registry with other groups, as appropriate, to develop the measurements and protocols necessary to implementation of the Foundation and Registry's system.

GhgProtocol

A Collaborative Initiative to Build an International Standard For Measuring & Reporting Business Greenhouse Gases

*Towards a common standard for company reporting
on greenhouse gas emissions*

What is the GhgProtocol Initiative?

The initiative brings together many leading experts on greenhouse gas emissions. The participants, drawn from business, governments, and NGO's, are working in partnership to design, disseminate, and promote the use of an international corporate protocol for measuring and reporting business greenhouse gas emissions.

The initiative's outputs will include a phased delivery of 3 modules: core operations; product life cycle and carbon sequestration, together with implementation tools and supporting guidance.

Why is a common standard needed?

Although important progress has been made on measuring and reporting greenhouse gas emissions, there is still much confusion over what should be included in a corporate greenhouse gas inventory and how it should be measured. Existing guidance provides different and sometimes conflicting answers to even the most basic questions:

- How do we define the reporting boundaries for my organization - should it include joint ventures, franchises, contracted out activities?
- Should indirect emissions, such as those from electricity, be included in our inventory?
- Which emissions factors should we use?
- Where do we start?

The initiative aims to simplify the task of reporting, while improving the credibility, comparability, and utility of the resulting information. It will serve a range of purposes, including: helping companies to identify greenhouse gas reduction opportunities; establishing a foundation for greenhouse gas reduction goals; providing a tool for self assessment or independent auditing; enabling stakeholders to assess progress; and providing data that enables flexible, market-oriented climate policies.

Developing constructive solutions based on partnerships and stakeholder interaction is fundamental to gaining widespread adoption of the protocol by organizations, policy makers and other key users of greenhouse gas emissions information.

Who is Involved in the collaboration?

The project is being undertaken in a spirit of collaboration and seeks to achieve performance through teamwork -- based on clear roles and specific responsibilities. Responsibility for developing, reviewing, road testing, and dissemination is shared among a Project Management team, Production team, Peer Review team, and Networking Partners. Teams are carefully designed to achieve dialogue and positive contribution and reflect a good balance in membership from different parts of society -- business, NGO's, governments, and inter-governments -- as well as geography and industry sector. The World Resources Institute provides organizational support to the collaboration and oversees the management of the website.

needed to help road test the core operations module during the summer of 2000.

- *Development of sector-specific protocols:* participants with expertise in measuring greenhouse gas emissions from a specific sector are needed to help with the development and review of the core-operations module's sector guidelines.
- *Task force on Product life cycle module:* volunteers are needed to participate in a small taskforce to develop a strategy for moving forward on the product life cycle module for greenhouse gas emissions.
- *Task force on Sequestration module:* volunteers are needed to participate in a small taskforce to develop a strategy for moving forward on the sequestration module.
- *Task force on Inventory Goals & Quality:* volunteers are needed to help develop implementation guidance on the

assessment of completeness and accuracy of inventories.

- *Networking partners to assist in outreach activities*

Where to get more information?

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World Business Council
for Sustainable Development

Participating Organizations Include:

Arthur D. Little, Inc.
Australian Greenhouse Gas Office

BP Amoco plc

Canadian Institute of Chartered Accountants

CEO Coalition to Advance Sustainable Technology

CERES

Center for Energy and Climate Solutions
CH2M HILL

Clean Energy Group

Climate Neutral Network

Consolidated Edison Co. of New York

Dow Chemical Company

First Environment

General Motors

Global Environmental Management Initiative

Global Reporting Initiative

Imperial Chemical Industries plc

Interface Research Corporation

International Paper

Norsk Hydro

Pew Center on Global Climate Change

PowerGen

Pricewaterhouse

Coopers LLP

Public Service Enterprise Group

Rocky Mountain Institute

Shell International

STMicroelectronics

Suncor

Tata Energy Research Institute

Tokyo Electric Power Company Inc.

ThermoRetec

Traxler & Associates, Inc.

UNEP

US Department of Energy

US Environmental

Protection Agency

United Technologies Corporation

WBCSD

WRI

World Wildlife Fund

A multi-stakeholder initiative convened by the World Resources Institute and the World Business Council for Sustainable Development

DRAFT

**Greenhouse Gas Emissions
Registry
And
Educational Foundation**

A Proposal By: CEO Coalition to Advance Sustainable Technology

Greenhouse Gas Emissions Registry and Educational Foundation

Introduction

In 1997, the nations of the world gathered in Kyoto, Japan to agree on actions to reduce their emissions of greenhouse gases (GHG's) for the purpose of mitigating the perceived disruptions that those emissions could cause to the earth's climate. The Kyoto Protocol was hailed by some as an important step towards addressing global warming. However, others questioned the science underpinning climate change concerns, felt the compliance costs outweighed the benefits, or believed that reduction burdens would be unevenly shared among nations and could create competitive disadvantages for the U.S. and other countries. Scientific evidence is mounting about global warming and its potential harmful impacts and some form of a control regime for greenhouse gases is becoming more inevitable.

As U.S. companies assess the impact that climate change policy will have on their businesses, they face many uncertainties. Will the U.S. ratify an international treaty that sets emission targets? Absent a treaty, will stakeholders demand a type of corporate behavior that includes GHG reductions? If they "sit it out", will they suffer market loss to "greener" competitors? If they reduce emissions voluntarily now, will they be effectively penalized by some future regulatory program that does not fairly score their voluntary actions? Moreover, while they are reducing their energy intensity now, how do they document the emissions reductions they are achieving?

This proposal is premised on the belief that it is both desirable and inevitable that a growing number of companies, in the U.S. and abroad, will establish programs to voluntarily reduce their greenhouse gas emissions. A first wave of companies has already begun taking voluntary "early action", and are demonstrating that the more efficient use of resources creates real business opportunities. These first movers are realizing strategic positioning advantage, competitive advantage, and higher profits through reduced costs. But, the growth in the number of companies taking such action will be constrained by uncertainty over the future risks and benefits associated with making early reductions unless a mechanism and standards are provided to capture and report on such reductions in a meaningful and consistent manner.

Thus, the opportunity to create meaningful GHG emissions will go largely unrealized, unless accepted standards and protocols are established that guide corporate participants. These standards will reduce the uncertainty currently holding up participation by providing some baseline protection against future regulatory programs and will thereby encourage companies to take action before a regulatory program is in place.

Ground rules for greenhouse gas emissions reductions could be created through the federal legislative process, but the necessary level of congressional support for such an approach is currently lacking. This proposal describes an alternative approach that does not depend on either international agreement or domestic political action. Specifically, this paper outlines a vision for a stakeholder-driven process to:

- provide a record keeping function for participating companies to rigorously measure and track emissions reductions
- facilitate independent verification of emissions reductions;
- create definitional guidelines for corporate voluntary GHG reduction;
- educate companies and the public about the benefits early action; and
- inform the development of future regulatory programs.

The Greenhouse Gas Emissions Registry and Educational Foundation (referred to as “the Registry”) would bring expertise, integrity and commitment to these tasks with the overall goal of maximizing voluntary and sensible early action to reduce greenhouse gas emissions. The remainder of this paper describes the proposed structure and mission of the Registry in greater detail.

Public Benefits of a Voluntary Early Action Program

Private voluntary programs can generate important public benefits, including, but not limited to: immediate actions to reduce emissions, establishing ‘best practices’ on measurement, monitoring, reporting and verification of emissions reductions, increased awareness among business and the public about the challenges of global warming and the opportunities to take cost-effective action. These benefits are described in more detail below:

Meaningful Emissions Reductions: By removing barriers to action now, the Registry can spur additional emissions reductions today and in the near future. These reductions can be environmentally significant for both global warming and local air pollution problems. To achieve significant reductions, a voluntary program must have both the flexibility and integrity to attract a large number of participants.

Establishing Best Practices: A voluntary registry will encourage innovation and creativity, and will ultimately enable sharing of best practices among program participants and also with stakeholders, policy makers and the public. Demonstration of best practices will generate significant emissions reductions with cost savings and often other important benefits, such as reduced waste, improved productivity, reduced operating and maintenance expenses, greater reliability, and improved employee comfort and morale. For some GHG emission sources, the reduction options today are few and/or expensive. By encouraging creativity, a voluntary registry will encourage innovation and help drive down compliance costs.

Easing Compliance Achievement: As a benchmark, the Kyoto agreement creates a compliance period from 2008 to 2012. By the mid-point of that period, participating countries are expected to reduce their GHG emissions to levels at or below their 1990 baseline. The longer parties wait to begin reduction activities, the steeper (and more costly) is the glide path to that compliance end point. Early action eases the descent from today's emission levels to those envisioned in international agreements.

Informing the development of a future regulatory program: There have been numerous instances in which voluntary programs have preceded, and informed, subsequent regulatory programs. The Registry will be able to provide important information to stakeholders and policy makers about opportunities to reduce greenhouse gas emissions, challenges in measuring, monitoring and verifying emissions and best practices for reducing emissions.

Roles of the Foundation and Registry

It is envisioned that the Foundation and Registry, and the individuals who staff it, will wear many hats. The Foundation and Registry will:

- participate in a multi-stakeholder process that establishes participation ground rules;
- raise corporate and public awareness about the existence and benefits of an early action program;
- develop rigorous measurement and reporting protocols;
- facilitate the independent monitoring and verification of reduction activities; and
- function as a repository of data and information on corporate reduction results.

Each of these roles will be described in greater detail below.

Establishing Rigorous Ground Rules: In the absence of a federal program, it falls to a credible third party to convene a process that establishes the rules of the game for voluntary early action. That process must be an inclusive one which includes representation from a broad spectrum of stakeholders, works by consensus, and enjoys credibility with and respect from program participants and observers. Such a process is already underway. The World Resource Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) have initiated a collaboration to develop international standards for measuring and reporting greenhouse gas emissions from business. Upon its establishment, the Registry will join in the deliberations of this group. The Registry will promote the development of rigorous protocols for measuring and reporting emissions, transparency and public access to data, and strong provisions for maintaining the confidentiality of sensitive business information.

Recruitment: Once the ground rules are established through the stakeholder process, the Registry will undertake a public awareness and education campaign aimed at maximizing participation in the program. The Registry will work with other stakeholders and advocates to use a variety of media to execute an outreach effort to the U.S. business community. The Registry will work to make companies aware of the program's existence, to understand its details, and to recognize the benefits of participation. It will be critical to the success of this effort that the Registry attract people of talent, integrity, and credibility to staff the Registry and execute this and other functions.

Verification of Reductions: Verifying emissions reductions in the Registry will provide another important level of credibility and rigor to participants. However, verification of emissions reductions is a potentially complex and resource-intensive undertaking, and a number of important issues around verification remain to be examined. For this reason the Registry will initiate a multi-

stakeholder process, in conjunction with (WRI and WBCSD or the Technical Advisory Board), to examine these issues. This process, to conclude within six months of the establishment of the Registry, will yield important recommendations for a balanced and manageable approach to verifying emissions reductions that can be adopted by the Registry.

Communicate Lessons with Policy Makers: By stimulating early action and gaining valuable experience in measuring and reporting emissions, the Registry hopes to share important lessons with domestic and international policy makers. A primary reason for companies to participate in the Registry is to ensure that their early actions to reduce emissions are rigorously measured and documented using protocols developed and monitored by an independent entity. This documentation will give companies important protection against two serious concerns: that their voluntary actions will later create a disadvantage (often referred to as "baseline protection"), and they want their reduction activities to "score" in a future regulatory program. By serving as a repository for independently verified voluntary emission reduction activities, and by recording and sharing best practices, the Registry will have experience and data that will be hard to ignore when a federal program is ultimately being fashioned.

Structure of the Registry

It is envisioned that a Chairperson, an Executive Director, a Technical Director, and an Administrative Assistant will staff the Registry. Their individual roles and duties are described below.

Chairperson: An individual of recognized stature and integrity whose visible involvement with the Registry will bring interest and attention to the project's existence and goals. While perhaps not full-time, the specific duties of the Chairperson will include acting as the most visible spokesperson and advocate for the organization, and assisting with fundraising.

Executive Director: This position requires an individual with a recognized expertise on climate change issues, familiar with the scientific, technical and political aspects of the issue. The Executive Director will need to bring strong organizational, managerial and communication skills to their role. Specific duties of the Executive Director include:

- Managing the Registry's involvement in the stakeholder process;
- Fundraising;
- Spokesperson at conferences;
- Participating in national and international meetings of importance regarding GCC;
- Recruiting participants; and
- Monitoring US and international GHG policy developments.

Technical Director: The Technical Director will bring a high level of expertise on scientific and technical issues to the Registry. The Technical Director will be responsible for:

- Developing and maintaining the database of emissions reduction information at the Registry, including web-based tools and forms for collecting data and quality assurance programs;
- Assisting participating companies on technical issues;
- Expanding, updating and fine-tuning the rules for measuring and reporting emissions reductions;
- Maintaining the security and confidentiality of sensitive business information in the database; and
- Developing, as appropriate, technical reports, analyses, summaries, statistics and other information on participants' activities to help communicate lessons among participants and with other stakeholders and the public.

Administrative Assistant: An individual with strong administrative, research and people skills responsible for the support of the Chairman and Executive Director and Technical Director.

Participation in the Foundation and Registry

Participation in the Foundation and Registry is by membership. By joining the Registry, a company can begin to examine options for reducing its greenhouse gas emissions, report its baseline emissions, identify specific steps taken to achieve reductions, report the reductions achieved to the Registry and, ultimately, obtain verification of the reductions. In addition, member companies may participate in the Registry by serving on one or more of the technical and advisory committees of the organization. These advisory and technical committees assist and advise the Board of Governors in establishing definitional guidelines, conducting peer review, setting protocols for measurement and reporting of emissions reductions, and developing the verification process.

Each member company will have one vote for the election of the Board of Governors which will govern the organization. Member companies will be requested to financially and operationally contribute to the Foundation and Registry to meet its mission.

Opportunities For Members

The opportunities of membership in the Foundation and Registry comprise these main aspects: registration and reporting of emissions reductions, and verification of emissions reductions by certified independent reviewers. Each of these aspects will be addressed in turn.

Registration

Upon joining the Registry, a company will be provided access to a resource and expertise databank to assist the company in identifying avenues to achieve qualitative and quantitative reductions in greenhouse gas emissions. The databank will be derived from existing expertise in the area and from the experience of subscribing companies which have already instituted emission

reduction programs and permitted dissemination of their experiences and results. A technical advisory committee will work with the staff of the Registry to keep the databank current and to identify additional resources for inclusion in it.

Reporting

Subscribing companies may choose to report their baseline emissions and emission reductions within the format and under the protocols established by the Board of Governors to ensure consistency and accuracy of the data. It is intended that the reporting system protect confidential business information yet provide data about its achievements and provide a mechanism by which emissions reductions can be tracked over time, by company and by reduction activity. Our expectation is that the reporting system will be web-based to make it easily accessible by member companies. The protocols and reporting mechanisms will be reviewed and recommended by a technical advisory committee with the goal of providing quality information in usable and comparable form without undue burden on subscribers to obtain and report the information or revealing confidential company information.

Verification and Certification

The Registry intends to subject all registered emissions reductions to appropriate verification procedures, pending the outcome of the stakeholder process to develop them. This will clearly communicate that emissions reductions reported by participating companies are valid and accurate, not merely self-serving or apparitious to regulatory bodies and other stakeholders.

Benefits of Membership

The purpose of the Registry is to utilize a private sector entity to encourage, quantify and record voluntary greenhouse gas emissions with independent verification to establish the validity of the reported data. It is anticipated with the establishment and use of a private sector measurement and reporting mechanism, the future regulatory process may be informed about the voluntary actions taken by subscribing companies before a regulatory regime is instituted. Moreover, Registry subscribers will be well-positioned to achieve the highest value for the emissions reductions they achieve both in the marketplace and in the regulatory arena through the independent verification and certification process.

The Registry will host annual information conferences for members to keep up to date on the latest technologies, achievements, and policy or regulatory initiatives. In addition, the Registry will facilitate technical workshops to address particular issues, industries or technologies on an as needed basis.

Next Steps

The CEO Coalition to Advance Sustainable Technologies (CEO Coalition) is an organization of companies united in the belief that environmental stewardship and a strong

economy go hand in hand. The CEO Coalition has been an active participant in the policy area regarding climate change in general, and credit for early action in particular. The leadership of the CEO Coalition has committed to seeking corporate, foundation, and other support to fund the activities of the Registry during the start up phase. The CEO Coalition will play a lead role in recruiting staff for the Registry as well. Ideally, commitments for start-up funding and the recruitment of key personnel could be secured during the first quarter of 2000.

**CEO COALITION TO ADVANCE SUSTAINABLE
TECHNOLOGY**

(CEO Coalition)

EARLY ACTION CREDITING PROPOSAL

EXECUTIVE SUMMARY

CEO CAST EARLY ACTION CREDITING PROPOSAL

The CEO Coalition to Advance Sustainable Technology (CEO Coalition) is a new public policy organization of CEOs who share the view that environmental stewardship is compatible with sound and competitive business practices. The CEO Coalition proposes to create a climate change early action crediting system that will reward businesses for making environmental progress in the climate change arena in ways that make sense to individual companies, individual business units, and even individual consumers. The CEO Coalition approach is not envisioned as the only early action program in which the Administration may wish to engage, but it does allow voluntary early actions to take place while a broad-ranging debate over the large climate change policy arena is carried out.

Under the CEO Coalition Early Action proposal, companies or organizations would *earn early action credits by increasing their GHG emissions efficiency beyond a business-as-usual improvement rate*. The proposal contains an incentive to encourage greater increases in emissions efficiency and promote renewable energy. Early action credits would be convertible starting in 2008 into U.S. allowances (if an allowance-based system is created either by allocation or auction), tax credits (if a carbon-equivalent tax system is created), or whatever other U.S. incentive program might be created. The mechanism for earning credits is based upon three factors:

- **An Emissions Efficiency-Based Formula For Earning Early Action Credits:** Emissions efficiency is measured by one of three ratios. Most companies would use pounds of CO₂-equivalent per dollar of sales (CO₂/\$). The public-sector CO₂/\$ ratio would use dollars of operating expense plus amortized capital outlays instead of sales. Electric utilities and power marketers would use pounds per kilowatthour (CO₂/kWh).
- **A Business-as-Usual Improvement Rate:** The proposal assumes a one- percent per year business-as-usual improvement rate in emissions efficiency starting in 1995. CEO CAST is proceeding with technical analysis that might modify this assumption, especially for the electricity sector.
- **A Crediting Multiplier:** The CEO CAST Early Action program uses a sliding scale that links the extent to which business-as-usual is exceeded to the percentage of tons of emissions reduction that is converted to early action credits earned in each year.

Participants would also share the knowledge gained through their efforts, sponsoring a technical and quantification group, a web site, and an annual conference.

The CEO Coalition Early Action Crediting Proposal is based upon several underlying principles that give the proposal its appeal and strength:

- **A CEO Proposal:** It is developed by CEOs for CEOs. CEOs want a program that focuses on what they can control in their corporation and what they can influence as CEOs.
- **A Simple Concept With Manageable Details:** The CEO Coalition proposal is based upon a simple conceptual framework, with manageable complexity at the detail level. This works for CEOs, who need to be able to sell new ideas internally, and who delegate details to subordinates.
- **A Performance-Based Approach:** The CEO Coalition proposal uses a performance-based approach that allows growing companies to participate. It minimizes the inappropriate awarding of early action credits to companies whose absolute emissions are falling simply due to reduced economic activity.
- **A Point-of-Control Focus:** The CEO Coalition proposal uses a point-of-control focus that puts the opportunity to earn credits in the hands of the entity having the most effective control over the affected emissions.
- **A Whole Corporation Approach:** The CEO Coalition proposal uses a whole corporation approach that avoids the inappropriate awarding of early action credits to companies selecting only facilities with falling emissions for program participation.
- **Mitigation Flexibility:** The CEO Coalition proposal provides companies with flexibility to reduce emissions internally, through purchases of GHG offsets or through business arrangements with upstream suppliers or downstream customers.

CEO CAST believes that an absolute prerequisite to a successful early action crediting system is that the program must be capable of attracting a broad array of company participants from a cross-section of the U.S. economy, including growing sectors of the economy. An early action program without participants, or one that attracts only companies with emissions that are already decreasing, does not advance U.S. objectives. CEO CAST believes that its performance-based, point-of-control, whole corporate approach provides all companies with the opportunity to earn credits for increasing their emissions efficiency and avoids inappropriately awarding credits. The CEO CAST approach:

- Puts the opportunity to earn credits in the hands of the entity having the most effective control over affected emissions.
- Allows companies that are growing rapidly to participate in emissions reduction efforts without being penalized for the fact that they are supplying desirable products or are more efficient than their competitors.

- Avoids crediting companies whose absolute emissions are falling simply due to reduced economic activity.
- Avoids inappropriate awarding of early action credits to companies selecting only facilities with falling emissions for program participation.

The proposal presented here incorporates changes to an earlier draft version circulated by the CEO Coalition for review from March through September 1998. The current version reflects the evolving thinking of CEO Coalition, responses to concerns and suggestions made by outside reviewers, and policy and technical improvements developed by the CEO Coalition's Climate Change Subcommittee and work groups. The CEO Coalition approved this proposal at its October 2, 1998, meeting.

PROPOSAL DESCRIPTION

Under the CEO CAST Early Action proposal, participants would agree to work toward increasing their GHG emissions efficiency by participating in a program with the following attributes:

- **Participation Requirement:** Any corporation can participate in the program by tracking and reporting emissions. CEO CAST membership is not a prerequisite for participation. Early action credits are earned for exceeding certain emissions efficiency thresholds.
- **Emissions Efficiency Rates:** Emissions efficiency is measured by one of three ratios. Most companies will use pounds of CO₂-equivalent per dollar of sales (CO₂/\$). Domestic sales and domestic emissions are considered. The public-sector CO₂/\$ ratio uses dollars of operating expense plus amortized capital outlays instead of sales. Electric utilities and power marketers will use pounds per kilowatthour (CO₂/kWh).
- **Whole-Corporation Participation:** The basic unit of participation in the early action crediting program is the entire corporation (filing a separate tax return), not the individual facility. For the public sector, the program would act at the level of the separate municipal corporation.
- **Emissions Footprint:** The emissions footprint of a corporation includes its direct emissions of the six most significant classes of greenhouse gasses as measured by the respective global warming potential for the 100-year timeframe, plus the CO₂ embodied in its electricity consumption. (The treatment of electricity is discussed later in this Proposal Description.) A company has the option of including its company-owned domestic sinks within its corporate emissions bubble, but it must include all of its sinks if it chooses this option. Mechanisms are included that address changes in vertical integration, such as mergers and divestitures, and which prevent inappropriate earning of credits through "gaming" the system by outsourcing CO₂-intensive operations.
- **Changes in Vertical Integration:** Under a voluntary program, there is potential for awarding undeserved credits due to changes in vertical integration when in fact no reductions have occurred. The proposal treats changes in vertical integration as follows:
 - ◆ **Mergers:** Sum base years and treat as if one company from the beginning. As an option, a company can maintain separate reporting for the two original firms, as if the merger had not occurred, if practicable.
 - ◆ **Divestitures:** Split base years and treat as if two companies from the beginning. As an option, a company that is splitting may allocate credits earned prior to the split to

whichever new company it chooses and then "reset" the base line for each company after the split.

- ♦ **Outsourcing:** Impose a special reporting requirement, so that emissions associated with outsourced activity can be removed from the base-year metric since outsourcing removes emissions from the company emissions bubble for subsequent years. By essentially ignoring emissions associated with the outsourced activity, both in the base year and in later years, the potential for using outsourcing to earn undeserved credits is eliminated. A threshold of some significant volume of CO₂ emissions is involved before requiring this adjustment.
- **Emissions Reductions and Offsets:** Each participant would achieve its net increase in emissions efficiency by improved internal operations or through offsets. Offsets could include causing improvements in supplier or customer operations, people and product transportation efficiency programs, other types of emissions reductions, or sink enhancements. Mechanisms are included that ensure that emissions reductions from projects involving more than one corporation are not double-counted. Offsets could be either domestic or international.
- **Annual Earning of Credits:** Early action credits would be earned (establishment of property rights) annually, but a mechanism is included that prevent inappropriate earning of credits by companies terminating program participation early. This mechanism is discussed under the section entitled "Termination."
- **Business-as-Usual:** The proposal assumes a one- percent per year business-as-usual improvement rate in emissions efficiency. CEO CAST is proceeding with technical analysis that might modify this assumption, especially for the electricity sector.
- **Crediting Multiplier:** The CEO CAST Early Action program uses a sliding scale that links the extent to which business-as-usual is exceeded to the proportion of tons of emissions reduction that is converted to early action credits, as follows:

Annual Rate Reduction Beyond Business-as-Usual <u>Improvement Rate</u>	Crediting Multiplier for Tons of Emissions Reductions <u>Occurring During the Year</u>
0.0 - 0.5%	0%
0.5-1%	50%
1-2%	75%
2%+	100%

- **Base Year:** All companies would use emissions and sales data from 1995, unless emissions data is inadequate. If 1995 emissions data is inadequate, a later year can be used.

- **Prior Voluntary Programs:** Companies that have taken bona fide prior action, such as under Section 1605(b) of the Energy Policy Act or the U.S. Initiative on Joint Implementation, would have the option to add emissions reductions due to these prior efforts to the 1995 emissions baseline. The prior program emissions reductions would contribute to the earning of credits without actually shifting the baseline year.
- **Electricity-Related Credits:** An industry can earn early action credits for increasing the efficiency with which it uses electricity, switching to a lower-carbon electricity supply, and purchasing "green" electricity, but not for decreases in emissions intensity achieved by its electricity supplier(s). This works as follows.

Emissions associated with electricity generation are included within the "emissions footprint" of the consuming industry, but care must be taken to avoid double counting of emissions reductions by both the consuming industry and the electricity provider. Assuming that the electricity industry is on a rate-based early action system, demand side management actions undertaken by an industry do not result in double-counting since they (presumably) reduce the electricity provider's emissions and revenues proportionally. The utility CO₂/kWh metric would be unchanged, so the electricity provider earns no credit. If the electricity industry were on a tons-based early action system, then a reporting mechanism would be needed to ensure that the emissions reduction due to actions taken by the consuming industry do not appear as credits for the electricity supplier.

Double-counting would occur if the electricity supplier utility reduced the emissions intensity of its generating mix, either through conversion from coal to gas or from acquiring renewables, and this reduction were also attributed to the industry using the electricity. The CEO CAST proposal solves this potential double-counting problem by isolating industry efficiency improvements from electricity provider reductions in emissions intensity. This is accomplished by freezing the CO₂/kWh associated with the electricity purchased by an industry at its base-year value. The industry can earn credits for increasing the efficiency of its electricity consumption, while the electricity provider can earn credits for creating fewer emissions per kWh. Thus, the industry and the electricity provider can earn credits for those things most under their respective corporate control, and there is no double counting. If the industry's CO₂/kWh metric for its input electricity is not frozen, then same tons are credited twice and double counting occurs. An exception is provided for green-power purchases (see "Renewable Energy Incentive," below.) Under CEO CAST's annual crediting system, freezing the CO₂/kWh occurs on a rolling basis, with the industry using the prior year's CO₂/kWh value.

- **Renewable Energy Incentive:** Emissions reductions from renewable energy purchases and projects receive an additional 10 percent bonus. That is, the quantity of emissions reductions derived from renewable energy is increased by 10 percent.

- **Conversion of Credits:** GHG credits earned under the program would be convertible starting in 2008 into U.S. allowances (if an allowance-based system is created either by allocation or auction), tax credits (if a carbon-equivalent tax system is created), or whatever other U.S. incentive program is created.
- **Termination:** It is anticipated that participation as a participant is a long-term commitment. Companies do have the ability to terminate program participation, but such a decision is final. If a company terminates, credits for the last year of participation are reduced from those that would have been earned absent termination, as follows. Credits for the last year of participation are earned only to the extent which the emissions reductions exceed those required for the anticipated "end-year" for the program. That is, the baseline for the last year of participation is shifted to that for the "end-year" of the program.

The full CEO Coalition Early Action Crediting Proposal, including the Proposal Rationale, may be obtained from:

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SOLUTIONS

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An Overview of **greenhouse gas**
emissions inventory Issues

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Christopher P. Loreti

William F. Wescott

Michael A. Isenberg

ARTHUR D. LITTLE, INC.

CAMBRIDGE, MASSACHUSETTS

+





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Contact: Dale Curtis/Katie Mandes
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Report Describes Companies' Efforts to "Inventory" Greenhouse Gas Emissions

Voluntary Initiatives Mark First Step Toward Emissions Reductions

Washington, DC — A growing number of companies are launching voluntary efforts to measure and track their greenhouse gas emissions, raising a host of practical questions and presenting opportunities for others to learn from their experiences.

A new report released by the Pew Center on Global Climate Change describes the pioneering work being done by some of the world's leading companies to inventory and report their greenhouse gas emissions. The report, authored by a team from Arthur D. Little, Inc., presents a set of principles for such efforts; describes credible approaches being tried by more than a dozen major companies; identifies key decision points in the process; and lists information resources that are available to companies contemplating such projects.

"In the absence of a comprehensive policy regime, we must encourage voluntary efforts to identify and reduce greenhouse gases," said Eileen Claussen, President of the Pew Center. "Ensuring that such efforts are recognized in the future requires that they be well thought out and documented today. This report is a thorough guide to the choices involved in inventorying greenhouse gas emissions."

Benefits of Emissions Inventories

The trend toward increased corporate reporting of greenhouse gas (GHG) emissions is driven in part by the companies' recognition that enough is known about climate change to warrant emissions reductions in the near term. An emissions inventory is the first step in that process.

Beyond considerations of environmental concern and good corporate citizenship, companies conducting inventories can also identify ways to enhance their productivity and energy efficiency; improve relationships with key stakeholders; and support the development of flexible, market-oriented policies such as emissions trading. An accurate inventory will also put companies in a better position to count voluntary, near-term emissions reductions toward any future regulatory requirements.

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Among the practical issues addressed by the report are:

- How national-level emissions inventories influence corporate- and facility-level inventories;
- The specifics of a dozen companies' inventory programs;
- How companies decide which emissions to count, given complex questions of ownership, direct versus indirect emissions, and more;
- Questions of accuracy and estimates;
- Baselines and metrics;
- The challenges of conducting inventories across international boundaries; and
- Lessons learned from emissions inventories conducted under the acid rain title of the U.S. Clean Air Act and the U.S. EPA's Toxics Release Inventory program.

The report also describes the efforts of many specific companies, including American Electric Power of Columbus, OH; Air Products of Allentown, PA; Baxter International Inc. of Deerfield, IL; BP of London, England and New York, NY; DuPont of Wilmington, DE; Entergy of New Orleans, LA; ICI of London, England and Bridgewater, NJ; Niagara Mohawk of Syracuse, NY; Shell International of the London, England and Houston, TX; Suncor of Calgary, Canada; Sunoco of Philadelphia, PA; United Technologies Corp. of Hartford, CT; and Whirlpool Corp. of Benton Harbor, MI.

The report also lists 14 respected sources of information that companies may use to get started, including official government guidance, software programs, and guidebooks produced by environmental groups and business associations.

The report was authored by Christopher Loreti, William Wescott and Michael Isenberg of Arthur D. Little, Inc.

First in "Solutions" Series

The inventory report is the first in a new series aimed at identifying practical solutions to the challenges presented by climate change. Other Pew Center series focus on domestic and international policy issues, environmental impacts, and the economics of climate change.

A complete copy of this report—and information on previous reports—is available on the Pew Center's web site, www.pewclimate.org.

The Pew Center was established in May 1998 by the Pew Charitable Trusts, one of the United States' largest philanthropies and an influential voice in efforts to improve the quality of the environment. The Pew Center is conducting studies, launching public education efforts and working with businesses to develop market-oriented solutions to reduce greenhouse gases. The Pew Center is led by Eileen Claussen, the former U.S. Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs. The Pew Center includes the Business Environmental Leadership Council, which is composed of 21 major, largely Fortune 500 corporations all working with the Pew Center to address issues related to climate change. The companies do not contribute financially to the Pew Center - it is solely supported by contributions from charitable foundations.

About The Authors

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Christopher P. Loreti is a Senior Manager in the Global Environment and Risk practice of Arthur D. Little, Inc. Since joining the company in 1985, his work has focused on the assessment of the release, fate, and transport of pollutants in the environment. He has conducted numerous air pollutant emission inventories for conventional and toxic air pollutants and greenhouse gases. He has co-authored reports examining trends in Canadian emissions of selected greenhouse gases and technologies to reduce these emissions, economic instruments for reducing U.S. emissions of carbon dioxide, and the potential for electric vehicles to reduce emissions of greenhouse gases and conventional air pollutants in Hong Kong. Mr. Loreti holds an M.S. in Technology and Human Affairs from the Department of Engineering and Policy at Washington University and B.S. degrees in Chemical Engineering and Environmental Engineering from Northwestern University.

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Michael A. Isenberg is a Consultant in the Global Environment and Risk practice of Arthur D. Little, Inc., where he focuses on assisting clients with the management and strategy of environmental, health and safety issues. Mr. Isenberg has a strong background in sustainability and global climate change. His recent projects focus on: 1) advising corporations on how to respond and develop strategies around environmental and societal trends, including climate change; 2) conducting market analyses of new business opportunities; and 3) assessing the effectiveness of and benchmarking management practices. Mr. Isenberg received his B.S. in Economics and B.S. in Engineering from the University of Pennsylvania (cum laude). Mr. Isenberg pursued a concentration in Environmental Management and Finance at the Wharton School and Environmental Engineering at the School of Engineering and Applied Science.

WILLIAM F. WESCOTT PH.D.

William F. Wescott is an internationally recognized expert on sustainable development and has worked with public and private sector clients throughout the world on these issues during the past 14 years. Dr. Wescott worked as an advisor to the Italian and Romanian Ministries of Environment on sustainability issues, serving as a member of the Romanian delegation to the United Nations Conference on Environment and Development (UNCED). He served as a member of the Board of Directors of the Latin American Foundation for Eco-Efficiency, PROPEL, based in Bogotá, Colombia from 1993 to 1999, and currently is a member of the Network of Sustainability Experts of the Sustainable Performance Group, an investment fund based in Zurich. He has worked with many organizations on the issues associated with global climate change and recently played a leadership role in the World Resources Institute/World Business Council for Sustainable Development's Greenhouse Gas Measurement & Reporting Collaboration.

Dr. Wescott recently left his position as an Associate Director of Arthur D. Little, where he worked since 1985, to found an internet-based training company, BrainO2.com. The mission of

BrainO2.com is to provide world-class training resources to organizations throughout the world, helping them become more sustainable economically, socially, and environmentally.

Dr. Wescott received a B.S.E. in Chemical Engineering from Princeton University, and M.S. and Ph.D. degrees in Engineering and Public Policy from Carnegie Mellon University.

- When's meeting for prep?
- Call Appan
- CH2M Hill, IBM, Bechtel
- ERT - EDF doing own registry proposal.

Greenhouse Gas Emissions
Registry
Educational Foundation

A Proposal By: CEO Coalition to Advance Sustainable Technology

Greenhouse Gas Emissions Registry and Educational Foundation

Introduction

In 1997, the nations of the world gathered in Kyoto, Japan to agree on actions to reduce their emissions of greenhouse gases (GHG's) for the purpose of mitigating the perceived disruptions that those emissions could cause to the earth's climate. The Kyoto Protocol was hailed by some as an important step towards addressing global warming. However, others questioned the science underpinning climate change concerns, felt the compliance costs outweighed the benefits, or believed that reduction burdens would be unevenly shared among nations and could create competitive disadvantages for the U.S. and other countries. Scientific evidence is mounting about global warming and its potential harmful impacts and some form of a control regime for greenhouse gases is becoming more inevitable.

As U.S. companies assess the impact that climate change policy will have on their businesses, they face many uncertainties. Will the U.S. ratify an international treaty that sets emission targets? Absent a treaty, will stakeholders demand a type of corporate behavior that includes GHG reductions? If they "sit it out", will they suffer market loss to "greener" competitors? If they reduce emissions voluntarily now, will they be effectively penalized by some future regulatory program that does not fairly score their voluntary actions? Moreover, while they are reducing their energy intensity now, how do they document the emissions reductions they are achieving?

This proposal is premised on the belief that it is both desirable and inevitable that a growing number of companies, in the U.S. and abroad, will establish programs to voluntarily reduce their greenhouse gas emissions. A first wave of companies has already begun taking voluntary "early action", and are demonstrating that the more efficient use of resources creates real business opportunities. These first movers are realizing strategic positioning advantage, competitive advantage, and higher profits through reduced costs. But, the growth in the number of companies taking such action will be constrained by uncertainty over the future risks and benefits associated with making early reductions unless a mechanism and standards are provided to capture and report on such reductions in a meaningful and consistent manner.

Thus, the opportunity to create meaningful GHG emissions will go largely unrealized, unless accepted standards and protocols are established that guide corporate participants. These standards will reduce the uncertainty currently holding up participation by providing some baseline protection against future regulatory programs and will thereby encourage companies to take action before a regulatory program is in place.

Ground rules for greenhouse gas emissions reductions could be created through the federal legislative process, but the necessary level of congressional support for such an approach is currently lacking. This proposal describes an alternative approach that does not depend on either international agreement or domestic political action. Specifically, this paper outlines a vision for a stakeholder-driven process to:

- provide a record keeping function for participating companies to rigorously measure and track emissions reductions
- facilitate independent verification of emissions reductions;
- create definitional guidelines for corporate voluntary GHG reduction;
- educate companies and the public about the benefits early action; and
- inform the development of future regulatory programs.

The Greenhouse Gas Emissions Registry and Educational Foundation (referred to as “the Registry”) would bring expertise, integrity and commitment to these tasks with the overall goal of maximizing voluntary and sensible early action to reduce greenhouse gas emissions. The remainder of this paper describes the proposed structure and mission of the Registry in greater detail.

Public Benefits of a Voluntary Early Action Program

Private voluntary programs can generate important public benefits, including, but not limited to: immediate actions to reduce emissions, establishing ‘best practices’ on measurement, monitoring, reporting and verification of emissions reductions, increased awareness among business and the public about the challenges of global warming and the opportunities to take cost-effective action. These benefits are described in more detail below:

Meaningful Emissions Reductions: By removing barriers to action now, the Registry can spur additional emissions reductions today and in the near future. These reductions can be environmentally significant for both global warming and local air pollution problems. To achieve significant reductions, a voluntary program must have both the flexibility and integrity to attract a large number of participants.

Establishing Best Practices: A voluntary registry will encourage innovation and creativity, and will ultimately enable sharing of best practices among program participants and also with stakeholders, policy makers and the public. Demonstration of best practices will generate significant emissions reductions with cost savings and often other important benefits, such as reduced waste, improved productivity, reduced operating and maintenance expenses, greater reliability, and improved employee comfort and morale. For some GHG emission sources, the reduction options today are few and/or expensive. By encouraging creativity, a voluntary registry will encourage innovation and help drive down compliance costs.

Easing Compliance Achievement: As a benchmark, the Kyoto agreement creates a compliance period from 2008 to 2012. By the mid-point of that period, participating countries are expected to reduce their GHG emissions to levels at or below their 1990 baseline. The longer parties wait to begin reduction activities, the steeper (and more costly) is the glide path to that compliance end point. Early action eases the descent from today's emission levels to those envisioned in international agreements.

Informing the development of a future regulatory program: There have been numerous instances in which voluntary programs have preceded, and informed, subsequent regulatory programs. The Registry will be able to provide important information to stakeholders and policy makers about opportunities to reduce greenhouse gas emissions, challenges in measuring, monitoring and verifying emissions and best practices for reducing emissions.

Roles of the Foundation and Registry

It is envisioned that the Foundation and Registry, and the individuals who staff it, will wear many hats. The Foundation and Registry will:

- participate in a multi-stakeholder process that establishes participation ground rules;
- raise corporate and public awareness about the existence and benefits of an early action program;
- develop rigorous measurement and reporting protocols;
- facilitate the independent monitoring and verification of reduction activities; and
- function as a repository of data and information on corporate reduction results.

Each of these roles will be described in greater detail below.

Establishing Rigorous Ground Rules: In the absence of a federal program, it falls to a credible third party to convene a process that establishes the rules of the game for voluntary early action. That process must be an inclusive one which includes representation from a broad spectrum of stakeholders, works by consensus, and enjoys credibility with and respect from program participants and observers. Such a process is already underway. The World Resource Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) have initiated a collaboration to develop international standards for measuring and reporting greenhouse gas emissions from business. Upon its establishment, the Registry will join in the deliberations of this group. The Registry will promote the development of rigorous protocols for measuring and reporting emissions, transparency and public access to data, and strong provisions for maintaining the confidentiality of sensitive business information.

Recruitment: Once the ground rules are established through the stakeholder process, the Registry will undertake a public awareness and education campaign aimed at maximizing participation in the program. The Registry will work with other stakeholders and advocates to use a variety of media to execute an outreach effort to the U.S. business community. The Registry will work to make companies aware of the program's existence, to understand its details, and to recognize the benefits of participation. It will be critical to the success of this effort that the Registry attract people of talent, integrity, and credibility to staff the Registry and execute this and other functions.

Verification of Reductions: Verifying emissions reductions in the Registry will provide another important level of credibility and rigor to participants. However, verification of emissions reductions is a potentially complex and resource-intensive undertaking, and a number of important issues around verification remain to be examined. For this reason the Registry will initiate a multi-

stakeholder process, in conjunction with (WRI and WBCSD or the Technical Advisory Board), to examine these issues. This process, to conclude within six months of the establishment of the Registry, will yield important recommendations for a balanced and manageable approach to verifying emissions reductions that can be adopted by the Registry.

Communicate Lessons with Policy Makers: By stimulating early action and gaining valuable experience in measuring and reporting emissions, the Registry hopes to share important lessons with domestic and international policy makers. A primary reason for companies to participate in the Registry is to ensure that their early actions to reduce emissions are rigorously measured and documented using protocols developed and monitored by an independent entity. This documentation will give companies important protection against two serious concerns: that their voluntary actions will later create a disadvantage (often referred to as "baseline protection"), and they want their reduction activities to "score" in a future regulatory program. By serving as a repository for independently verified voluntary emission reduction activities, and by recording and sharing best practices, the Registry will have experience and data that will be hard to ignore when a federal program is ultimately being fashioned.

Structure of the Registry

It is envisioned that a Chairperson, an Executive Director, a Technical Director, and an Administrative Assistant will staff the Registry. Their individual roles and duties are described below.

Chairperson: An individual of recognized stature and integrity whose visible involvement with the Registry will bring interest and attention to the project's existence and goals. While perhaps not full-time, the specific duties of the Chairperson will include acting as the most visible spokesperson and advocate for the organization, and assisting with fundraising.

Executive Director: This position requires an individual with a recognized expertise on climate change issues, familiar with the scientific, technical and political aspects of the issue. The Executive Director will need to bring strong organizational, managerial and communication skills to their role. Specific duties of the Executive Director include:

- Managing the Registry's involvement in the stakeholder process;
- Fundraising;
- Spokesperson at conferences;
- Participating in national and international meetings of importance regarding GCC;
- Recruiting participants; and
- Monitoring US and international GHG policy developments.

Technical Director: The Technical Director will bring a high level of expertise on scientific and technical issues to the Registry. The Technical Director will be responsible for:

- Developing and maintaining the database of emissions reduction information at the Registry, including web-based tools and forms for collecting data and quality assurance programs;
- Assisting participating companies on technical issues;
- Expanding, updating and fine-tuning the rules for measuring and reporting emissions reductions;
- Maintaining the security and confidentiality of sensitive business information in the database; and
- Developing, as appropriate, technical reports, analyses, summaries, statistics and other information on participants' activities to help communicate lessons among participants and with other stakeholders and the public.

Administrative Assistant: An individual with strong administrative, research and people skills responsible for the support of the Chairman and Executive Director and Technical Director.

Participation in the Foundation and Registry

Participation in the Foundation and Registry is by membership. By joining the Registry, a company can begin to examine options for reducing its greenhouse gas emissions, report its baseline emissions, identify specific steps taken to achieve reductions, report the reductions achieved to the Registry and, ultimately, obtain verification of the reductions. In addition, member companies may participate in the Registry by serving on one or more of the technical and advisory committees of the organization. These advisory and technical committees assist and advise the Board of Governors in establishing definitional guidelines, conducting peer review, setting protocols for measurement and reporting of emissions reductions, and developing the verification process.

Each member company will have one vote for the election of the Board of Governors which will govern the organization. Member companies will be requested to financially and operationally contribute to the Foundation and Registry to meet its mission.

Opportunities For Members

The opportunities of membership in the Foundation and Registry comprise these main aspects: registration and reporting of emissions reductions, and verification of emissions reductions by certified independent reviewers. Each of these aspects will be addressed in turn.

Registration

Upon joining the Registry, a company will be provided access to a resource and expertise databank to assist the company in identifying avenues to achieve qualitative and quantitative reductions in greenhouse gas emissions. The databank will be derived from existing expertise in the area and from the experience of subscribing companies which have already instituted emission

reduction programs and permitted dissemination of their experiences and results. A technical advisory committee will work with the staff of the Registry to keep the databank current and to identify additional resources for inclusion in it.

Reporting

Subscribing companies may choose to report their baseline emissions and emission reductions within the format and under the protocols established by the Board of Governors to ensure consistency and accuracy of the data. It is intended that the reporting system protect confidential business information yet provide data about its achievements and provide a mechanism by which emissions reductions can be tracked over time, by company and by reduction activity. Our expectation is that the reporting system will be web-based to make it easily accessible by member companies. The protocols and reporting mechanisms will be reviewed and recommended by a technical advisory committee with the goal of providing quality information in usable and comparable form without undue burden on subscribers to obtain and report the information or revealing confidential company information.

Verification and Certification

The Registry intends to subject all registered emissions reductions to appropriate verification procedures, pending the outcome of the stakeholder process to develop them. This will clearly communicate that emissions reductions reported by participating companies are valid and accurate, not merely self-serving or apparitious to regulatory bodies and other stakeholders.

Benefits of Membership

The purpose of the Registry is to utilize a private sector entity to encourage, quantify and record voluntary greenhouse gas emissions with independent verification to establish the validity of the reported data. It is anticipated with the establishment and use of a private sector measurement and reporting mechanism, the future regulatory process may be informed about the voluntary actions taken by subscribing companies before a regulatory regime is instituted. Moreover, Registry subscribers will be well-positioned to achieve the highest value for the emissions reductions they achieve both in the marketplace and in the regulatory arena through the independent verification and certification process.

The Registry will host annual information conferences for members to keep up to date on the latest technologies, achievements, and policy or regulatory initiatives. In addition, the Registry will facilitate technical workshops to address particular issues, industries or technologies on an as needed basis.

Next Steps

The CEO Coalition to Advance Sustainable Technologies (CEO Coalition) is an organization of companies united in the belief that environmental stewardship and a strong

economy go hand in hand. The CEO Coalition has been an active participant in the policy area regarding climate change in general, and credit for early action in particular. The leadership of the CEO Coalition has committed to seeking corporate, foundation, and other support to fund the activities of the Registry during the start up phase. The CEO Coalition will play a lead role in recruiting staff for the Registry as well. Ideally, commitments for start-up funding and the recruitment of key personnel could be secured during the first quarter of 2000.

Removing Disincentives for Early Action

Many firms express the fear that they will be penalized for taking early actions to reduce greenhouse gas emissions when future legislation is enacted establishing a mandatory emission reduction program. Based perhaps on their familiarity with the acid rain program, they assume that the allocation of emissions allowances or permits under such a program would be based on firms' emissions *as of a baseline year*. They fear that if they have reduced their emissions before that baseline year, they will be shortchanged in that allocation. They say this is leading them to postpone some emission-reducing actions that they would otherwise have made.

Legislation could be enacted now providing a congressional commitment that firms that act early will not be penalized by the structure of any future program. The legislation need only commit that, when a future mandatory program to reduce greenhouse gas emissions is adopted, that program will not penalize those who have reduced their greenhouse gas emissions. It could specifically oppose allocating allowances based on a historical baseline later than 2000.

In addition to a simple statement, the legislation could also specify that there are at least three ways that Congress could provide such a "no penalty" commitment. It should not specify which of mechanism described above would be adopted in the future and should leave open the possibility that another mechanism could be adopted provided that it does not penalize firms that reduce emissions before the mandatory program is adopted. The three specific approaches that could be positively referenced are:

- Baseline protection. If a future program allocates allowances according to firms' emissions in a baseline year, only a *past* year (e.g., 1999) will be chosen for the baseline. Firms would then be free to make emission reductions any time after the baseline year knowing that they will not prejudice their allowance allocations.
- Performance benchmarks. Alternatively, a future program could allocate emissions allowances according to a performance-based benchmark (e.g., emissions per unit of output) that would be applied to all firms within an industry, regardless of their individual historical emissions. Under this approach a firm's historical performance or emissions level is irrelevant. As above, a firm would know that it can reduce emissions at any time without affecting the number of allowances it will receive.
- Auction. Finally, a future program could allocate emissions allowances by auction. Here again, historical emissions would be irrelevant. Firms would need to purchase only enough allowances to cover their emissions when the program takes effect, and acting early would reduce the amount that they ultimately need to purchase.

Congress finds that --

- (1) A growing number of companies are making investments in actions that are reducing their emissions of greenhouse gases.
- (2) A number of companies considering whether to make such investments are presently being discouraged from doing so by the possibility that the structure of a future program requiring greenhouse gas reductions could penalize companies which made such investments before such program took effect.
- (3) Such investments would in fact be penalized if a future program requiring greenhouse gas reductions were to allocate emissions allowances to companies or other entities according to the quantity of greenhouse gases emitted from or attributed to such entities during a baseline period that extends into the future.
- (4) Disincentives to making such investments can be removed by assuring that any future program will not be structured on this basis.

It is the policy of Congress --

- (1) To encourage voluntary early, cost-effective actions to reduce greenhouse gas emissions.
- (2) To guarantee [commit] that individuals, companies, or other entities which take such actions will not be penalized by the structure of any future program to require greenhouse gas emission reductions.
- (3) That if any future program to require greenhouse gases is established, it shall --
 - (1) make maximum feasible use of efficient, enforceable market-based approaches;
 - (2) include provisions for the trading and banking of emissions allowances or emissions credits in order to achieve emissions targets in the most cost-effective manner; and
 - (3) be structured in a manner that does not create any disincentive to early, voluntary action.
- (4) That any future program requiring greenhouse gas reductions shall be structured --
 - (1) on the basis of performance standards or other approaches that do not refer to the emissions of an entity as of a baseline period, or
 - (2) on the basis of a baseline period ending not later than December 31, 1999.

The Cleaner and Greenersm Principles for Pollution Reduction Programs

The Cleaner and Greener Principles provide a new approach to the implementation of environmental regulation that gives credit for emission reductions delivered by energy efficiency, renewable energy, combined heat and power, and sequestration projects. Implementing the Cleaner and Greener Principles will benefit building owners, building occupants, energy efficiency and renewable energy equipment and service providers, and the environment.

Current environmental regulation gives valuable emission allowances only to high-emitting polluters (mostly fossil fuel-fired power plants), while building owners and others that reduce emissions by implementing energy efficiency and renewable energy projects have been left out, and thus are unable to capture the economic value of the emission reductions they provide. Including rewards for energy efficiency and renewable energy in environmental regulation is not a subsidy or new tax, it is simply recognizing and rewarding in the distribution of emission allowances, the positive emission reduction benefits delivered by the energy efficiency and renewable energy actions of all building owners.

Pollution regulation that rewards energy efficiency and renewable energy actions by all building owners will only be implemented in states where businesses, organizations, and individuals support it. Johnson Controls, Philips Lighting, Trane, Quad/Graphics, Kinko's, The Energy Group, and ONSITE SYCOM Energy Corporation are forward-looking companies that are among the supporters of the Cleaner and Greener Principles. These companies recognize that implementing the Cleaner and Greener Principles will be good for the environment and good for their customers. With your support, we can show regulators that this option is best for the public and the environment and that it also has the most support.

Following the Cleaner and Greener Principles will: (1) reward all building owners for emission reductions delivered by their energy efficiency and renewable energy projects; (2) reduce the cost of pollution reduction programs; and (3) increase the environmental benefits of pollution reduction programs. Giving emission allowances (which can be kept, sold, donated, or retired) to all building owners who reduce emissions provides additional incentives for energy efficiency and renewable energy, while improving the environment.

Leonardo Academy Inc. is a nonprofit organization dedicated to reducing the environmental impacts of energy use. Leonardo Academy's Cleaner and Greener Program has recently asked the environmental protection agencies and energy offices in all 50 states to incorporate the Cleaner and Greener Principles into all future pollution reduction programs and implementation plans, including U.S. EPA-required plans to reduce nitrogen oxides (a precursor to ground-level ozone formation known as NO_x), fine particulate matter (PM_{2.5}), and haze.

In many states in the eastern U.S., reducing nitrogen oxide emissions is a particularly pressing issue. On September 24, 1998, the U.S. Environmental Protection Agency (EPA) finalized a rule (known as the NOx SIP Call) requiring 22 States and the District of Columbia to submit State Implementation Plans that address the regional transport of ground-level ozone. By improving air quality and reducing emissions of nitrogen oxides, the actions directed by these plans will decrease the transport of ozone across state boundaries in the eastern half of the United States. The rule requires emission reduction measures to be in place by May 1, 2003.

As a result of the EPA's NOx SIP Call, each state affected by the EPA ruling was required to have plans in place to achieve required reductions by September 22, 1999. Legal delays have postponed the required filing date for plans for achieving these reduction to the spring of 2000. However, states in the northeast are proceeding with implementing plans for their states and sooner or later the EPA is expected to get the emission reductions it is seeking in all the affected states. In the mean time, these delays provide more time to educate businesses, and organizations about the benefits of incorporating the Cleaner and Greener Principles into State Implementation Plans for NOx emission reduction.

In many states in the western U.S. haze is a growing issue. Actions to reduce haze emissions in the western states provide an opportunity to implement the Cleaner and Greener Principles in the western states.

It is clear that the present trend of tightening environmental regulations will continue as we continue to increase our understanding of the negative health and environmental effects of pollution. The committed pollution reduction requirements in the United States for NOx, fine particulate matter, and haze provide the opportunity to establish an integrated approach to implementing these and future (mercury, greenhouse gases, etc.) emission reduction programs. This integration can be achieved by treating multiple pollutants in a consistent way, and by including rewards for the emission reductions delivered by energy efficiency and renewable energy in the NOx, fine particulate matter, haze and other emission reduction programs developed by state environmental agencies. Adopting this integrated approach **now** will benefit all future emission reduction programs.

If you own a building or factory, you may have fiduciary responsibility with respect to this issue. If this approach is adopted, each new pollutant regulated will add to the financial rewards for increased energy efficiency and renewable energy. For example, in the 22 states currently developing NOx emission reduction plans, NOx emission reduction credits are expected to be worth 0.1 to 0.3 cents/kWh saved, and 5 to 23 cents/MMBTU of natural gas saved during the ozone season. These credits would be distributed for energy efficiency and renewable energy projects implemented 1990 or later. If this approach is extended to other pollutants in the future, emission reduction credits for these other pollutants will add to the value of emission reduction projects.

You can join in supporting the inclusion in emission reduction programs, of market incentives for energy efficiency, renewable energy, combined heat and power, and sequestration in emission reduction programs for all pollutants, including NOx. You can do this by sending Leonardo Academy your company's letter of support for the Cleaner and Greener Principles for Pollution Reduction.

The Cleaner and Greenersm Principles are attached

For more information visit our web site at <http://www.cleanerandgreener.org/CGPrinciples/support.htm>

Please feel free to call us at 608-280-0255 if you have any questions.

For more information about the Cleaner and Greenersm Principles, contact:

Michael Arny, Director, The Cleaner and Greenersm Environment Program of Leonardo Academy
Telephone: 608-280-0255 Fax: 608-255-7202 Email: info@cleanerandgreener.org
Web sites: www.cleanerandgreener.org & www.leonardoacademy.org
Address: 1526 Chandler Street, Madison, WI 53711

Objective

To achieve full recognition of the environmental benefits of increased energy efficiency, renewable energy, combined heat and power, and sequestration in all air pollution reduction programs—including currently committed emission reduction requirements, and all other future reduction programs.

Scope of Application

These principles should be implemented for all emission reduction plans, programs, and regulations for all pollutants, and at all levels of environmental regulation including local, state and provincial, regional, national, and international levels.

Cleaner and Greenersm Principles

All emission reduction plans, programs, and regulations should:

- (1) Use a cap-and-trade approach to reduce emissions so that emission reductions receive their true market value.
- (2) Reward all building owners and others for emission reductions delivered by their energy efficiency, renewable energy, combined heat and power, and sequestration (for pollutants where sequestration is possible) projects. Reward these actions with emission allowances from under the emissions cap.
- (3) Allocate enough emission allowances to reward all emission reductions from these actions.
- (4) Use a multiple pollutant emission reduction reporting system to provide “one-stop” reporting of reductions of sulfur dioxide, nitrogen oxides, particulate matter, mercury, greenhouse gases, and other pollutants. This makes it easy for owners and implementers of energy efficiency, renewable energy, combined heat and power, and sequestration projects to get credit for all emission reduction benefits they deliver.
- (5) Give credit for early emission reduction actions from projects implemented 1990 or later.

Near-Term Opportunities to Implement the Cleaner and Greenersm Principles

- State implementation plans for reducing nitrogen oxide emissions (NOx SIPs)—currently being developed by 22 eastern states and the District of Columbia in the U.S.
- Committed U.S. reduction requirements for fine particulate matter (PM_{2.5}) and haze
- In all countries, future emission reduction programs applied to NOx, PM_{2.5}, haze, mercury, greenhouse gases, and other pollutants

Corporate Supporters of the Cleaner and Greenersm Principles

- Johnson Controls · Philips · Trane · Quad/Graphics · Kinko's · The Energy Group
- ONSITE SYCOM Energy Corporation

For more information about the Cleaner and Greenersm Principles, contact:

The Cleaner and Greenersm Environment Program of Leonardo Academy
Telephone: 608-280-0255 Fax: 608-255-7202 Email: info@cleanerandgreener.org
Web sites: www.cleanerandgreener.org & www.leonardoacademy.org
Address: 1526 Chandler Street, Madison, WI 53711

Cleaner and Greener Principlessm for Emission Reduction Programs

Leonardo Academy
October 29, 1999

The Cleaner and Greenersm Principles: The Objective

- Full recognition in all air pollution reduction programs of the environmental benefits of:
 - Increased energy efficiency
 - Renewable energy
 - Combined heat and power
 - Sequestration (Where applicable)

The Cleaner and Greenersm Principles: Scope of Application

- These Principles should be implemented:
 - In all for all emission reduction programs
 - For all pollutants
 - NOx, PM_{2.5}, haze, mercury, greenhouse gases, and other pollutants
 - All levels of environmental regulation
 - Local, State, Regional, National, International levels.

The Cleaner and Greenersm Principles

- (1) Use a cap-and-trade approach
- (2) Reward all building owners and others
 - for emission reductions delivered by their energy efficiency, renewable energy, combined heat and power, and sequestration projects.
- (3) Reward all of these emission reductions
 - With emission allowances from under the emissions cap.
- (4) One-stop reporting for all pollutants
- (5) Credit for all these actions 1990 or later.

Benefits of Implementing these Principles

- Increased incentives for all building owners to implement energy efficiency and renewable energy projects
- Reduced cost of pollution reduction programs
 - Adds low cost emission reduction delivered by energy efficiency and renewable energy to pool of reduction options
- Increased environmental benefits of pollution reduction programs
 - Energy efficiency and renewables reduce all pollutants - not just targeted pollutant

Near Term Opportunities to Implement these Principles

- Emission reduction programs for committed U.S. EPA emission reduction requirements for:
 - Nitrogen Oxide emission reductions (NOx SIPs) in 22 eastern states - currently being prepared
 - fine particulate matter (PM_{2.5})
 - Haze
- Future additional emission reduction programs for:
 - NOx, PM_{2.5}, haze, mercury, greenhouse gases, and other pollutants

Who Benefits from Implementation of these Principles

- All Building owners in the USA
- Building occupants
- Energy efficiency and renewable energy equipment and service providers
- The environment
- The public (primary emission reduction objectives are achieved at lower cost).

Corporate Supporters of Cleaner and Greenersm Principles

- Johnson Controls
- Philips
- Trane
- Quad/Graphics
- Kinko's
- The Energy Group
- ONSITE SYCOM Energy Corporation
- Semptra Energy Services

What is Being Done to Get these Principles Implemented

- Recruiting support for principles among affected groups: building owners, equipment manufacturers, service providers
- Asked all state environmental protection agencies to implement these principles in all emission reduction programs
- Asked all state environmental protection agencies in states included in the NOx SIP call to implement these principles in their SIPs
- Commenting requesting incorporation of these principles are filed are being filed in each state when proposed emission reduction rules are proposed

Why these Principles are Important from the Federal Perspective

- Reason 1
 - (1) Shifts debate from:
 - "Is Climate Change a problem?"
 - to
 - "Should we be fair to all building owners in each emission reduction regulation that is already implemented or should we continue to exclude them from the massive wealth distribution that is part of in each emission reduction program "

Why these Principles are Important from the Federal Perspective

- Reason 2
 - Shifts debate from
 - The federal level where a few states and interests can block action
 - to
 - The state level where diversity among states allows some state to implement principles, demonstrate benefits, and pave the way for additional states to act.

Why these Principles are Important from the Federal Perspective

- Reason 3
 - Actions on each pollutant chips away at greenhouse gas emission reduction:
 - Action on each pollutant provides increased incentives for actions that reduce all pollutants
 - Cumulative actions on stream of pollutants being regulated provides greater and greater incentives for actions that reduce all pollutants
 - Cumulative actions at state level on stream of pollutants being regulated provides greater and greater incentives for actions that reduce all pollutants
 - where a few states and interests

Leonardo Academy

- Background Information
 - 501(c)(3) nonprofit organization
 - Dedicated to cleaning up the environment
 - Works on environmental and energy issues
 - Getting competitive markets fully engaged in emission reduction to increase impacts and reduce costs

Leonardo Academy

- Contact Information
 - Web sites
 - www.cleanerandgreener.org
 - www.leonardoacademy.org
 - Telephone: 608-280-0255
 - Fax: 608-255-7202
 - Address: 1526 Chandler St., Madison, WI 53711
 - Director: Michael Army

Withdrawal/Redaction Sheet

Clinton Library

DOCUMENT NO. AND TYPE	SUBJECT/TITLE	DATE	RESTRICTION
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001. email	[Personally Identifiable Information] [partial] (1 page)	10/29/1999	b(6)
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COLLECTION:

Clinton Presidential Records
Office of Environmental Initiatives
Roger Ballentine
OA/Box Number: 19511

FOLDER TITLE:

Climate Change Other Circuit from Early Action [1]

2017-1093-F

rs3167

RESTRICTION CODES

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

P1 National Security Classified Information [(a)(1) of the PRA]
P2 Relating to the appointment to Federal office [(a)(2) of the PRA]
P3 Release would violate a Federal statute [(a)(3) of the PRA]
P4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
P5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]
P6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

C. Closed in accordance with restrictions contained in donor's deed of gift.

PRM. Personal record misfile defined in accordance with 44 U.S.C. 2201(3).

RR. Document will be reviewed upon request.

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

b(1) National security classified information [(b)(1) of the FOIA]
b(2) Release would disclose internal personnel rules and practices of an agency [(b)(2) of the FOIA]
b(3) Release would violate a Federal statute [(b)(3) of the FOIA]
b(4) Release would disclose trade secrets or confidential or financial information [(b)(4) of the FOIA]
b(6) Release would constitute a clearly unwarranted invasion of personal privacy [(b)(6) of the FOIA]
b(7) Release would disclose information compiled for law enforcement purposes [(b)(7) of the FOIA]
b(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
b(9) Release would disclose geological or geophysical information concerning wells [(b)(9) of the FOIA]



WAVES_CONF@PMD.F.EOP.GOV
10/29/99 08:55:04 AM

Record Type: Record

To: Angela C. Mizeur/WHO/EOP

cc:

Subject: WAVES Appt. U36107 Confirmation for MIZEUR, ANGELA

ADDRESSEES: ANGELA_C._MIZEUR
SUBJECT: WAVES Appt. U36107 Confirmation for MIZEUR, ANGELA
FROM: WAVES OPERATIONS CENTER - ACO: Samuel Hampton
Date: 10-29-1999
Time: 08:50:58

This message serves as confirmation of an appointment for the visitors listed below.

Appointment With: MIZEUR, ANGELA
Appointment Date: 10/29/99
Appointment Time: 10:00:00 AM
Appointment Room: 115
Appointment Building: OEOB
Appointment Requested by: MIZEUR ANGELA
Phone Number of Requestor: 61782

WAVES APPOINTMENT NUMBER: U36107

If you have any questions regarding this appointment, please call the WAVES Center at 456-6742 and have the appointment number listed above available to the Access Control Officer answering your call.

TOTAL NUMBER OF NAMES SUBMITTED FOR ENTRY : 4
TOTAL NUMBER OF NAMES OF CLEARED FOR ENTRY: 4

ARNY, MICHAEL
DECKER, DOUGLASS
MOREHEAD, RANDALL
WAGNER, MARK



 *** ACTIVITY REPORT ***

ST. TIME	CONNECTION TEL	CONNECTION ID	NO.	MODE	PGS.	RESULT
10/27 08:49	92249613		0321	TRANSMIT ECM	2	OK 00'54
10/27 09:08	95144371		0322	TRANSMIT ECM	3	OK 00'56
10/27 09:10	92608046		0323	TRANSMIT ECM	3	OK 00'55
10/27 15:12	+49 228 3771098		5237	AUTO FAX RX ECM	14	OK 05'46
10/27 21:02	+49 228 3771098		5238	AUTO FAX RX ECM	3	OK 01'25
10/27 21:55	92085584		0324	TRANSMIT ECM	3	OK 00'55
10/27 22:54	+49 228 3771098		5239	AUTO FAX RX ECM	18	OK 05'50
10/28 00:39	2024566474	CEQ	5240	AUTO FAX RX ECM	4	OK 01'36
10/28 00:41	+49 228 3771098		5241	AUTO FAX RX ECM	3	OK 01'02
10/28 00:48			5242	AUTO FAX RX ECM	9	OK 03'23
10/28 00:59	312 554 3373	ENVIRONMENTAL FI	5243	AUTO FAX RX ECM	7	OK 03'01
10/28 04:54	+49 228 3771098		5244	AUTO FAX RX ECM	2	OK 00'39
10/28 05:00	202 216 3034		5245	AUTO FAX RX ECM	8	OK 02'08
10/28 05:19	918199970199	N.AMER & GLOBAL	0325	TRANSMIT ECM	2	OK 00'40
10/28 05:40	+49 228 3771098		5246	AUTO FAX RX ECM	9	OK 03'33
10/28 06:19			5247	AUTO FAX RX ECM	12	OK 04'33
10/28 06:25	2024566456	CEQ	5248	AUTO FAX RX G3	3	OK 01'12
10/28 07:21	202 219 1789	DIV of SURF MIN	5249	AUTO FAX RX ECM	2	OK 00'59
10/28 16:35	+49 228 3771098		5250	AUTO FAX RX ECM	23	OK 10'39
10/28 20:52	703 799 3005		5251	AUTO FAX RX ECM	3	OK 01'33
10/28 21:19	+49 228 3771098		5252	AUTO FAX RX ECM	6	OK 02'29
10/28 21:47	+49 228 3771098		5253	AUTO FAX RX ECM	10	OK 04'10
10/28 23:13			5254	MEMORY RX ECM	22	OK 08'28
10/28 23:25	+49 228 3771098		5255	MEMORY RX ECM	7	OK 03'33
10/29 00:26	202 395 6899		5256	MEMORY RX ECM	2	OK 00'45
10/29 00:42	202 647 0217		5257	MEMORY RX ECM	3	NG 01'14
					3	#037
10/29 02:01	93019702080		0326	TRANSMIT G3	3	OK 02'06
10/29 02:03	202 647 0217		5258	AUTO FAX RX ECM	20	OK 07'27
10/29 03:21			5259	AUTO FAX RX ECM	14	OK 04'34
10/29 03:33	+49 228 3771098		5260	AUTO FAX RX ECM	3	OK 01'34
10/29 03:35	33501		0327	TRANSMIT	0	NG 00'00
					0	#018
10/29 04:02	2024566474	CEQ	5261	AUTO FAX RX ECM	2	OK 00'38
10/29 04:14	66220	PRESS OFFICE	0328	TRANSMIT ECM	4	OK 01'08
10/29 04:22	53888		0329	TRANSMIT ECM	4	OK 01'20
10/29 06:31			5262	AUTO FAX RX ECM	3	OK 01'03
10/29 06:34	66546	CEQ	0330	TRANSMIT ECM	3	OK 00'53
10/29 07:18	202 647 4221		5263	AUTO FAX RX ECM	19	OK 08'07
10/29 07:31	202 647 0217		5264	AUTO FAX RX ECM	1	OK 00'25
10/29 15:51	+49 228 3771098		5265	AUTO FAX RX ECM	5	OK 02'02
10/29 21:13	+49 228 3771098		5266	AUTO FAX RX ECM	3	OK 02'41

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GLOBAL WARMING ACTION COALITION

2111 WILSON BOULEVARD ▪ ARLINGTON, VA 22201

703-351-6620 ▪ fax 703-351-6634

An Action Plan for Greenhouse Gas Credits

The Global Warming Action Coalition supports an incentive-based approach to providing credit for early actions to reduce greenhouse gas emissions. The Coalition believes that without some system to provide credit for voluntary actions, companies that move ahead with greenhouse gas emission reduction prior to imposition of a regulatory program would find themselves disadvantaged. Not only would they have exhausted the cheapest options, but also they would have wound up reducing, to some extent, the mitigation requirements of their competitors.

The Coalition's proposal is straightforward, simple and relies on the marketplace to work. The legislation would be entirely voluntary in nature and would not go into effect until the Congress enacted a regulatory program. The legislation would neither encourage nor discourage the enactment of legislation nor the ratification of a Kyoto like treaty. It does provides assurance that companies that taking actions now to reduce greenhouse gasses would not be penalized if a regulatory program is instituted.

The legislation to accomplish the above objectives would have the following characteristics:

- It would require that any future regulatory program be established on a ratio of emissions to production. For ease of discussion, this proposal would be called an *efficiency ratio*. For electricity production, any subsequent regulatory standard would be based on the ratio of carbon dioxide emissions to the generation of electricity and process steam. For other industries, for example, steel or aluminum, the standard would be based on a ratio of emissions to tons of primary metals produced. The proposal would cover combustion and industrial processes, but would not include transportation since fuel efficiency is already regulated under the Corporate Auto Fleet Efficiency standards.
- The *efficiency ratio* approach does not require a baseline, avoiding a host of implementation and equity issues. It is fair in that no firm can benefit by an unusual base period where production was unusually high. Nor would it benefit companies whose businesses were actually contracting. It requires no governmental approvals for company's to take action. Its simplicity provides industrial firms assurance that actions taken now will not disadvantage them in the future.
- Standby regulations would be developed by the agency designated by the President to establish categories of production and to accommodate unusual problems. These regulations, established under the Administrative Procedures Act, would be subject to public review.

- In addition to the *efficiency ratio* for industrial activities, the proposal would include provision for providing credits for sequestration and clean energy projects abroad. Unlike the *efficiency ratio*, these credits would need to be approved by the government in advance.
- The regulations for granting credit for sequestration and clean energy projects would be more complex. They would need to define what activities result in a valid reduction in greenhouse gasses and how these activities would be monitored to assure that reductions actually take place.

The legislative proposal would be fairly straightforward. After the statement of purpose, the act would state simply that any future regulatory program would be established on the basis of relating emissions to production. It would include somewhat more complex language dealing with sequestration and clean energy projects. In both cases, it would require the agency designated by the President to establish regulations to implement the act.

One way or the other, it is likely that the issue of global warming will be addressed as a matter of national policy. This proposal is designed to assure that firms that take early action to reduce greenhouse gasses will not be disadvantaged. Besides assuring fairness, this proposal will create an incentive for firms that have cost-effective ways to reduce emissions to do so. These early actions not only reduce the total volume of greenhouse gasses, but also will provide experience about what measures are effective and cost-effective. As this information is disseminated, it will drive down the total costs of compliance.



By Leslie Carothers

Not Too Late For Early Action Credit

As most environmental legislation languishes in the doldrums, deliberations continue on Capitol Hill about giving credit for early action to companies or other institutions that reduce greenhouse emissions before the Senate ratifies — if the Senate ratifies — the Kyoto Protocol. The intent of a credit program is to influence companies that may be fence-sitters to move forward with voluntary reductions without fear that they will then establish a lower baseline of emissions in the event that controls are eventually imposed.

There is much to be gained by starting now to restrain the growth in CO₂ emissions and to promote a faster transition to energy efficient technologies. While the objective is straightforward, there is a huge range of options in the bills as well as proposals floated by policy organizations and advocacy groups. At one extreme is legislation proposed by Representative David McIntosh to ban federal spending for development or implementation of any program to credit companies for voluntary reductions. Motivated by opposition to the protocol, this proposal treats any credit program as premature implementation of the agreement before Senate ratification. Since the United States is a party to the original 1992 Climate Convention, which provides for voluntary reductions by nations, legislation to prevent any governmental support of voluntary action by companies seems perverse. This sentiment indicates, however, that even modest measures face high legislative hurdles.

Comprehensive early action legislation was proposed last fall by Senators John Chafee, Joseph Lieberman, and Connie Mack that would grant credit for voluntary emissions reductions against reductions required under whatever greenhouse gas regulatory scheme is adopted in the future. Based in large part on a program conceived by the Environmental Defense Fund, the bill covers all six major greenhouse gases, reductions earned through both emission reduction and carbon sequestration activities, and not only domestic but foreign reductions where sanctioned by an international agreement. The bill provides definitions for setting baselines and procedures for modification and verification. It authorizes agreements to reduce emissions through more fuel-efficient products and emissions trading. And it proposes safeguards against cheating by "displacement" of emissions outside of the scope of an agreement with a participating entity.

This constructive proposal has been criticized for going too far or not far enough, harming small business, allowing credit for phony reductions, and promoting nuclear power, among other things. From my perspective representing a company that supports credit for early action, the bill has two important drawbacks. First, it envisions a complex, source-by-source approval process that is too cumbersome for a mandatory program much less a voluntary one. Second, it would mandate absolute reductions in emissions below the established baseline of current emissions irrespective of a company's growth.

The early action program proposed by Alvin J. Alm and J. Bennett Johnson in the March/April issue of this magazine potentially offers simpler implementation along with a rate-based objective that accommodates growth. Under their proposal, efficiency ratio goals (emissions to unit of output or sales) would be set for each industry sector at a level that would produce the desired reductions in greenhouse gas reductions over a specified time period. Defining efficiency ratios would be a difficult regulatory task, but once accomplished it could obviate the need for source-by-source con-

trols other than rigorous documentation of their emissions and output and procedures for external verification and public disclosure.

Another approach offering both simplicity and breadth has been suggested by Resources for the Future. It would focus on energy producers, establishing a permit system for their CO₂ emissions that would ultimately induce reductions through costs imposed on downstream energy users. The authors would soften the impact of their quite potent proposal by establishing a ceiling price on tons of carbon reduced, rising over time.

There are many good ideas, but will any action be taken by a skeptical Congress? One possibility is suggested by the proposal of Senators Frank Murkowski, Chuck Hagel, and Robert C. Byrd to create a \$2-billion research and development fund for new technology and improve existing provisions under Section 1605(b) of the Energy Policy Act for registration of greenhouse gas emissions, reductions, and sequestration with the Department of Energy. This modest proposal has considerable merit. A stronger federal research commitment would accelerate new technology and send a message to domestic and international audiences that the United States has not abandoned its agreement to respond to the risk of global climate change. United Technologies' CEO has pointed out that, in today's dollars, we spent \$300 billion on the interstate highway system and \$100 billion landing a man on the moon, but are spending only \$1 billion a year on energy efficiency and renewable energy.

Improving the provisions of the existing registration program for greenhouse gas emissions would also be a positive step. If Congress simply added a commitment that any program of future greenhouse gas controls will allocate reductions on a per-unit-output basis as advocated in the Bennett-Alm proposal, it would offer the promise of baseline protection to neutralize the disincentives to early action. Given the political realities of 1999, this would not be a bad start.

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**The Business
Council for
Sustainable
Energy**

***Industry Perspectives on
Credit for Early Action***

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POSSIBLE APPROACHES FOR EARLY CREDIT

Option I – the Chafee/Lazio approach

Those who reduce their emissions would receive a pollution credit that could be used in a future greenhouse gas regulatory program. This approach suffers from the uncertainty of the adoption of a future regulatory program to reduce carbon emissions. Today's value of permits is, therefore, discounted not only by the time it would take to adopt such a scheme, but also because of the lack of certainty that there will be a future regulatory program. This approach does little to stimulate the emissions trading market because the permits that could be earned are so heavily discounted. A major problem with all approaches under Option I is the difficulty of determining which emission reductions are truly new and additional, and which would have happened anyway. Some in the business community both support this approach and understand it, while others oppose it as a step toward a future mandatory program. The environmental community is largely in opposition.

Option 2 – a hybrid approach

Those who reduce their emissions would receive both a pollution credit and a tax credit. The tax credit could be offered at the same time as the pollution credit is earned with a penalty for failing to make the reductions during the emissions period, or the tax credit could be offered at the end of a specified time period, e.g. 2010. This proposal would provide a price guarantee for carbon reductions and would stimulate the emissions trading market. This approach also suffers from the difficulties for Option I of determining which emission reductions are truly new and additional, and which would have happened anyway. In addition, there may be difficulties in enforcing the approach in which companies receive tax credits at the same time as they receive emissions credits. Any early credit legislation would also need to go to tax writing committees. The approach might receive more support from the business community; it is close to the position of the Business Roundtable. It is unlikely to generate more support in the environmental community.

Option 3 – the RFF proposal

Adopt an overall emissions target for the country or for particular sectors at a level that is not as stringent as the Kyoto Protocol target and with an earlier deadline. This approach creates a carbon emissions trading market. The program is no longer a voluntary early credit scheme, because it imposes a mandatory cap on emissions. Under this approach, there is no longer a need to distinguish between emission reductions which are new and additional, and those which would have happened anyway. This approach would likely have little support in the business community who oppose a mandatory approach, and could gain some support in the environmental community.

Note: Under any approach chosen, a decision would need to be made with respect to the size of

the program either in the form of pollution credits, tax credits, or an emissions cap.

DRAFT OUTLINE OF EARLY CREDIT PROPOSAL

Purposes of Proposed Early Credit Program:

- To provide tangible incentives for private and public sector investments in technology that will result in significant, lasting reductions in net greenhouse gas emissions.
- To help minimize the future costs to the United States economy of complying with any future international agreement and/or domestic laws that regulated greenhouse gas emissions.
- To reward the significant efforts already undertaken by many private and public entities to reduce greenhouse gas emissions.
- To provide assurances to the private and public sectors that any future system for allocating ghg emission permits would not penalize them for having reduced ghg gas emissions prior to the start of any domestic system regulating such emissions.
- To provide added incentives for the deployment of new technologies that could result in even larger reductions in net greenhouse gas emissions if they were more widely accepted in the market place.
- To maximize the net present value of such tangible incentives in the years prior to and immediately following U.S. ratification of any international agreement.
- To provide comparable incentives for investments that result in lasting, net reductions in greenhouse gas emissions as a result of improvements in energy efficiency, increased use of renewable or other energy sources that do not emit greenhouse gases, less carbon-intensive fossil fuels, increased sequestration of carbon, or reductions in the emissions of non-carbon greenhouse gases.

Credit Unit:

- Credits would be defined in terms of a fixed quantity greenhouse gas emissions avoided i.e., a metric ton of carbon-equivalent emissions.

Value of Credits:

- In 2008 (2010?), any holder of credits could request the U.S. government to redeem credits for \$(10-20) per metric ton of carbon equivalent emissions or could choose to exchange the credit for an equivalent emission permit or for an equivalent reduction in any tax imposed on the emission of greenhouse gases.

Qualifying Investments:

- In general, investments would qualify if they:
 - resulted in more than (10)% reductions in emissions of specific sources, or represented the most efficient or least emitting (10-25)% of the market, which ever was more stringent,
 - had useful lives of at least (10) years, and
 - did not adversely affect the value of the product or service provided
- The actual emission reductions resulting from qualifying investments would be monitored, if practical (and predicted, if monitoring is impractical), and credits would be granted each year [until 2008 (2010?) or (Note: a time limit may not be essential)] until the imposition of a domestic regulatory or tax regime designed to provide comprehensive

economic incentives for reductions in greenhouse gas emissions[, whichever occurs first].

- The administrator of the Early Credit Program would define specific performance benchmarks that must be exceeded in order for specific investments (or products) to qualify for credit, and will define an alternative process for private or public entities to define their own benchmarks, based on criteria established by the Administrator. [Note: the statute could include more specific criteria and might even establish investment-specific benchmarks for the electric sector and certain products.]
- In addition to providing credits to future, qualifying investments, an early credit program should also set aside some fixed quantity of credits (probably 50-100 million metric tons) to be distributed to entities that had voluntarily undertaken comparable investments or other significant efforts to reduce greenhouse gases prior to the enactment of Early Credit legislation.

What should be the primary objective of an Early Credit program?

- To encourage private sector investment that will help reduce the future costs of constraining ghg emissions? and/or
- To encourage near term reductions in ghg emissions [regardless of their effects (if any) on future emissions or on the economic impacts/costs of reducing such future emissions]?

Presumption: It should be the primary objective of an Early Credit program to encourage private sector investment that will help reduce the future costs of constraining ghg emissions.

Implications:

An early credit program should encourage:

- Long-lived investments that reduce greenhouse gas emissions (or the development of technology that could yield such long long-lived emission reductions)

An early program should not reward:

- Changes in output that could adversely affect the economy or lifestyles
- Improvements in energy efficiency or other investments which are simply the result of business-as-usual private investment or might even be the result of government-mandated efficiency improvements.

An early credit program should not focus on:

- Low or no cost operational changes that reduce emissions over the short term, but which require a continuing commitment to be sustained or which can be easily reversed.

Why is a price guarantee required to increase the effectiveness of an Early Credit program that is focused on encouraging long-lived investments?

Private sector investments in potentially risky, long-lived investments, are heavily influenced by the benefits likely to be realized in the early years of the expected life of such investments. Significant investments that depend on benefits associated directly with the resulting reductions in greenhouse gas emissions are now very risky because they depend on the future establishment of a regulatory or tax regime that would give value to such reductions. While an Early Credit program with no price guarantee might eventually enable such investors to earn a return on emission reductions achieved prior to the imposition of a regulatory or tax regime, if no such regime was ever implemented or if it was implemented well beyond 2010, the investor would ultimately receive no significant benefits. This fact ensures that such investments will continue to be viewed as extremely risky at least until the implementation of a regulatory or tax regime becomes highly probable. After it becomes apparent that such a regulatory or tax regime will be implemented within 5 years, then markets will tend to provide a natural incentive for long-lived investments to reduce emissions, even without an Early Credit program. For these reasons, a minimum price guarantee is necessary to enable an Early Credit program to provide a significant incentive for investments undertaken prior to and immediately following U.S. ratification of any international agreement to constrain greenhouse gas emissions.

BACKGROUND ASSESSMENT OF MARKET DYNAMICS

Now: Greenhouse gas emissions (or reductions) have little or no market value at this time. [This excludes the values associated with fuels or other sources of ghg gases that are unrelated to their ghg characteristics.] There are reports that small numbers of greenhouse gas emission “credits” are being purchased for roughly \$1 per ton of carbon equivalent emissions. Such prices might reflect the speculative or “insurance” value of such credits based on their potential future value, heavily discounted because of the substantial political and economic uncertainties involved and number of years until such a future value might be realized. Or such prices might simply reflect the immediate public relations benefits that individual companies realize from purchasing such permits. Even with “Early Credit” legislation, the value of such “credits” is not likely to increase significantly until it appears highly probable that the U.S. will ratify an international treaty imposing greenhouse gas emission constraints and that such a treaty will be effectively implemented. [Without ratification, the political uncertainty, combined with the uncertainty about actual market prices and the substantial time delay, would mean that markets would discount almost any reasonable future price of such credits to approximately zero.]

- **Value of Operational Changes that Reduce GHG Emissions:** Operational changes (such as changes in dispatching regimens for powerplants, improved maintenance and operating procedures, fuel switching or increased capacity utilization) that reduce emissions have value now only if they provide immediate public relations benefits or could result in the receipt of a credit that had future value. Because such operational changes are (by definition) easily reversible, there presently is no significant market or other incentive for taking such actions now, rather than at the time of the imposition of regulatory constraints on emissions.
- **Value of Long-Lived Capital Investments and Technology Development:** Because the development and application of new technology or the investment in more efficient capital stocks are likely to produce emission reductions 10 or more years in the future, there may well be some perceived market value for such investments, albeit heavily discounted.

Immediately after Ratification: After U.S. ratification occurs (or becomes highly probable) and the international community has completed the initial steps to implement such a treaty (which could occur before or after ratification), the value of “Early Credits” and the perceived benefits of long-lived investments are likely to increase sharply, even though there would still be no market value for current ghg emissions or reductions.

- **Value of Operational Changes that Reduce GHG Emissions:** Even after ratification, the value of operational changes that reduce ghg emissions is not likely to be significant, unless there is an Early Credit program that rewarded such operational changes. In fact, since it appears that the price of carbon-intensive fuels may be depressed by ratification, attention to short-term operational improvements might even be diminished.
- **Value of Long-Lived Capital Investments and Technology Development:** The value of technology improvements and long-lived investments, however, would increase after ratification because they would produce savings that continued into the first period of emission regulation and because the perceived value of such future savings would be

much greater (and less uncertain). As the first period of regulation approached, the value of such investments would continue to increase as more and more of their useful life was expected to occur during (or after) the first period of regulation. An Early Credit program that provided “credits” for reductions that occurred prior to the start of the first period of regulation, could substantially increase the value of such investments just after ratification, but as the start of the first period of regulation approached the added value of such early credits would decrease significantly.

Under a Comprehensive Cap and Trading Program: The value of all GHG emissions and reductions would be equalized by a comprehensive cap and trading program (or other comparable regulatory or tax regime).

- **Value of Operational Changes that Reduce GHG Emissions:** Only just prior to and after the start of the first regulated period would emission reductions resulting from operational changes be fully valued (without an Early Credit program).
- **Value of Long-Lived Capital Investments and Technology Development:** The ghg emission benefits of long term investments would also be fully valued, unless the period of regulation was expected to expire before the end of the useful life of the investment.

Likely Quantities of Early Credits and why Additionality Matters

Energy intensity (energy demand/GDP) in the United States declines by roughly 1%. This decline reflects the combined effects of several different trends: significant improvements in energy efficiency (probably 2-3% per year or more), shifts to less energy intensive types of economic activity (services, rather than resource production/processing and product manufacturing), and the increasing energy intensity of other forms of economic activity (shifts to SUVs, increased conditioned space per person, increased vehicle miles traveled and increased air travel, etc.). Regional and industry-specific trends in economic growth and energy demand also vary significantly. Finally, year-to-year energy demand can vary greatly (by 5% or more regionally) depending on variations in heating and cooling degree days and variations in economic performance. This jumble of different factors influencing energy demand make it extremely difficult to interpret or to identify the causes of year-to-year or even multi-year changes in energy demand by specific sectors, industries, regions or the Nation as a whole.

Some experts believe that vigorous U.S. efforts to reduce the expected growth in greenhouse gas emissions might succeed in cutting emissions by 1-2% per year (compounded each year), compared to business as usual forecasts. If all of the entities making such reductions received Early Credits for them, the total number of credits issued over an eight year period would be on the order of 0.5 to 1.5 billion tons of carbon equivalent.

However, if Early Credits were granted to all entities making efficiency improvements of any kind, the total number of credits granted could easily more than double. And if Early Credits were given to all entities that either improved efficiency or decreased their total emissions, for

whatever reason, the total number of credits granted might approach or even exceed the total number of permits that the U.S. would receive if the Kyoto Protocol were eventually ratified (7.5 billion tons or more).

Because an Early Credit program can only reward emission reductions, and not penalize emission increases, it must attempt to distinguish “real” (persistent) emission reductions from random emission reductions that occur as a result of changes in economic growth, shifts in the type of economic activity, normal variations in weather, or even business as usual improvements in efficiency.

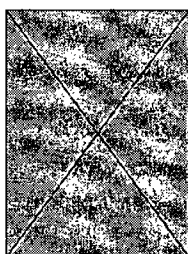
[Note: If an Early Credit program is focused, to the extent feasible, on long-lived investments that produce significant reductions in emissions, and there is a modest price guarantee, I suspect that that actual quantity of Early Credits likely to be granted over an 8-10 year would likely be well below 1 billion tons.]

Why a guaranteed credit redemption price in the future, rather a current tax benefit?

The actual economic value to the recipient of a “paper” credit with a guaranteed future price could be made to be essentially equivalent to a current tax incentive or direct payment. But there are several possible advantages to issuing credits with a price guarantee:

- If a domestic emissions cap and trading program is established in the future, then the value of credits (assuming they are redeemable for emission permits) is very likely to exceed the guaranteed price, so the government would never have to bear the cost of redeeming them at that price.
- Investors that were willing to accept some risk in exchange for a chance at a larger long term rate of return might find the potential market value of the credits attractive. This market potential could significantly increase the perceived value of the credits when they were issued (and this increased value would be further increased as the probability of ratification increased).
- A price guarantee at some future date is consistent with the stated purpose of the program to encourage long term investments
- The price guarantee might escape the budget pressures facing the Administration and the Congress over the next five years.

It should be noted that giving away credits now would have the same effect as distributing emission permits now at no charge. It is possible that the Government would choose to auction such permits in the future, which could result in a very substantial source of future revenues. Such revenues would be reduced to the extent that early credits had already been disbursed..



Climate Policy: Credible Early Action

Raymond Kopp, Richard Morgenstern, William Pizer, and Michael Toman*

Despite concern about the risk of climate change, the outcome of current international negotiations—and the possibility of meaningful action—remains uncertain. The Framework Convention on Climate Change (FCCC), ratified without opposition by the Senate in 1992, acknowledged the risk of climate change and established a long-term international goal of stabilizing greenhouse gas concentrations in order to avoid adverse consequences. With this in mind, the U.S. and other signatories agreed to adopt domestic policies and measures to limit their own emissions of greenhouse gases (GHGs). Most of these measures have taken the form of voluntary programs to reduce energy use. While these voluntary measures have helped, the U.S. is still on a trajectory of significant emissions growth. This led, in part, to the signing of the Kyoto Protocol—a potentially binding international agreement but one whose future is unclear. This lack of clarity has meant that investment and research in emission reducing technology is on hold as negotiations continue.

Under these circumstances, further domestic action should be considered.

* The authors are researchers at Resources for the Future, a nonprofit and nonpartisan organization that conducts independent research—rooted primarily in economics and other social sciences—on environmental and natural resource issues. The ideas and opinions contained in this document are solely those of the authors and do not represent any official position of Resources for the Future.

One option is Senate Bill 2617 offering future credit for voluntary actions to reduce GHG emissions prior to 2008, the first implementation date for the Kyoto Protocol. While this proposal strengthens existing voluntary programs by holding out the promise of future credits, the value of these credits is speculative—depending wholly on the enactment of a future binding program. Further, it requires a cumbersome administrative apparatus to evaluate and award credits.

Rather than focus on additional voluntary programs, we propose a broad-based yet modest, domestic tradable permit program for carbon dioxide emissions starting in 2002. Such a program would create genuine incentives to reduce emissions now and to develop new, low emission technologies for the future. To avoid dislocation and unnecessary adverse consequences, the program should be gradual and equitable, with an emphasis on creating the institutions and industries that will facilitate cost-effective greenhouse gas reductions. Based on these equity concerns, permits should be auctioned and all associated revenues returned to households.

The program should be administered “upstream.” It would require energy producers and importers to obtain permits based on carbon content for all fossil fuels consumed domestically. In order to simplify administration and compliance monitoring, this permit requirement would be enforced at an upstream point where there are relatively few producers: at the mine mouth for coal, at the refinery gate for crude oil inputs, and at the first point of entry to a pipeline or distribution system for natural gas. Permits for imported fuels falling outside these points of collection would be required at the initial port of entry into the United States. Fuels produced for non-combustion use or export would be exempt from the permitting requirement.

An essential element of this proposal is that it remain modest. This modesty reflects the desire to proceed gradually while we undertake further research into climate change consequences, while the capital stock (both human and physical) adjusts to new incentives, and while other countries remain undecided about their own courses of action. Yet, one of the potential problems associated with any permit trading scheme is the large uncertainty concerning future permit prices. In the short life of the sulfur dioxide trading program, prices have already varied by more than a factor of four. Model estimates of the cost of carbon permits under various reduction programs differ by a factor of ten. When one considers the enormity of a carbon reduction program relative to sulfur or ozone-depleting substances, the importance of providing some certainty about compliance costs becomes increasingly clear.

A “safety valve” should be incorporated to reduce cost uncertainty. A safety valve is designed to prevent pressure—in our case costs—from exceeding a predetermined level by automatically “opening” when an established threshold is reached. Since costs in permit schemes are reflected in the permit price, our safety valve is keyed to the permit price. In the event the price reaches the threshold, the government creates and sells extra permits in order to keep the price at the predetermined level.

In particular, we specify a ceiling price at which the government will offer to sell extra permits. As long as the price remains below the ceiling, emissions are strictly limited to the number of permits in an initial distribution. If the permit price reaches the price ceiling, extra permits are offered for sale and emissions are allowed to rise in order to contain compliance costs.

Establishing the precise emission target and ceiling price for this program will involve further technical and economic analysis. Based on existing work concerning the costs and benefits of greenhouse gas control, we believe annual emissions of 1,460 million tons of carbon (MtC) is a reasonable target. This was the actual emission level in 1996 and represents both a ten percent reduction from forecast emission levels in 2002 (1,621 MtC) and a ten percent increase over 1990 emission levels (1,346 MtC). By keeping the permit allocation at this level, an initially modest reduction becomes increasingly stringent as the economy grows. With business-as-usual (BAU) forecasts indicating 1.3 percent annual growth in emissions, a permit level of 1,460 million tons represents a 20 percent reduction from BAU by 2008.

These permits would be freely tradable and could be used anytime in a subsequent two-year period. By limiting the potential holding period to two years, we ensure that our gradual approach does not backfire by allowing a large volume of inexpensive credits to be accumulated early in the program and later to potentially overwhelm future attempts to more sharply limit emissions.

Based on current analyses we estimate that these targets would result in a permit price of roughly \$25/ton carbon in 2002. This would be our proposed ceiling price in 2002, again corresponding to our view of a modest goal. A ceiling price of \$25/ton would limit the initial price hikes for gasoline, for example, to 6 cents a gallon—equal to less than one third the price *declines* experienced in the past year. In order to strengthen incentives for technological innovation, we suggest increasing the ceiling price at an annual rate of 7 percent above inflation through 2007. Unlike the initial permit distribution, these extra permits sold to maintain the ceiling price could only be used during a one-year period following their purchase from the government. This further limits the opportunity to hoard permits in the early years of the program.

Sensitive businesses should be given temporary, transitional protection. For industries that are particularly sensitive to changes in energy prices arising from a carbon reduction program, we suggest that [up to 20 percent] of the permit allocation be provided gratis to (i) vulnerable industries to offset potential expenses or business losses during the [first several years] of the program; and (ii) firms which have undertaken credible greenhouse gas reduction programs prior to [2002]. All other permits would be auctioned by the government on a quarterly basis.

A key element is that the permits must be auctioned and the revenues generated through permit sales must be returned to households and not used to increase government spending. Accordingly, all proceeds from the auctions and extra permit sales must be refunded to U.S. households or used to reduce taxes. One approach that is both simple and equitable would apportion [25 percent] of all proceeds to states to reduce any special hardships caused by the energy price increases. The remaining [75 percent] would be distributed directly to U.S. households. All legal residents would be eligible for this annual household payment. The size of the payment depends on the sales price of the initial permits and the number of extra permits sold.

Given the gratis allocation of 20 percent of the permits to vulnerable industries, and assuming the price of initial permits rises to \$25 in 2002 and no additional extra permits are sold, the proceeds from permit sales would top \$29 billion. States would receive \$7 billion and \$22 billion would be distributed to households. Assuming 100 million U.S. households, that translates into \$220 per household in 2002. The payment to households would rise as the vulnerable industries credit was phased out, as the price ceiling escalates and if extra permits are sold.

DRAFT

January 6, 1999

Although the program would initially be limited to carbon-based fuels, it is important to expand it to include other greenhouse gases and sinks. The latter represent opportunities for equally effective and potentially cheaper reductions in net greenhouse gas emissions. Yet, they also pose greater challenges to monitoring and enforcement. Accordingly, we recommend controlling emissions of other greenhouse gases--Methane (CH₄), Nitrous oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulfur hexafluoride (SF₆)--by the year 2004 to [an appropriate level below BAU projections]. Similarly, by 2004 accounting rules and regulations for carbon sinks should be established. To the extent practicable, these regulations should permit trading among all greenhouse gases emissions and sinks, and should be consistent with internationally accepted definitions.

Finally, substantial opportunities exist to reduce emissions outside the United States, potentially at lower cost than at home. In order to encourage cost-effective reductions as well as to build international institutional experience, we propose crediting joint implementation projects outside the United States with domestic carbon permits. The rules for accrediting, verifying and monitoring such projects would need to take into account the interests of environmental quality, cost-effectiveness, and international applicability. Given the difficulty of the task of drafting credible rules, we would seek to have these rules in place by [January 1, 2004]. As with the other rules, to the extent practicable they should be consistent with internationally accepted definitions.



By establishing this domestic reductions program over the next few years, the United States will undoubtedly learn a great deal about the potential, as well as the problems, of reducing greenhouse gas emissions. Other nations will also be adopting policies and measures to meet their commitments under the FCCC. Accordingly, it is critical that a major evaluation of the U.S. [and other nations'] programs be conducted during the first five years of implementation. The evaluation should consider the environmental, economic, and social performance of the program. On the basis of that evaluation, the actions of other countries, and the status of the Kyoto negotiations, the United States can then decide how best to proceed in the future.

#

[DISCUSSION DRAFT]

106TH CONGRESS
1ST SESSION

H. R. _____

IN THE HOUSE OF REPRESENTATIVES

Ms. McCARTHY of Missouri introduced the following bill; which was referred
to the Committee on _____

A BILL

To reduce global warming by establishing within the United
States a tradable permit program for carbon dioxide
emissions, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Carbon Dioxide Emis-
5 sions Control Act of 1999”.

6 **SEC. 2. DEFINITIONS.**

7 As used in this Act—

1 (1) The term “Secretary” means the Secretary
2 of the Treasury.

3 (2) The term “covered fossil fuel” means coal,
4 crude oil, natural gas liquids, refined petroleum
5 products, natural gas, and any other fossil fuel cov-
6 ered by section 3.

7 (3) The term “carbon allowance” means a per-
8 mit to receive, import, accept for transportation, sell,
9 or otherwise dispose of a specific amount of a cov-
10 ered fuel. Such allowance shall be measured in terms
11 of the carbon content of the fuel concerned. For pur-
12 poses of this Act, the carbon content of any covered
13 fossil fuel shall be determined under regulations pro-
14 mulgated by the Secretary.

15 **SEC. 3. ALLOWANCE REQUIRED FOR PRODUCTION OR IM-**
16 **PORTATION OF FOSSIL FUELS.**

17 (a) IN GENERAL.—After the calendar year 2001 and
18 before calendar year 2008—

19 (1) REFINERIES.—No owner or operator of a
20 refinery in the United States may receive crude oil
21 or natural gas liquids without a carbon allowance for
22 such crude oil or natural gas liquids.

23 (2) IMPORTATION OF REFINED PETROLEUM
24 PRODUCTS.—No person may import into the United

1 States any refined petroleum product without a car-
2 bon allowance for such product.

3 (3) NATURAL GAS PIPELINES.—No owner or
4 operator of a pipeline may accept for transportation
5 in such pipeline any natural gas from a natural gas
6 field, a processing plant, or a foreign pipeline with-
7 out a carbon allowance for such gas. For purposes
8 of this paragraph, no carbon allowance shall be re-
9 quired for natural gas received by a pipeline from
10 storage or from another pipeline located in the
11 United States.

12 (4) NATURAL GAS PROCESSING PLANTS.—No
13 owner or operator of a natural gas processing plant
14 may sell or dispose of natural gas liquids other than
15 to a refinery covered under paragraph (1) without a
16 carbon allowance for such liquids.

17 (5) COAL PREPARATION PLANTS.—No owner or
18 operator of a coal preparation plant may sell or dis-
19 pose of any coal processed at such plant without a
20 carbon allowance for such coal.

21 (6) COAL MINE.—No owner or operator of any
22 coal mine may sell or dispose of any coal (other than
23 coal processed at a preparation plant covered by
24 paragraph (5)) without a carbon allowance for such
25 coal.

1 (7) OTHER FOSSIL FUELS.—No person may sell
2 or dispose of any fossil fuel not enumerated in para-
3 graphs (1) through (6) of this subsection without a
4 carbon allowance for such fuel.

5 (b) FUTURE PROGRAM REVIEW.—Prior to the cal-
6 endar year 2008, the President shall conduct a review of
7 the effectiveness of the program established under this
8 Act, the actions taken by other nations to reduces green-
9 house gases, and the progress of international negotiations
10 regarding global warming. Not Later than January 1,
11 2008, the President shall submit a report congress con-
12 taining the results of such review, together with any legis-
13 lative recommendations for the extension or modification
14 of the program established under this Act.

15 **SEC. 4. CREDITS**

16 (a) EXPORT AND NONFUEL USE.—The Secretary
17 shall issue carbon allowances to any person who uses any
18 covered fossil fuel for a nonfuel purpose or who exports
19 any covered fossil fuel.

20 (b) OTHER CREDITS.—The Secretary shall conduct
21 a study of the feasibility and desirability of issuing carbon
22 allowances for carbon sinks and for projects conducted
23 under the Joint Implementation provisions of the Frame-
24 work Convention on Climate Change, and for reductions

1 of other greenhouse gases, including methane (CH₄), ni-
2 trous oxide (N₂O), hydrofluorocarbons (HFCs),
3 perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).
4 Not later than January 1, 2008, the Secretary shall sub-
5 mit a report to the Congress containing the results of such
6 study, together with any legislative recommendations the
7 Secretary deems appropriate.

8 **SEC. 5. SALE AND USE OF ALLOWANCES.**

9 (a) AUCTION.—

10 (1) IN GENERAL.—The Secretary shall offer
11 carbon allowances for sale at quarterly auctions dur-
12 ing the calendar years 2002 through 2007. The
13 amount of such allowances shall be 1,346 million
14 tons of carbon per calendar year. The auction shall
15 be conducted under such rules as may be established
16 by the Secretary and shall be open to any person.

17 (2) RECORDING BY TREASURY.—The Secretary
18 shall record and publicly report the nature, prices
19 and results of each auction under this subsection, in-
20 cluding the prices of successful bids, and shall
21 record the transfers of carbon allowances as a result
22 of each auction in accordance with the requirements
23 of this section. The transfer of carbon allowances at
24 such auction shall be recorded in accordance with

1 regulations promulgated by the Secretary under this
2 Act.

3 (b) ADDITIONAL SALES; CEILING PRICE.—The Sec-
4 retary shall offer additional carbon allowances for sale at
5 the ceiling price. The ceiling price for the first quarter
6 the calendar year 2002 shall be \$25/ton of carbon. For
7 each quarter thereafter the ceiling price shall be adjusted
8 by the Secretary for inflation plus an additional 1.75 per-
9 cent above the inflation adjustment.

10 (c) USE OF CARBON ALLOWANCES.—Carbon allow-
11 ances sold under subsection (a) or issued under section
12 4 shall be valid for use during the 2-year period following
13 the date of the carbon allowance's sale by the Secretary.
14 Additional carbon allowances sold under subsection (b)
15 shall be valid for use during the 1-year period following
16 the date of the carbon allowance's sale by the Secretary.
17 **SEC. 6. SALE OR EXCHANGE OF CARBON ALLOWANCES.**

18 (a) IN GENERAL.—Any person owning a carbon al-
19 lowance obtained under this Act may sell or exchange such
20 carbon allowance to any other person by notifying the Sec-
21 retary of such sale or exchange in accordance with regula-
22 tions promulgated by the Secretary. The Secretary shall
23 maintain a registry of all carbon allowances sold or other-
24 wise issued under this Act, the use of such allowances,

1 and of all subsequent sales and exchanges of such carbon
2 allowances.

3 (b) NATURE OF ALLOWANCES.—A carbon allowance
4 under this Act is a limited authorization to receive, import,
5 accept for transportation, sell, or otherwise dispose of a
6 specific amount of a covered fossil fuel in the United
7 States based on the carbon content of such fuel. Such car-
8 bon allowance does not constitute a property right. Noth-
9 ing in this Act or in any other provision of law shall be
10 construed to limit the authority of the United States to
11 terminate or limit such carbon allowance. Each carbon al-
12 lowance under this Act shall authorize the receipt, impor-
13 tation, acceptance for transportation, sale, or other dis-
14 posal of a specific amount of a covered fossil fuel in the
15 United States, based on the carbon content of such fuel.

16 **SEC. 7. USE OF PROCEEDS.**

17 (a) FUND.—The proceeds of all carbon allowance
18 sales by the Secretary under this Act shall be deposited
19 in a special fund in the Treasury. Such proceeds shall be
20 available, without further appropriation, for the purposes
21 specified in this section.

22 (b) STATE GRANTS.—

23 (1) TOTAL AMOUNT.—The Secretary shall make
24 annual grants to State governments from amounts
25 in the fund established under this section. Such

1 grants shall be used by the States to reduce any
2 hardships caused by energy price increases resulting
3 from the carbon allowances required under this Act.
4 The portion of the total amounts in the fund in a
5 calendar year that shall be used for purposes of such
6 grants shall be as follows:

7 (A) 25 percent in calendar year 2002.

8 (B) 22.5 percent in calendar year 2003.

9 (C) 20 percent in calendar year 2004

10 (D) 17.5 percent in calendar year 2005

11 (E) 15 percent in calendar year 2006.

12 (F) 12.5 percent in calendar year 2007.

13 (2) STATE ALLOCATION.—75 percent of the
14 total amount of the grants under this subsection
15 shall be allocated among the States based on the
16 total Statewide consumption of covered fossil fuels,
17 measured on the basis of the carbon content of such
18 fuels. 25 percent of the total amount of the grants
19 under this subsection shall be allocated among the
20 States based on the fossil fuel production in each
21 State, measured on the basis of the carbon content
22 of such fuel.

23 (c) PAYMENTS TO HOUSEHOLDS.—Amounts in the
24 fund established under this section remaining after the
25 grants under subsection (b) shall be used by the Secretary

1 to make annual payments on a per capita basis to each
2 individual who is a citizen or legal resident of the United
3 States.

4 **SEC. 8. ENFORCEMENT.**

5 It shall be unlawful for any person to hold, use, or
6 transfer any carbon allowance under this Act, except in
7 accordance with regulations promulgated by the Secretary.
8 It shall be unlawful for any person referred to in section
9 3 to receive, import, accept for transportation, sell, or oth-
10 erwise dispose of a specific amount of a covered fossil fuel
11 in violation of section 3. It shall be unlawful for any per-
12 son subject to this Act to violate any prohibition of, re-
13 quirement of, or regulation promulgated pursuant to this
14 Act.

Early Credit - Powell (7/1)

THE WHITE HOUSE

1) Kyoto problem

- If too many credits given out now, then when budget period kicks in, those w/o credits will have to do more.
- could cap
- could ignore Kyoto

2) Rates v. Tons

- Rate approach creates more credits
- Rates easy for utilities; harder for others
- move toward rates

3) Forest/Sinks

- ancillary environ benefits if done right.

4) Soils

- opp and risk

5) 1605(b)

- how given credit? (EIA help)
- decide how many tons credits are worth

6) Winstar

Streamlined Credit for Early Action Legislation

Efforts to enact credit for early action legislation would be enhanced by pursuing a simplified approach.

The goal of the legislation should be to accomplish three things:

1. Provide legal guarantees to any entity that acts voluntarily to achieve verifiable reductions related to products, processes, or operations, that it will not be disadvantaged by a future regulatory program to control greenhouse gas emissions.
2. Provide a mechanism for verifying any actions that occurred between 1990 and 1999, under Energy Policy Act Section 1605 (b), as part of the US Climate Change Action Plan, or any other activity in which the entity is able to demonstrate verifiable reductions.
3. Provide a mechanism for prospective actions which, subject to negotiation of an agreement with the government, produce verifiable reductions.

With respect to past and future reductions, a series of principles should be delineated to guide the private sector, other entities, and government officials to use in both verifying past reductions and negotiating agreements for future reductions.

The intent of the program should be to encourage experimentation on the part of government, industry, and the environment community, and not to constrain the ability to develop new and creative methods for implementing and achieving verifiable reductions.

While this program may require flexibility in terms of the precise value of the credited reductions, it should be firm that the credits exist as a matter of legal right.

In order to ensure an open process, it should also provide for public participation in the verification procedure, notice and comment, and public disclosure of future negotiated agreements.

The program should not limit government participation by any particular department or agency. The principles of the bill could be used by any department or entity to craft verification agreements.

For purposes of prior acts, the bill should require all those who seek credits for prior acts to file a request with the government within 6-12 months of enactment. The government would be required to certify the credited reductions within 6-12 months after submission in a direct final rule. The direct final rule would be subject to comment and would take effect unless challenged during the comment period.

The possible principles could include:

- no double counting of emission reductions
- reductions may be earned on a project, subsidiary, company, or industry-wide basis
- industrial rationalization activities may earn credits so long as information is provided to ensure that such activities fully account for emissions as a result of the rationalization activity
- trading and pooling of reductions are acceptable
- agreements could be negotiated on any acceptable basis (rate base, cap, percentage reduction, etc.) so long as adequate information is available to assure that reductions are real and that they are not double counted
- no limit is placed on the amount of credits that can be earned, but the program could be set to expire in 3-5 years, or to require a report back to the Congress on a periodic basis, without placing a limitation on the number of credits earned by any single entity or for the aggregate program total

Statement of

**Kevin J. Fay
Executive Director
International Climate Change Partnership**

Before the

**House Committee on Government Reform
National Economic Growth, Natural Resources
and Regulatory Affairs Subcommittee**

July 15, 1999

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**National Economic Growth, Natural Resources
and Regulatory Affairs Subcommittee**

July 15, 1999

Good Afternoon, Mr. Chairman and members of the Subcommittee. My name is Kevin Fay and I serve as Executive Director of the International Climate Change Partnership (ICCP), a coalition of U.S. industry representatives and associations, as well as international associations, interested in the policy development process with respect to global climate change. We appreciate the opportunity to appear before the Subcommittee today on the subject of credit for early action to voluntarily reduce greenhouse gas emissions.

ICCP was organized in 1991 to provide a forum to address the issue of global climate change and to be a constructive participant in the policy debate. We continue to recognize the climate change issue as an important matter with which governments should be concerned. We are one of the largest industry coalitions in the world dedicated to this issue.

ICCP has consistently stressed the need to provide legally binding assurances that voluntary actions to reduce greenhouse gas emissions will be credited in any future mandatory scheme adopted by the government. Such "credits" should be granted to those companies that achieve verified reductions between 1990 and the commencement of any mandatory program.

Voluntary efforts to reduce emissions of greenhouse gases now can slow the rate of growth of emissions and contribute to the longer-term goal of achieving appropriate greenhouse gas concentration levels. Because of the long atmospheric lifetimes of these substances, there are significant environmental benefits associated with reductions made today versus sometime in the future. In addition, by flattening the trajectory of the "business as usual" curve, we reduce future economic disruption and dislocation. In circumstances where there is marginal economic value in an emission reduction investment, granting credit may provide the incentive for such investments.

It has been suggested that supporting credit for early action legislation may unwittingly create support for the Kyoto Protocol, and that instituting a credit for early action program is tantamount to implementation of the Kyoto Protocol. We do not agree.

ICCP believes that the Kyoto Protocol is incomplete, should not be ratified in its current form, and should not be implemented without the advice and consent of the Senate. While the treaty is a good start in establishing a market-based framework for addressing the issue on a global basis, it is a work in progress. It sets ambitious targets to be met in an unrealistic timeframe and does not provide for developing country participation. The treaty negotiators have also failed to identify an appropriate long-term objective.

Concern has also been raised that by granting credit for early action, companies who participate will have an economic interest in ratification of the Kyoto Protocol and will become supporters of the treaty. ICCP believes that credit for early action legislation can be "Kyoto Protocol-neutral". Regardless of the fate of the treaty, investments made in energy efficiency and the reduction of greenhouse gas emissions should be legally protected if and when any mandatory program to control greenhouse gas emissions is implemented.

While the U.S. debates whether certain government actions constitute "back door" implementation of the Kyoto Protocol, other countries such as Japan and European Union nations are actively designing and implementing policies and measures that will reduce greenhouse gas emissions. These initiatives will spur technology and innovation in these nations thus potentially giving them a future competitive edge. U.S. companies that compete in these markets are forced to respond to these conditions regardless of their views on the Kyoto Protocol. The competitiveness of these companies could be affected by the lack of resolution of the credit issue and the lack of support in Congress for climate-related research, development, and technology programs.

Under the Bush Administration, the U.S. signed the United Nations Framework Convention on Climate Change (UNFCCC or Rio treaty), which was ratified by the Senate in 1992. This agreement establishes 1990 as the baseline for measuring greenhouse gas emissions and requires all signatories to take measures to reduce them. Responding to this commitment and to the subsequent U.S. Climate Change Action Plan (CCAP), many companies have already taken steps to reduce their greenhouse gas emissions. Enactment of credit for early action legislation represents "open door" compliance with the Framework Convention and sends a positive public policy message that those who acted in response to this national commitment will not be penalized.

Companies that have already taken action or are contemplating doing so want to ensure that these contributions are not ignored if or when a mandatory phase of emission reductions begins. Failure to recognize these contributions could unfairly force companies to make reductions through increasingly more costly options. This would have the perverse effect of penalizing those companies who act early.

The current legal vacuum provides a disincentive to companies that wish to reduce greenhouse gas emissions or enhance carbon storage. Based on past experience, there is a real fear that early actions will be punished by lower emission baselines as the starting point under an eventual regulatory program.

In addition to removing the existing disincentive to action, a credit for early action program could provide an additional incentive for technical innovation. This is the time to experiment with a broad range of options and to more precisely determine the costs and benefits of various opportunities for reduction. This type of experimentation and innovation not only spurs economic growth, it provides an insurance policy against truly wrenching economic impacts in case much deeper cuts in emissions are necessary in the future.

Finally, while many have touted the success of market-based mechanisms in reducing environmental compliance costs, the fact remains that our experience with such mechanisms is very limited. An active credit for early action program could provide useful experience and educate the government and industry alike as to policies that should be avoided.

It has been argued that small businesses and farmers will be hurt by a credit for early action program. We do not agree. ICCP is currently encouraging a simplified approach to credit for early action that will allow small business to participate with minimal administrative or bureaucratic burdens. Discussions have also included the issue of credit for changes in land management practices that could allow farmers to participate. In addition, the program should create a market for the technical innovations that are often made by small, entrepreneurial companies. Last but not least, we should keep in mind that this is an entirely voluntary program. There are no mandates for small business or farmers' participation.

It has been argued that companies that do not act early will be hurt if the government provides credit to those that do. Again, we do not agree. A successful early action program will reduce the overall level of reductions required under any regulatory program. Companies that don't make early reductions will thus have fewer reductions to make and will benefit from the lessons learned by the early actors and the innovations and new technologies that have resulted from these experiments. Moreover, because there will be a pool of reduction credits available, non-early actors will have much lower-cost compliance options available to them.

ICCP believes that credit for early action legislation should not discriminate against "non-actors". The window of opportunity for investment in more energy efficient equipment, processes or products varies among companies. Credit for early action legislation should not force premature capital stock turnover or penalize companies that choose not to make reductions voluntarily.

The precedent for crediting early action was established in the 1990 Clean Air Act amendments, when companies who moved early on sulfur dioxide emissions reductions received additional consideration in the subsequent sulfur trading program. Relying on this statutory precedent is important for the climate change issue. However, given the scope of industries covered and the enormous task to be undertaken, the

government should go on record now by developing experience in advance of any regulatory requirements.

The United States is on record in support of responsible action to address greenhouse gas emissions. We have ratified the Framework Convention on Climate Change. Congress has funded a variety of activities under the Climate Change Action Plan and other significant government programs. It is not unreasonable to request assurance from the government that these activities, whether past or in the future, not place the voluntary actors in future regulatory jeopardy.

There are a number of legislative proposals that seek to address this short term aspect of a domestic climate change policy. ICCP commends:

- The efforts of Senators Chafee, Lieberman and Mack to eliminate the disincentives and provide credit for voluntary actions to reduce greenhouse gas emissions and the enhancement of carbon storage.
- The efforts of Senators Murkowski and Hagel to compel more systematic attention to the long-term challenge of climate change and to focus on the necessary role of research and technology in meeting that long-term challenge.
- The efforts of Representatives Lazio and Dooley to advance credit for early action on the House side.

While none of these initiatives meets all of our objectives, we are committed to working with the appropriate parties to address specific ICCP concerns such as provision for growth and product coverage. (ICCP's principles on credit for early action and our simplified approach to credit legislation are attached.)

It is time to start forging a bipartisan national strategy for addressing the climate change challenge. That strategy should begin by liberating and systematically rewarding the leadership of U.S. industry in this global cause.

U.S. industry will be a major player in developing technologies to reduce greenhouse gas emissions, making investments in equipment, facilities and products and generating reductions in their operations and products. Enactment of legislation that removes disincentives for early action and that preserves investments already made will help to retain our competitive edge and provide significant economic and environmental benefits for our nation and the world.

Position Paper on Credit for Early Action

International Climate Change Partnership

Overview

Voluntary efforts to reduce emissions of greenhouse gases prior to the commencement of a mandatory commitment period can slow the rate of growth of emissions and contribute to the longer-term goal of achieving appropriate greenhouse gas concentration levels. In circumstances where there is marginal value in an emission reduction investment, granting credit may provide the incentive for such investments.

Companies that have already taken action or are contemplating doing so want to ensure that these contributions are not ignored when a mandatory phase of emission reductions begins. Failure to recognize these contributions could unfairly force companies to make reductions through increasingly more costly options. This would have the perverse effect of penalizing those companies who act early, while potentially benefiting competitors who save their least costly reductions to respond to regulatory mandates.

Industry's aim is to ensure that these early investments that result in emission reductions are recognized and "credited." Such credit could be used to offset future obligations that may arise from any domestic allocation, cap, tax or permit program or sold to parties unable to meet their obligations in a cost-effective manner.

It should be noted that credit for early action programs could have important linkages to potential domestic or international emissions trading systems and international flexibility mechanisms such as Joint Implementation and the Clean Development Mechanism. For example, a company might earn credits through the Clean Development Mechanism prior to 2008 and want to apply them against domestic obligations. Or a "downstream" company may accrue early credits and not be allocated a budget. It would therefore want the right to trade such credits either domestically or internationally.

ICCP Credit for Early Action Principles

Credit for early action programs will require new statutory authority. Failure to enact a credit program at the Federal level may stop companies from making commitments now and encourages a patchwork of inconsistent Federal, state, and local initiatives.

No limit should be placed on the amount of emissions reductions or enhancement of sinks for which early action credit can be earned.

Credit should be granted for actions resulting in verified emissions reductions or enhancement of sinks that occur between 1990 and the beginning of any official budget commitment period, whether or not such actions were part of a government-sponsored voluntary initiative.

A process should be established to determine and "lock-in" appropriate baselines for emission reduction activities including facility operations, product-based initiatives, and enhancement of sinks. Such a process should be flexible enough to reflect special circumstances, including unique considerations related to reductions already achieved.

Credits granted prior to a first budget commitment period should be available without discount as offsets against any greenhouse gas emission allocation, cap, tax, permit, or other requirement to limit or reduce greenhouse gas emissions that subsequently may be imposed.

Credits granted prior to a first budget commitment period should be usable in any national emission budget that may be subsequently imposed. Credits should remain with the earning entity for use at their discretion.

Emissions reductions or enhancement of sinks produced from participation in the Clean Development Mechanism, Joint Implementation, or a domestic emissions trading program should be eligible for early action credit if they occur prior to a first budget commitment period.

Credits generated from credit for early action programs should be eligible for emissions trading.

Credit accounts should be updated on an annual basis.

Credit programs should be integrated to ensure consistency and to avoid "double counting".

The International Climate Change Partnership (ICCP), organized in 1991, is a global coalition of companies and trade associations from diverse industries committed to constructive and responsible participation in the international policy process concerning global climate change. The ICCP recognizes that the continued growth in emissions of greenhouse gases is an important concern for all nations and that efforts are underway internationally and in national governments to develop policies that address this concern. ICCP also understands the importance of working within the process to achieve important environmental objectives while fostering continued economic development and improvement in living conditions for all.

October, 1998

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Should an Early Credit Program be Open-Ended or Limited in Size?

Should the overall size of the program be limited?

Three concerns have been voiced by those favoring limiting the size of an early credit program.

Anyway Tons: Some have raised questions about the extent to which the emissions reductions credited under an early credit program will be real, additional, and permanent reductions. A goal of the program should be to give credit only to those emissions reductions that would not have been undertaken otherwise. The extent possible credit should not be given for actions that would have taken place otherwise. In practice, this may prove difficult to do, and even a well-designed program might end up crediting a significant quantity of "anyway tons."

Over-Mortgaging: It is difficult to tell either how many participants might be attracted to an early credit program or the overall volume of credit that might be allocated under such a program. Some have expressed concerns that the total allocated is potentially quite large. These concerns are often linked either implicitly or explicitly to the size of an overall emissions budget for a future emissions reduction program, whether that budget is determined by the Kyoto Protocol or some other greenhouse gas program. If this were to happen, the early credit program might overly constrain future choices about how a program might operate.

Equity: Some firms and some sectors are more natural candidates for participating in an early credit program than others. Those that do not expect to benefit from an early credit program are concerned about the impact on them of a large allocation going to others under an early credit program.

The main problem with limiting the quantity of credits to be made available is that a limit — especially a very small one — is the potential to create the impression that there would not be enough credit available to go around, thereby discouraging genuine participation and real change from business as usual.

One possibility would be to create a limited quantity of credit to be made available. If the credits are fully allocated and the early credit program appears to be successful in generating real, additional, and permanent reductions in emissions, an additional allotment of credits can be made available.

Should the amount of retrospective credit that can be given for actions reported as part of existing voluntary programs be limited separately?

The rules for participating in an early credit program (and for receiving credit for actions after the program begins) will differ significantly from the requirements for participation in previous voluntary programs. If the quantity of credit to be made available is to be limited, should retrospective and prospective credits be subject to separate limits, or should the two be

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combined?

The differences in circumstances seem to indicate that the two should be dealt with separately. The standards for prospective credit will almost certainly be more rigorous than for existing voluntary programs. For example, the 1605 inventory includes self-reported reductions in both direct emissions (those from facilities owned by the reporter) and indirect emissions (those "caused" by the reporter) with no attempt to deal with double counting. In addition, most of the reductions reported in the 1605 inventory are computed relative to the reporter's estimate of what would have happened in the absence of some action rather than relative to a historical baseline.

Some have argued that they should be handled in a way that insures that previous actions do not receive credit on more generous terms than future actions. This would argue against providing ton-for-ton credit for all reductions reported in existing inventories. There are at least two ways of dealing with retrospective credits.

Audits: Criteria could be set either in legislation or in regulations that would guide an examination of reductions reported under existing voluntary programs. Detailed audits would probably be extremely expensive and, in many instances, would encounter severe data problems.

Fractional Credit: An alternative to detailed audits to determine the credit given for individual projects would be to take all of the reported reductions and provide less than ton-for-ton credit.

If limits are placed on the quantity of credit to be made available, how large should those limits be?

Some groups have made proposals that would imply limits in the range of 350-400 million metric tons of carbon equivalent, about one-fifth of which would be for retrospective credit and four-fifths of which would be for prospective credit. (Converting from carbon equivalent to carbon dioxide equivalent yields about 1280 - 1470 million metric tons of CO₂ equivalent.) An early credit program, even of this size, would allocate claims with significant monetary value to participants. Some trading in greenhouse gas permits has already occurred. An early credit program and the credits that it would create would likely add to interest in trading.

If the amount of credit that can be granted is limited, how should credit be allocated?

There are a number of possibilities for the allocation of credits. If the quantity of credits claimed exceeds the program limit some rationing rule must be adopted. Two possibilities are allocating credits on a first-come-first-served basis and allocating credits proportionally.

First Come First Served: One alternative would provide credits that have a set, predetermined value (such as one credit equals one ton of emissions) and would allocate the credits on a first-come-first-served basis. This approach would provide firms certainty over the value of their actions. It would also address the greatest need of an early action system: to provide incentive

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for action when the policy/price signal is weakest. Under this system, businesses will earn credits in the near term when future policy is most uncertain and the price signal is weakest.

Proportional Credit: An alternative would "true up" the quantity of credits at the end of the period, by comparing the number of credits claimed with the level of the cap. The credits could, for example, be worth up to one ton each, and perhaps less if there are more credits claimed than the size of the cap. This creates uncertainty over the value of early action credits but does not run the risk that some might be excluded from the program because of binding caps.

If retrospective and prospective credits are treated separately, they could be allocated under different rules. For example, proportional allocation might be used for retrospective credits because the uncertainty is less important for actions already taken and first-come-first-served allocation could be used for prospective credits.

Should baseline protection be limited only to participants in the early credit program or is broader baseline protection desirable and feasible?

Many firms express the fear that they will be penalized for taking early actions to reduce greenhouse gas emissions when future legislation is enacted establishing a mandatory emission reduction program. If the allocation of emissions allowances or permits under a future program are based on firms' emissions *as of a baseline year*, they fear that if they have reduced their emissions before that baseline year, they will be shortchanged in that allocation. The bill currently provides baseline protection only for participants in the early credit program.

An advantage of extending baseline protection to non-participants is that it would reduce the uncertainty faced by these non-participants and would remove the disincentives for early action created by that uncertainty.

A disadvantage is that it would require a change in the way that baseline protection is granted. One alternative would be to state now that any future program would be implemented in a way that would not penalize businesses for actions that they take after the onset of an early credit program. There are at least three options could be adopted in the future that would insure that businesses would not be penalized. Importantly, there is no need to make any decisions now about what mechanism will be adopted in the future. Instead, the legislation would only need to make clear that whatever option is adopted will be constructed in a way that avoids penalizing those who reduce emissions before the future program is implemented.

Baseline protection. Assure that if a future program allocates allowances according to firms' emissions in a baseline year, only a *past* year (e.g., 1998) will be chosen for the baseline. Firms would then be free to make emission reductions any time after the baseline year knowing that they will not prejudice their allowance allocations.

Performance benchmarks. Alternatively, a future program could allocate emissions allowances

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according to a performance-based benchmark (e.g., emissions per unit of output). Under this approach a firm's historical performance or emissions level is irrelevant. As above, a firm would know that it can reduce emissions at any time without affecting the number of allowances it will receive.

Auction. Finally, a future program could allocate emissions allowances by auction. Here again, historical emissions would be irrelevant. Firms would need to purchase only enough allowances to cover their emissions when the program takes effect, and acting early would reduce the amount that they ultimately need to purchase.

REVISED DRAFT, 7/15/99
MARK FRIEDRICHS

BASELINE/BENCHMARKING OPTIONS FOR DOMESTIC EARLY CREDITS – Pros & Cons

A key issue in creating an early credit program is how baseline emissions will be determined. This paper addresses four possible ways of setting baseline emissions – actual emissions in some base period, actual emissions per unit of output in some base period, an efficiency or other performance benchmark for a firm that is unrelated to the firm's historical emissions, or a performance benchmark for specified technologies or types of equipment – and discusses some of the advantages and disadvantages of each approach. After that discussion, the paper considers a few examples of how some of the approaches might be applied to individual sectors. No single approach appears to dominate the others for all sectors. Instead, a number of alternatives might work well for some sectors, while other sectors have many fewer workable alternatives.

1. A TONS-BASED APPROACH. Credits would be granted if an entity reduced its total emissions below a firm-specific historical baseline, regardless of changes in output. For example, a company or utility would be granted credits based on net reductions in emissions from historical levels (the historical period considered would be determined by national rules).

Key Features:

- Historical baseline
- Actual emissions *levels* used both for setting baseline and determining changes from baseline
- Entity-specific baseline

Pros

- Could be applied to any entities that maintain verifiable records of energy use or ghg emissions.
- Addresses total emissions directly
- Modest Federal administrative costs when applied to large entities/energy users.

Cons

- Probably too costly to apply to most small companies or consumers
- Impossible to assure additionality or equitable treatment of beneficiaries, because of large variations in emissions histories and business-as-usual trends of individual utilities, companies and institutions.
- Would result in unintended market distortions, such as rewarding downsizing and spin-offs or exports of ghg-intensive operations.
- Impossible to predict or to limit likely eligibility for early credits.

2. A RATES-BASED APPROACH. Credits would be granted based on entity-specific improvements in their emissions per unit of output (e.g. kilowatt hours, dollars or tons of

cement). For example, one utility or manufacturer might claim credit if it significantly improved its own emissions performance (regardless of how their emissions performance compared to others in the same industry). Such an approach could be applied either to individual facilities (e.g. a powerplant or a cement plant) or to corporate entities (e.g., a utility company or manufacturing corporation), or both.

Key Features:

- Historical baseline
- Actual emissions *rates* used both for setting baseline and determining changes from baseline
- Entity-specific baseline

Pros

- Probably could be applied to most electric utilities, large private companies or manufacturing plants, or large public institutions.
- Addresses both technology and operational efficiency
- Reduces double counting problems that arise if credit is given to efficiency improvements by electricity users
- Minimal administrative costs and delays when applied to electric sector.
- Unlikely to constrain future options for allocation of emission allowances

Cons

- Probably too costly to apply to most small companies or consumers
- Difficult to assure additionality or equitable treatment of beneficiaries because of large variations in efficiency histories and business-as-usual trends of individual utilities, companies, plants and institutions.
- Could be difficult and costly to establish benchmarks and to verify changes in performance of multi-product/service companies.
- Could result in unintended market distortions, such as rewarding outsourcing, spin-offs or exports of ghg-intensive operations.
- Difficult to predict or to limit eligibility for early credits.

3. A PERFORMANCE STANDARD. The baseline or benchmark would be in the form of emissions per unit of output (or quantity of sequestration per unit of output) but that benchmark would not be determined by historical emissions rates. Credit would be granted based on the amount by which the performance standard is surpassed. This option requires identification of a fixed unit of output, such as kilowatt hours, and the ability to measure and verify fuel inputs or actual ghg emissions.

Key Features:

- Baseline determined by present or future performance standard, not historical emissions or efficiency
- Actual emissions rates used both for determining changes from baseline

- Baseline common to all participants in an industry

Pros

- Could be applied to all of electric power sector, and possibly certain industrial processes (roughly 30% of ghg emissions)
- Can be designed to maximize additionality (minimize "free riders").
- Can be designed to treat all beneficiaries equitably.
- Minimal administrative costs and delays when applied to electric sector.
- The likely eligibility for early credits could be reliably predicted or limited
- Is unlikely to result in unintended market distortions
- Is unlikely to constrain options for the allocation of allowances under a future domestic emissions trading system.
- Avoids double-counting if credits are offered both to electric utilities and electricity end-users.

Cons

- Probably cannot be applied to most ghg emission sources outside the electric sector.
- Would not address electricity demand.

4. A TECHNOLOGY-BASED APPROACH. This option requires establishment of a standardized procedure to measure the emissions per unit of output and typical usage of specific technologies or categories of equipment or buildings, and a means for independently verifying this measure (e.g., Federal fuel economy test procedures for light duty vehicles, combined with a typical usage factor).

Key Features:

- Baseline determined by present or future performance standard, not historical emissions or efficiency
- Standard test procedures rather than actual emissions determine amount of credit
- Benchmarks applies to specific technologies or categories of equipment and are common across all users

Pros

- Can be easily applied to new light duty vehicles, most new residential and commercial appliances and equipment, and possibly new homes, and may be applicable to certain categories of new commercial buildings, and industrial equipment and processes (covers products and equipment that ultimately account for over 50% of energy demand)
- In general, works better than others in sectors where there are a large number of sources because of the cost of measuring and monitoring entity-specific emissions
- Enables focus on new technology
- Can be designed to maximize additionality (minimize "free riders").

- Can be designed to treat all beneficiaries equitably.
- Minimal administrative costs and delays when applied to sources already covered by Federal test procedures (e.g. light duty vehicles, appliances, equipment).
- The likely eligibility for early credits could be reliably predicted or limited.
- Is unlikely to result in unintended market distortions
- Is unlikely to constrain options for allocating allowances under domestic trading system.

Cons

- Probably could not be applied to most industrial energy uses, heavy duty vehicles or non-vehicle transport energy use.
- Could not address operational efficiency or level of services/demand
- Could involve significant administrative costs and delays if applied to types of equipment or processes not yet covered by standardized test procedures.

SECTOR-SPECIFIC EXAMPLES

1. ELECTRICAL UTILITIES.

All four approaches can be applied to the utility sector.

- Tons or Rates-Based Approaches
 - Data exist to set historical, firm-specific baselines and monitoring of firm-specific emissions present no problems.
 - Firms typically have multiple sources so acquisitions and divestitures would need to be tracked so that baselines could be adjusted.
 - Output is homogeneous (kwh) so a rates-based approach is straightforward.
- Performance benchmarks for new electric power generating plants:
 - One (generic) benchmark for all new capacity
 - Fuel-specific and/or size-specific benchmarks for new capacity
- Technology-Based Approach
 - Credit could be given for particular types of new generation facilities employing a particular technology
 - Credit could be given for fuel switching (i.e. coal to natural gas)

2. TRANSPORTATION.

The diverse number of sources makes monitoring actual emissions excessively costly. A workable early credit program would probably need to focus on technologies or vehicle performance benchmarks.

- Vehicles covered by existing fuel economy tests (and CAFE standards): autos and light duty trucks, including minivans and SUV's

- Performance benchmarks could be set for individual new vehicles in different forms:
 - traditional: miles per gallon, or
 - modified: miles per gallon per passenger (or per unit of interior space, or other measure)
- Performance benchmarks could be set for average fuel economy of new cars produced by a manufacturer
- Technology-specific credits could be given for the production of new vehicles with certain predetermined characteristics

3. INDUSTRIAL

The diversity of this sector creates difficulties for applying only one approach to all industries.

- Tons or Rates-Based Approaches
 - Data to set historical, firm-specific baselines and monitoring of firm-specific emissions present problems for many industries.
 - Output is heterogeneous in many industries so a rates-based approach is more problematic than with utilities.
- Approaches Using Performance Benchmarks
 - Specific technologies or types of equipment could be targeted in individual industries.
 - In some cases actual emissions could be used to determine credit, in others predicted emissions based on test results would need to be used.

4. RESIDENTIAL AND COMMERCIAL SECTORS.

Residential, Commercial and Industrial Appliance and Equipment

- Covered by existing energy efficiency test procedures (and minimum efficiency standards): furnaces, air conditioners (room and central), heat pumps, water heaters, space heaters, refrigerators, dishwashers, clothes washers, dryers, fluorescent lamps and ballasts, 1-200 hp electric motors, packaged heating, air conditioning and water heating equipment used in commercial buildings and possibly electric transformers, less than 1 hp electric motors, high intensity discharge lamps, windows.
- Performance benchmarks could be set at some level above the established minimum efficiency standards; manufacturers that produced new appliances or equipment that exceeded this benchmarks would qualify for credits.

Residential and Commercial Buildings

- Performance benchmarks could be set for new residential and possibly certain categories of new commercial buildings based on standardized home energy ratings or other building energy use estimation tools.
- Credits could be provided for investments in specific building, industrial or agricultural technologies (e.g. ground source heat pumps) or processes (e.g. processes that eliminated the use of chemicals that produced greenhouse gases)

	Not Based on Historical Emissions	Does Not Credit Output Reductions	Coverage	New Electric Generators	Existing Generators	Light Duty Vehicles	Other Transport	Appliances & Equip.	New Buildings	Existing Buildings	Manufacturing Plants/Processes	Sinks	Corporate Entities & Institutions	Consumers	Technology v. Operations
<u>1. Tons-Based Approach</u>	0	0		0		0	?	0	0					?	0
<u>2. Rates-Based Approach</u>	0						0	0	0	?		0	?	0	T&O
<u>3. Performance Standard</u>						0	0	0	?	0	?		0	0	T&O
<u>4. Technology-Based Approach</u>					0		?				?				T

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Lessons from Voluntary Programs for Crediting Early Action

Existing voluntary programs can provide insights for the design of an early action credit system. An evaluation of emissions reducing actions, their measurement, and their reporting can inform an assessment of the value of past and current voluntary actions. Further, lessons can be drawn from the current voluntary programs to inform the design of a prospective crediting system. This memo outlines some of the key issues on both retrospective and prospective crediting.

Retrospective Crediting

In evaluating voluntary actions under existing programs, it becomes clear that the wide array of programs employ different approaches to measuring emissions reductions because of these programs' different sectoral and technology foci. Some programs estimate emissions reductions based on fuel use, while others estimate emissions based on the waste stream, and others estimate emissions based on technology use. Even within these categories, different methodologies are used to calculate emissions reductions. In some programs, there have been a limited number of on-site audits to assess a facility's emissions reductions. The level of accuracy of the various approaches can vary, with the more analytically rigorous and time-intensive approaches appearing to yield more accurate results.

Some experts familiar with these programs have claimed that the nature of reporting voluntary actions can promote misestimation of emissions reductions in some cases. Firm-level emissions reductions could be overestimated because of some reported reductions might have taken place otherwise and other factors, and some have suggested adjusting the value of these claimed reductions.¹

Reasons for Adjusting Estimated Emissions Reductions

- "Anyway Tons": In some cases, a firm would have undertaken an action that results in lower emissions regardless of the existence of the voluntary program simply because the action is economic for the firm. These actions do not result in reductions from what emissions would have been without the voluntary program – that is the reductions are not truly additional. This is commonly called the "anyway tons" problem.

¹ However, some counter that a program's emissions reductions could be underestimated if some firms take advantage of available programs without formally reporting participation. Since this overview focuses on firm-level emissions reductions, and not program-level reductions, we do not address this possibility.

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- Duration of Additionality: A firm could adopt a technology in an action that is truly additional, however, given a long lifetime of the technology, there may be some point in time when the technology is no longer more efficient than the industry standard. Thus, the emissions reductions from the early action are not the sum over the lifetime of the new technology, but the time the new technology is used when a less-efficient technology would have been used absent the voluntary program.
- Estimation Methodologies: Since estimation methodologies are not uniform across programs, and indeed, not uniform within some programs, the calculation of emissions reductions may be more rigorous for some actions than for others. The lack of rigor in some approaches could result in under- or over-estimation.

Approaches to Adjusting Emissions Reductions

To address the potential misassessment of reductions, some have proposed adjustments to the claimed emissions reductions. Below is a set of possible adjustments that could be undertaken. These should not necessarily be considered completely mutually exclusive. Further, additional analysis may be warranted to fully evaluate which adjustment approach, or combination of adjustment approaches, would be most appropriate in a retrospective credit system.

- Eliminate credit for actions that are not identified as voluntary. Under the 1605(b) reporting system, firms are asked to identify if the action is: 1) a plant closing; 2) response to state or federal regulation; or 3) a voluntary action. Actions falling under the first two categories could then be removed from the pool of actions receiving credits.
- Adjust across the board based on free rider percentage. In estimating aggregate program effects, some programs attempt to deduct energy-efficiency improvements that would have occurred anyway in the industry based on forecast business-as-usual energy use. This approach could be used to adjust all actions by a specific percentage.
- Adjust across the board based on credit pool size. A decision could be made about the size of the credit pool set aside for retrospective credit, and this could then be the basis for adjusting emissions credits.
- Adjust case-by-case by evaluating methodologies. A review of methodologies across and within programs could be used, and in cases where methodologies were found to misestimate emissions reductions, credits could be appropriately adjusted.
- Adjust case-by-case through site audits. In some programs, a subset of participants have been evaluated through extensive site audits. These could serve as the basis for the credits for those with previous audits, and additional audits could be performed on other participants.

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Prospective Crediting

The existing voluntary programs also provide some lessons learned for designing a prospective crediting system.

- Data reporting system is important. Some EPA and DOE programs have computer software to assist program participants calculate, track, and report their data. These could serve as useful prototypes by reducing the burden on participants and thereby promote higher participation rates.
- Firms could benefit from guidance for estimation methodologies. Many voluntary programs provide guidance to participants about how they can calculate their emissions reductions. This is important for transparency and to promote consistency, at least within common industries and technologies.
- Minimizing the "anyway tons" problem may be difficult. Program staff recognize that some free-riding goes on in most programs, but find it very difficult to distinguish anyway tons from reductions that are real and additional. This illustrates the importance of designing appropriate baselines for evaluating actions so as to maximize additionality.

3 - 4

Voluntary Reporting Program (1605(b))

	1994	1995	1996	1997	1998P	Total
Number of Entities Reporting	108	142	149	156	172	
Number of Projects Reported	645	967	1,038	1,229	1,420	
Number of Entity-Level (Organization-Wide) Reports	40	51	57	56	64	
Entity-Level Reductions Reported (mmt CO2 equiv.)	78	120	132	128	NA	NA
Project-Level Reductions Reported (mmt CO2 equiv.)	74	146	154	166	263	803

P Preliminary

Voluntary Reporting Program (1605(b))

	1994	1995	1996	1997	1998P	Total
Number of Entities Reporting	108	142	149	156	172	
Number of Projects Reported	645	967	1,038	1,229	1,420	
Number of Entity-Level (Organization-Wide) Reports Rece	40	51	57	56	64	
Entity-Level Reductions Reported (mmtce)	21	33	36	35	NA	NA
Project-Level Reductions Reported (mmtce)	20	40	42	45	72	219

P Preliminary

Conversion factor: CO2 to carbon = 12/44

0.27273

Notes:

1. Includes Climate Challenge (utilities), Climate Wise (manufacturers) reporting along with some reporting under other CCAP voluntary programs.
2. Included direct emissions (those emitted by equipment or facilities owned by the reporter) and indirect emissions (those caused but not owned by the reporter).
3. Reporter chooses an absolute baseline (based on a prior year's -- generally 1990's -- emissions level or rate) or a relative baseline (based on the reporter's estimate of what emissions would have been without some specified action). Most of the reductions reported are computed by the reporter using the second approach.
4. Entity-level and project-level emissions are not additive. Of the 56 companies reporting entity-wide reductions in 1997, 45 also reported project-related emissions reductions.
5. Joint EPA/DOE reports to Congress add 41 million metric tons of carbon equivalent reported under voluntary programs other than 1605 for 1998.



International Climate Change Partnership

Position Paper on Credit for Early Action

Overview

Voluntary efforts to reduce emissions of greenhouse gases prior to the commencement of a mandatory commitment period can slow the rate of growth of emissions and contribute to the longer-term goal of achieving appropriate greenhouse gas concentration levels. In circumstances where there is marginal value in an emission reduction investment, granting credit may provide the incentive for such investments.

Companies that have already taken action or are contemplating doing so want to ensure that these contributions are not ignored when a mandatory phase of emission reductions begins. Failure to recognize these contributions could unfairly force companies to make reductions through increasingly more costly options. This would have the perverse effect of penalizing those companies who act early, while potentially benefiting competitors who save their least costly reductions to respond to regulatory mandates.

Industry's aim is to ensure that these early investments that result in emission reductions are recognized and "credited." Such credit could be used to offset future obligations that may arise from any domestic allocation, cap, tax or permit program or sold to parties unable to meet their obligations in a cost-effective manner.

It should be noted that credit for early action programs could have important linkages to potential domestic or international emissions trading systems and international flexibility mechanisms such as Joint Implementation and the Clean Development Mechanism. For example, a company might earn credits through the Clean Development Mechanism prior to 2008 and want to apply them against domestic obligations. Or a "downstream" company may accrue early credits and not be allocated a budget. It would therefore want the right to trade such credits either domestically or internationally.

ICCP Credit for Early Action Principles

Credit for early action programs will require new statutory authority. Failure to enact a credit program at the Federal level may stop companies from making commitments now and encourages a patchwork of inconsistent Federal, state, and local initiatives.

No limit should be placed on the amount of emissions reductions or enhancement of sinks for which early action credit can be earned.

Credit should be granted for actions resulting in verified emissions reductions or enhancement of sinks that occur between 1990 and the beginning of any official budget commitment period, whether or not such actions were part of a government-sponsored voluntary initiative.

A process should be established to determine and "lock-in" appropriate baselines for emission reduction activities including facility operations, product-based initiatives, and enhancement of sinks. Such a process should be flexible enough to reflect special circumstances, including unique considerations related to reductions already achieved.

Credits granted prior to a first budget commitment period should be available without discount as offsets against any greenhouse gas emission allocation, cap, tax, permit, or other requirement to limit or reduce greenhouse gas emissions that subsequently may be imposed.

Credits granted prior to a first budget commitment period should be usable in any national emission budget that may be subsequently imposed. Credits should remain with the earning entity for use at their discretion.

Emissions reductions or enhancement of sinks produced from participation in the Clean Development Mechanism, Joint Implementation, or a domestic emissions trading program should be eligible for early action credit if they occur prior to a first budget commitment period.

Credits generated from credit for early action programs should be eligible for emissions trading.

Credit accounts should be updated on an annual basis.

Credit programs should be integrated to ensure consistency and to avoid "double counting".

The International Climate Change Partnership (ICCP), organized in 1991, is a global coalition of companies and trade associations from diverse industries committed to constructive and responsible participation in the international policy process concerning global climate change. The ICCP recognizes that the continued growth in emissions of greenhouse gases is an important concern for all nations and that efforts are underway internationally and in national governments to develop policies that address this concern. ICCP also understands the importance of working within the process to achieve important environmental objectives while fostering continued economic development and improvement in living conditions for all.

October, 1998

For more information, please contact: ICCP, 2111 Wilson Blvd., Ste. 850; Arlington, VA 22201; Telephone: 703-841-0626; FAX: 703-243-2874; e-mail: iccp@alcalde-fay.com