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**2/4/98 HOUSE SCIENCE
COMMITTEE**

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Final

**Statement of Kathleen A. McGinty, Chair
Council on Environmental Quality
Executive Office of the President
Before the
House Science Committee
February 4, 1998**

Mr. Chairman, and Members of the Committee:

I am pleased to be here today to describe the agreement reached in Kyoto and our activities, both at home and abroad, to follow-up on the substantial progress achieved in these negotiations. The Kyoto Protocol is an enormous step forward in what will undoubtedly be a long term global effort to safeguard our earth's climate system from unprecedented human-induced harm and to protect our children and grandchildren from the dangerous consequences that could unfold if we fail to heed the warnings from the world's leading scientific experts.

I am very pleased to report that we made tremendous progress in putting into place most of the key building blocks for a sustainable, market-based system for achieving reductions in greenhouse gases. All Americans can be proud of our achievement: U.S. leadership made the difference; the power and integrity of U.S. ideas won the day. On behalf of the President and Vice-President, I would like to commend the skills, perseverance, and dedication of the United States delegation at Kyoto. Nine agencies were represented in Kyoto. Led by our very able State Department team and Under Secretary Eizenstat, the U.S. delegation served our country well and honorably.

Our efforts following up on Kyoto are directed at achieving further progress in obtaining meaningful participation by developing countries and in implementing the President's plan to harness market forces at home and abroad to enhance energy efficiency, environmental quality, and economic prosperity.

Because this committee's jurisdiction focuses on science, I thought it would be useful, before discussing the outcome in Kyoto, to focus briefly on two noteworthy scientific developments that occurred at the end of last year. Based on extensive ground-based measurements, the National Oceanic and Atmospheric Administration (NOAA) -- our lead national agency for collecting weather statistics -- reported that 1997 was the warmest year based on records that date back over a century. While the temperature in any one year cannot prove or disprove anything about global warming, this year's statistics, further confirmed by two other sources of information about global surface temperatures (the Goddard Institute for Space Studies/NASA and the researchers at East Anglia University in the U.K.), follow a clearly emerging pattern. The nine warmest years of the century have occurred in

the past 11 years. This pattern of warm years led one of NOAA's leading climate scientists to issue a statement that reaffirms a key conclusion contained in the latest international scientific assessment prepared by the Intergovernmental Panel on Climate Change -- that "the balance of evidence suggests a discernible human influence on global climate." Put another way, in the view of the vast majority of U.S. and international climate scientists, it is highly unlikely that the trends in global temperatures we have experienced are the result of the natural variability inherent to our climate system.

A second development relates to a study published in November in the medical journal Lancet. Most studies have examined the impacts of climate change on human health in terms of increased fatalities due to heat stress or the spread of infectious diseases. While by themselves, these areas represent considerable human health risks, this new study by the Working Group on Public Health and Fossil Fuel Combustion looked at the short-term impacts on mortality from air-borne particulate matter assuming no changes in estimates of energy use from fossil fuels. The analysis found that an estimated 8 million deaths globally due to exposure to fine particulates could be avoided between 2000 and 2020 if substantial steps were taken to limit greenhouse gas emissions from burning fossil fuels. In the United States alone, the study reports that thousands of deaths annually could be avoided during the 2000-2020 period. This study presents an important near-term benefit from actions to reduce greenhouse gas emissions that must be considered in addition to the long-term benefits of avoiding climatic disruptions. EPA's recently promulgated fine particulate standard begins to address this public health concern and should result in both some reductions in greenhouse gas emissions along with reducing the number of deaths associated with exposure to fine particulates.

THE KYOTO PROTOCOL

Although the agreement reached in Kyoto will not reverse the build-up of greenhouse gases in the atmosphere, it will begin slowing the rate of increase. Equally important, it puts in place a solid foundation upon which the global marketplace can increasingly be engaged in reducing greenhouse gas emissions. The agreement draws heavily from the proposals advanced by the United States and effectively rejects alternatives proposed by others that would have substantially increased the costs of action.

In October of last year, the President outlined a number of elements critical to achieving an effective agreement. He underscored that any agreement had to contain: 1) realistic medium-term, legally binding targets for developed countries; 2) flexible, market-based implementation mechanisms; and 3) measures to secure the meaningful participation of key developing countries. I am pleased to report that we fully achieved our first two objectives, and through the innovative clean

development mechanism made a down payment on the third. Next steps must include further work on operational details of international emissions trading, compliance mechanisms, and developing country participation. The President has made it clear that he does not intend to send the Kyoto Protocol to the Senate for ratification until we have achieved meaningful participation by key developing countries.

Even with the complexities of climate science and the challenge of crafting policy solutions, we found in Kyoto a new spirit of resolve, a new openness to market-based approaches, and a new hope for global cooperation.

Key elements of the U.S. proposals that were adopted as elements of the Kyoto Protocol include the following:

-- Legally binding emission targets: The agreement establishes legally binding targets for developed countries. By advancing from the existing non-binding aim contained in the Framework Convention to a binding target, we believe efforts to address global warming will take on greater significance and commitment. Moreover, our insistence on a legally binding regime encouraged other countries to think more soberly about their reduction proposals. Ultimately, the U.S. agreed to a target of a 7% reduction from baseline levels. Given the changes in the definition of the baseline for the three long-lived chemical compounds (HFCs, PFCs and SF6) from 1990 to 1995 combined with a change in the way sinks are accounted for in the baseline, the actual reduction required in the U.S. is no more than 2-3% more than the President originally proposed as the U.S. negotiating position.

-- Budget periods spanning five years: The U.S. proposal for a five-year budget period was adopted rather than the single-year target proposed by others. Allowing nations to average over five years increases flexibility and lowers costs by smoothing out any short-term variations in emissions based on fluctuations in energy prices, economic activity, business cycles, or weather.

-- First budget period beginning in 2008 and ending in 2012: The U.S. proposal for a budget period beginning in 2008 was accepted. This provides a full decade for redirecting efforts toward greater energy efficiency, allowing for substantial changes in investment decisions and turnover in capital stock. Other proposals calling for reductions to begin as early as 2003 were rejected. Action during this time period appears critical to redirecting emissions toward a pathway that allows for stabilization of greenhouse gases at a doubling of prehistoric levels.

-- Market-basket approach including all 6 gases: The U.S. proposal held sway on including all 6 major greenhouse gases in the calculation of a target. Moreover, we secured trading among these gases so that the lowest cost reductions can be

secured.

-- Inclusion of sinks: The U.S. also urged, and the Parties agreed, to allow actions that capture and sequester greenhouse gases (sinks) to be included as part of meeting the target. Carbon sequestration, through activities such as reforestation programs, offers potentially attractive low cost opportunities to reduce net greenhouse gas emissions.

-- International Emissions Trading: The U.S. secured acceptance of emissions trading as a flexible, market-based approach to lowering the costs of meeting a target. While the U.S. has experience with emissions trading in the acid rain and lead phase-out programs, it was a new concept to the international community and incorporated for the first time in the Kyoto agreement. A number of studies have suggested that the costs of compliance can be significantly reduced if flexible implementation is permitted.

-- Clean Development Mechanism: Under this innovative provision, developed countries will be able to use certified reductions from project activities in developing countries to contribute to compliance with greenhouse gas reduction targets. This provides both a mechanism to secure low cost reductions throughout the world and a powerful economic incentive to lead developing countries toward more climate-friendly technologies. This represents an important avenue for developing country actions to reduce emissions in cooperation with U.S. private sector firms that have the technology, resources and know-how to make such reductions in ways that save energy, reduce emissions and improve performance. This provision effectively embodies the U.S. proposal for joint implementation with credit for activities in developing countries. It also provides, again at U.S. insistence, an incentive for early action by permitting credit for reductions that occur beginning in the year 2000.

-- Emissions from the Military: The U.S. obtained agreement on its proposal for an exemption for emissions from multilateral operations pursuant to the United Nations charter. This decision will ensure that nations do not hold back from participating in humanitarian, peacekeeping and other operations due to concerns about greenhouse gas emissions.

NEXT STEPS -- INTERNATIONAL ACTIVITY

While the Kyoto agreement secures major elements that the U.S. sought to ensure such as flexible, market-based mechanisms for addressing concerns about global warming, future negotiations will still need to address several important issues. The Parties now move forward with working group meetings scheduled for June and the next meeting of the Parties to the Climate Convention scheduled for November in Buenos Aires. Issues that will be addressed at that and subsequent

meetings include the following:

- provisions -- guidelines for implementing the international emissions trading included in the Protocol;
- guidelines for implementing the clean development mechanism;
- further refinement of how sinks will be treated;
- participation of developing countries; and
- additional provisions related to compliance and enforcement.

NEXT STEPS -- DOMESTIC ACTIONS

In his State of the Union message, and just last Saturday in his radio address, the President described his proposed tax cut and technology initiative aimed at jump-starting efforts to enhance our nation's energy efficiency and economic competitiveness. This program was laid out in detail on Monday with the release of the President's Budget. It targeted \$6.3 billion over the next five years -- will provide incentives for our industry, businesses and consumers to make and purchase more energy efficient products. It challenges the innovative abilities of the private sector and helps ensure that those firms that succeed in developing energy saving products will have a substantial market in which to sell those products. For consumers, it provides a double bonus. First it helps reduce the initial costs of purchasing energy saving products. Second, throughout the lifetime of the product, consumers will benefit from reduced energy costs. The President's 1999 Budget includes \$3.6 billion over five years in tax credits aimed at encouraging broader use of existing energy saving technologies and spurring further innovations. It also includes \$2.7 billion in new research and development investments to ensure that innovative greenhouse gas reducing products continue to flow through the pipeline and into the market-place in the coming years.

Examples of specific provisions contained in the President's budget include the following:

- Tax credits for highly fuel efficient vehicles: This credit would be \$4,000 for each vehicle that gets three times the base fuel economy for its class beginning in 2003. A credit of \$3,000 would be available beginning in 2000 for vehicles that get double the base fuel economy for its class. These credits would be available to jump start these markets and would be phased out over time.

- Tax credits for energy efficient equipment: These credits (all of which are subject to caps) would include a 20% credit (subject to a cap) for purchasing certain types of highly efficient building equipment, a 15% credit for the purchase of solar rooftop systems, and a 10% credit for the purchase of highly efficient combined heat and power systems.

-- Research and development support: Additional resources are provided for key areas of renewable energy and for carbon sequestration. Activities related to the Partnership for a New Generation of Vehicles include expanded research in fuel cells, batteries and ultra-clean combustion engines. Two new partnerships are proposed for heavy trucks and light trucks, including sport-utility vehicles.

These budget proposals implement one of the key commitments made by the President in his October 22nd speech at the National Geographic Society. In that speech the President also pledged: that the federal government, as the largest user of energy, would take the lead in enhancing our efforts at improving energy efficiency; that we would work closely with the private sector in developing voluntary programs to reduce emissions; that we would grant early credit for reductions that occur prior to a binding target; and that we would help shape utility restructuring in ways that contribute to reductions in greenhouse gas reductions. We are working today to make all of these commitments real.

Beyond the President's budget proposals, a number of encouraging developments have taken place in both the public and private sectors in the short time since Kyoto. Let me briefly mention four of them today.

1. Fuel Efficient Vehicles: At the recent automobile show in Detroit, General Motors (GM) announced four passenger hybrid electric and fuel cell vehicles that can achieve fuel efficiency of up to 80 miles per gallon -- production prototypes of which could be available in 2001 and 2004. Ford also unveiled a prototype of a mid-size high efficiency sedan that achieves 63 miles per gallon using an advanced diesel engine. Ford also plans to develop hybrid electric and fuel cell versions of this prototype. Chrysler unveiled its full-size experimental hybrid electric vehicle with a projected 70 miles per gallon fuel economy. These technological advances were made possible through the efforts of the Partnership for a New Generation of Vehicles between the Administration, U.S. auto companies, and their suppliers.

2. Compressed Air Challenge: Air compressors represents about 3% of total industrial electricity use and 1% of total U.S. electricity consumption. In mid-January, DOE and major equipment manufacturers announced a new agreement aimed at significantly enhancing efficiency in this sector. Under the agreement, changes in equipment and operating practices are anticipated to reduce energy use in this category by 10% by 2010 at a cost savings of \$150 million per year while reducing greenhouse gases by 700,000 metric tons of carbon.

3. BP Solar Opening: Last Friday, BP Solar opened its first manufacturing plant in the United States. Located outside San Francisco, the Vice President

flipped a switch to start the plant. This facility will produce a new generation of thin film photovoltaic cells. Spurred by DOE's recently announced Million Solar Roof Initiative, planned plant expansions and openings by other solar cell manufacturers, as well as the President's budget request for enhanced funding for renewable technologies, demonstrate that efforts to increase market penetration based on harnessing the sun's energy are now making significant advances. In fact, the Vice President was able to announce that the private partners in the Million Solar Roofs Initiative have already announced plans for well over half the solar panels needed to get to our goal--a full ten years early.

4. VCR/TV Energy Star Program: TV and VCRs represent one of the fastest growing sources of electricity demand. Consumers spend over \$1 billion annually to power VCRs and TVs that are switched off. In early January the Vice President announced a pathbreaking partnership between EPA and the major manufacturers of these electronic goods. The program is quite ambitious with a goal of achieving up to a 70% reduction in energy use when the equipment is turned off without sacrificing product quality, utility or increasing costs. The average household could cut its energy bills by 30% or \$400 per year by switching to the full line of Energy Star products.

These examples further underscore the potential for energy and cost saving opportunities to reduce our emissions of greenhouse gases. The Administration is working on a more detailed economic analysis of the impact of the targets reached in Kyoto. Council of Economic Advisers Chair Janet Yellen will be prepared to discuss the analysis at a hearing next week before the Senate Foreign Relations Committee.

In sum, the Kyoto Protocol represents a significant diplomatic achievement for the United States and a key contribution to the critical effort to safeguard our children from the effects of potentially severe climatic disruption. At the same time, this effort is a work in progress. Much remains to be done if we are fully to seize the environmental and economic benefits of action on this pressing issue. We in the Administration look forward to working with Congress in the months and years ahead to further our efforts to address the risks associated with global warming in a way that enhances our environmental and economic well being.

I welcome the opportunity to visit with you today and look forward to our continued dialogue and exchange.

1 NELSON REPORTING ASSOCIATES, INC.

2 ROAD FROM KYOTO PART I:

3 WHERE ARE WE, WHERE ARE WE GOING,

4 AND HOW DO WE GET THERE?

5 Wednesday, February 4, 1998

6 House of Representatives,

7 Committee on Science,

8 Washington, D.C.

9 The Committee met, pursuant to notice, at 10:00 a.m., in
10 Room 2318, Rayburn House Office Building, Hon. F. James
11 Sensenbrenner, Jr. [Chairman of the Committee] presiding.

12 Chairman SENSENBRENNER. The Committee will be in order.

13 Without objection, the Chair is given the authority to
14 recess the Committee during roll call votes today. And
15 without objection, all Members will be allowed to insert
16 opening statements at the beginning of the record.

17 Last fall, the Speaker of the House, Newt Gingrich, asked
18 me to lead the House delegation to the climate change talks
19 in Kyoto, Japan, held in early December of last year. At the
20 time I received the Speaker's invitation, I had formed some
21 opinions on American participation in a climate change
22 treaty, based in large part from the hearings held by the
23 Subcommittee on Energy and Environment under the chairmanship
24 of my able friend from California, Mr. Calvert.
25 Nevertheless, I felt the responsibility entrusted to me by
26 the Speaker obliged me to keep an open mind on the issue, and
27 I withheld judgment on the treaty until after the
28 negotiations were concluded.

29 The Speaker asked the delegation to examine three
30 questions: first, is the science sound; second, will the
31 treaty work; and third, is the treaty fair? Granted, many
32 more questions could have been asked, but these three seemed
33 to get to the heart of a very complicated and contentious
34 issue. It seems to me that all the hot air being expended on
35 this issue may be a bigger threat to the environment than
36 carbon dioxide.

37 Without an unqualified "yes" answer to each of these
38 questions, it is not clear to me that the Clinton
39 Administration can hope to win the support of Congress and
40 the American people. Yet that is exactly what the Clinton
41 Administration is asking Congress and the American people to
42 do--to support a treaty that cannot meet the tests of sound
43 science, efficacy, and fairness.

44 First, is the science sound? No. Professor Bert Bolin,
45 Chairman emeritus of the Intergovernmental Panel on Climate
46 Change--the group of scientists that assesses and reviews the
47 worldwide climate research--told the Kyoto negotiators that
48 the science of climate change has considerable uncertainties
49 and that the climate system is only partly predictable. His
50 repeated emphasis on the scientific uncertainties raised
51 valid concerns about the maturity of the science underpinning
52 the Kyoto Protocol.

53 Even basic questions about the temperature record remain
54 unanswered, and scientists are still grappling with the
55 discrepancy between ground-based and satellite temperature
56 records. In short, what we heard at Kyoto, and have heard
57 subsequently, is that the Kyoto protocol is based on immature
58 and uncertain science.

59 Second, will the treaty work? The answer to that is
60 "no" as well. Because developing countries have not been
61 required to assume binding emission reductions, the agreement

62 will merely shift emissions from industrialized countries to
63 developing countries. The end result will be that the United
64 States will lose jobs and the environment will suffer because
65 many of the countries exempted from the agreement also have
66 lower air and water pollution standards.

67 Scientists estimate that under the terms of the Kyoto
68 Protocol, the reduction and project warming by the year 2050
69 will be on the order of 0.1 to 0.2 degrees Celsius. That's
70 not much bang for the buck.

71 Also of great importance is the question of how the Kyoto
72 Protocol would work in practice. If, as the old adage goes,
73 the devil is in the details, then the Kyoto pact is one very
74 devilish treaty. Indeed, the very nature of the negotiating
75 process, which operated through consensus, determined that
76 the agreement would include only broad concepts. Basic
77 questions concerning implementation, monitoring,
78 emissions-credit trading, and enforcement still have not been
79 addressed, and won't be addressed until the Buenos Aires
80 round of talks to be held later this year. But seeing as the
81 Administration backtracked on its stated policy during the
82 Kyoto talks, I have little confidence that it will safeguard
83 America's interests in these upcoming talks. In the
84 meantime, how can the Administration expect Congress to
85 acquiesce in putting American treasure and prestige behind a
86 treaty silent on these fundamental issues?

87 Finally, is the treaty fair? And the answer to that is
88 ''no'' as well. The Kyoto Protocol only binds the United
89 States and other developed countries to binding greenhouse
90 gas reduction targets, while large polluters such as China,
91 India, Mexico, Indonesia, and Brazil rejected any further
92 role in reducing greenhouse gas emissions. By placing the
93 burden of emissions limits solely on the United States and
94 the other developed countries, Americans will now be at a
95 competitive disadvantage against foreign competition. Higher
96 energy costs and cumbersome regulations will encourage
97 American industries, agriculture, and jobs to move to those
98 countries where the protocol imposes no obligations and
99 costs.

100 Indeed, recognizing how untenable its handiwork is, the
101 Administration has suggested that it may not submit the
102 treaty to the Senate for ratification until it can bring the
103 developing countries onboard. But from what I have seen, the
104 developing countries are not in the least bit interested to
105 enter into binding emissions reductions. In fact, once these
106 countries become sanctuaries for energy-intensive industries,
107 they will be even less likely to agree to emission limits.

108 We all agree on the need to protect the environment and
109 want to leave our children and grandchildren a better,
110 cleaner, and more prosperous world. Advances in technology
111 can provide that better, cleaner, and more prosperous world,

112 | however, advances in technology can not, and will not, be
113 | subject to the United Nations' schedule. And furthermore, we
114 | have to take great pains in the Congress to prevent a
115 | technological initiative from just throwing money at problems
116 | without brining about any type of results.

117 | However, the result of the untenable U.N. Treaty brokered
118 | by the Administration, is certain to be slower American
119 | economic growth, drastically higher energy prices, and the
120 | loss of hundreds of thousands, if not millions of American
121 | jobs to overseas competitors--and all for no environmental
122 | benefits. I believe that the Kyoto treaty is fundamentally
123 | flawed and will be overwhelmingly rejected by the American
124 | people and by the Congress when it is subjected to a full and
125 | open debate.

126 | And now I yield to the gentleman from California, Mr.
127 | Brown, for his opening statement.

128 | Mr. BROWN. Thank you very much, Mr. Chairman. Let me
129 | start by commending you for holding this timely hearing, and
130 | also for your very capable leadership as the head of the
131 | Congressional delegation that observed the negotiations in
132 | Kyoto.

133 | Mr. Chairman, the Kyoto agreement may not be perfect, but
134 | it puts us on the right track. It commits the United States
135 | to path of economic development that depends on the wise and
136 | efficient use of all of our energy resources. And it commits

137 | our industrialized nation partners to undertake similar
138 | aggressive, but realistic, efforts to reduce greenhouse gas
139 | emissions.

140 | Perhaps the most remarkable aspect of the Kyoto agreement
141 | is the degree to which the U.S. negotiating team succeeded in
142 | bringing a very wary group of developed nations around to our
143 | way of thinking about the best way to deal with climate
144 | change. The U.S. approach, which was based on flexibility
145 | and market-driven mechanisms, was at odds with the command
146 | and control measures favored by the European Union. Our
147 | success means that we can unleash the innovation of the
148 | private sector to help us solve the climate change problem in
149 | a more efficient and less costly way than relying on
150 | cumbersome governmental edicts and bureaucracies. This
151 | success is largely due to the skill and diligence of the U.S.
152 | negotiating team, and I want to commend them for their
153 | excellent efforts.

154 | While it's appropriate for Congress to begin reviewing
155 | the Kyoto agreement, it is also important to keep in mind
156 | that it remains very much a work in progress. The agreement
157 | was reached very late in the conference, indeed, even after
158 | the conference was scheduled to end. As a consequence, many
159 | of the agreements are broad in nature and lacking in details,
160 | as you have pointed. There are a number of critical issues
161 | that need further resolution before we can really adequately

162 assess the environmental and economic impacts of the
163 provisions agreed to in Kyoto. I would urge my colleagues
164 not to rush to a hasty judgement while the Administration
165 continues over the coming months to negotiate these important
166 details as you have indicated as a prelude to submitting the
167 treaty to the Senate.

168 Mr. Chairman, I'm going to ask unanimous consent to
169 submit a portion of my statement in the record to save time--
170 Chairman SENSENBRENNER. Without objection.

171 [The statement of Mr. Brown follows:]

172 ***** INSERT *****

173 Mr. BROWN. I would like to just to point out that you
174 have identified the most pressing problem in the agreement to
175 date, and that is the lack of involvement by the
176 underdeveloped world, including the large emitters and
177 potential emitters such as China and others of that sort. I
178 would point out that these nations came to the conference
179 with the attitude that you in the industrial world made the
180 mess, and now you're asking us to clean it up. And with
181 almost a clear statement that you show us what you're going
182 to do before we will begin to negotiate seriously. We did
183 not show them what we're going to do until, as the Chairman
184 indicated, the last minutes of the conference. And,
185 therefore, they refused to make commitments that would
186 establish what they will do.

187 I think that they will be much more open to making those
188 commitments now that we have established what the advanced
189 nations will do. And I look forward to the success of the
190 continuing negotiations as we proceed with them.

191 And I was going to yield some time to one of my other
192 colleague who is not here, but I will, instead, yield back
193 the balance of my time.

194 Chairman SENSENBRENNER. I thank the gentleman from
195 California.

196 [The statement of Mr. Doyle follows:]

197 ***** INSERT *****

198 [The statement of Ms. Eddie Bernice Johnson of Texas
199 follows:]

200 ***** INSERT *****

201 Chairman SENSENBRENNER. This morning we have six
202 witnesses: the Honorable Kathleen A. McGinty, Chair of the
203 Council of Environmental Quality in Washington; the Honorable
204 Jay E. Hakes, Administrator of the Energy Information
205 Administration in Washington; Mr. David Smith, Director of
206 Public Policy Programs of the AF of L-CIO in Washington; Mr.
207 Joseph Goffman, Senior Attorney of the Environmental Defense
208 Fund in Washington; Dr. Connie Holmes, Chairman of the Global
209 Climate Coalition in Washington; and Mr. Michael Marvin,
210 Executive Director of the Business Council for Sustainable
211 Energy in Washington.

212 Without objection, all of your prepared statements will
213 be placed in the record at the beginning of each of your
214 testimony. In the interest of time, I would ask each of the
215 witnesses to summarize in 5 minutes or so what your testimony
216 is so that we will have plenty of time for questions.

217 And I would like to first recognize the Honorable
218 Kathleen McGinty, Chair of the Council for Environmental
219 Quality in Washington. Ms. McGinty.

220 Mr. BOEHLERT. Mr. Chairman, before Ms. McGinty starts,
221 are others of us going to be given an opportunity for any
222 opening remarks.

223 Chairman SENSENBRENNER. At the beginning of the hearing,
224 Mr. Boehlert, I said that all opening statements would be
225 placed in the record at the beginning of the hearing.

226 Generally, what we want to do at hearings is to have one
227 opening statement on each side in order to spend time to hear
228 the witnesses and to have time for questions.

229 Mr. BOEHLERT. Well, I can appreciate that, but I would
230 just like people to know that there are divergent points of
231 view. And I'm not sure I share the shared statement that the
232 sky is falling as we look at what has happened in Kyoto. It
233 is a work-in-progress, and I very much look forward to
234 hearing the testimony of all-- I said, I'm not sure the sky
235 is falling. I want to make sure you got that clearly.

236 [Laughter.]

237 Mr. Chairman, I will have a statement for the record.

238 [The statement of Mr. Boehlert follows:]

239 ***** COMMITTEE INSERT *****

240 Chairman SENSENBRENNER. The sky is definitely not
241 falling over China and Mexico.
242 So, Ms. McGinty.
243 [Laughter.]

244 STATEMENT OF KATHLEEN A. MCGINTY, CHAIR, COUNCIL ON
245 ENVIRONMENTAL QUALITY, WASHINGTON, D.C.; ACCOMPANIED BY JAY
246 E. HAKES, ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION,
247 WASHINGTON, D.C.; DAVID SMITH, DIRECTOR OF PUBLIC POLICY
248 PROGRAM, AFL-CIO, WASHINGTON, D.C.; JOSEPH GOFFMAN, SENIOR
249 ATTORNEY, ENVIRONMENTAL DEFENSE FUND, WASHINGTON, D.C.;
250 CONNIE HOLMES, CHAIRMAN GLOBAL CLIMATE COALITION, WASHINGTON,
251 D.C., AND MICHAEL MARVIN, EXECUTIVE DIRECTOR, BUSINESS
252 COUNCIL FOR SUSTAINABLE ENERGY, WASHINGTON, D.C.

253 STATEMENT OF KATHLEEN A. MCGINTY

254 Ms. MCGINTY. Well, thank you, Chairman, members of the
255 Committee.

256 In opening remarks, I'd just like to make three basic
257 points. First, a brief reprise of Kyoto; second, the road
258 from Kyoto; and third, the President's budget proposal
259 submitted to the Congress on Monday.

260 First, in Kyoto, I think this Nation can be proud.
261 Working with the Congress, we have developed a new vision of
262 environmental protection that says the environment and the
263 economy work together. The choice between jobs and the
264 environment is a false one. That is not a vision that was
265 shared by the rest of the world before Kyoto. But in Kyoto,
266 the power of our ideas, the truth of those ideas won the day.

267 The result is that at the heart of the Kyoto protocol are
268 those mechanisms which will make true that the environment
269 and the economy work together. The mechanisms briefly are:
270 ''where,'' ''when,'' and ''what'' flexibility.

271 ''When'' flexibility. We pushed back against other
272 nations who thought emissions reductions should happen in the
273 short term, and instead have achieved for ourselves, a decade
274 before that legally binding set of reductions would kick in,
275 one.

276 Second, some countries thought we should have to reduce
277 emissions in a single year. But we said that didn't make
278 sense. The weather changes; markets fluctuate. We ought to
279 be able to average over a period of time. That's our
280 budgeting idea. That we secured in the Kyoto agreement.

281 And finally, in terms of ''when'' flexibility, we secured
282 the idea of banking. If you can achieve more reductions in
283 this period than in other periods, you can save them, sell
284 them, use them for your commitments in another period, if
285 that makes the best economic sense.

286 ''Where'' flexibility. We also said this is a global
287 issue and our approach to the issue should be to take it in a
288 global fashion. That means if it's cheaper to reduce
289 emissions in developing countries or in partnership with some
290 other developed nations, we also have the opportunity to do
291 that. The climate does not care if the molecule of CO2 comes

292 from Boston or Bengal^{ladesh}, and we ought to use the cheapest
293 ways to achieve reductions. That is now secured in the Kyoto
294 protocol.

295 We also achieve "what" flexibility. And the "what"
296 flexibility constitutes two major things. One, most
297 countries said we should only focus on a couple of the
298 greenhouse gasses. We pushed back and said: no, we should
299 focus on all six of them and have flexibility to trade among
300 the six gasses so we are reducing where it is cheapest to
301 reduce.

302 Second, we said, again, the climate doesn't care if we
303 are reducing our emissions of CO2 or if we are doing things
304 like growing trees or engaging in other kinds of conservation
305 practices that sucks CO2 out of the atmosphere. We secured
306 in the treaty the flexibility to use "sinks" or things that
307 can pull CO2 out of the atmosphere as another cost effective
308 way to get the job done.

309 So Kyoto is testimony, I believe, to the power and
310 integrity of the U.S. idea that the environment and the
311 economy works together.

312 Now, having said that, I very much want to echo some of
313 the comments that have been made by Mr. Brown and Boehlert.
314 This is a work-in-progress. We are involved here not in a
315 sprint at all, but in a marathon, and maybe an ironman
316 marathon. The point is to take steps that make sense now,

317 but to work on the issue progressively. That is true in what
318 we hope to take on domestically, it's also true in the
319 international arena.

320 While we have secured these flexibilities in the treaty
321 itself, the bottom line is there is work to do. We now have
322 to take the concepts of emissions trading, the concepts of
323 joint implementation, and make them a reality--get the rules
324 of the road, so to speak, in to place and up and operational.
325 That's a top priority for us now as we proceed from Kyoto to
326 the years ahead.

327 Second priority involves more meaningfully engaging the
328 key developing countries in this effort and enterprise. We
329 secured in the Kyoto document the tools to help us do that.
330 The clean development mechanism, or joint implementation as
331 we had called it previously, is one major tool that will
332 enable us to engage those developing countries. We also
333 secured an ability for countries to opt in to the treaty
334 through an amendment to annex B so that they could assume for
335 themselves a target and timetable and, therefore, become part
336 of the treaty. We've got the tools; we need to make them
337 operational, now, in this road post-Kyoto.

338 Third, and final point has to do with the steps we can
339 take now that make environmental and economic sense to get us
340 started on this job. The President did submit to the
341 Congress for your review his budget proposals this week, and

342 I think that there are four major things to say about those
343 proposals.

344 First and foremost, they are our suggestions of how we
345 can, again, change this environmental challenge into an
346 economic opportunity. More than anything else, the
347 President's proposals are about tax cuts for working families
348 so that they can procure the efficient cars, the efficient
349 air conditioners and heaters that can make this challenge,
350 again, an opportunity for them to have a more comfortable
351 life and reduce their energy bills.

352 It's also about tax cuts for our businesses and industry
353 so that they can invest in these new technologies, improving
354 the environment, and enhancing their bottom line.

355 Third, it's about investments in new technologies,
356 research, and development so that the United States stays on
357 the forefront of building those technologies that will drive
358 the economy of the 21st century.

359 The second thing I'd like to note about the President's
360 budget proposals, is that we've tried to be comprehensive.
361 We looked across the economy to those areas where most of the
362 emissions come from, and we tried to speak to each one of
363 those areas in the proposals we've submitted for your review.
364 So the building sector, industry sector, electricity sector,
365 and the transportation sector; in each of these sectors, we
366 have offered up tax cuts and research and development

367 partnerships that we think, again, can help change the
368 challenge into an opportunity.

369 Having said that, though, third point about this budget:
370 like the treaty itself, it is a work-in-progress. We've been
371 working this week to engage constituencies to hear their
372 comments on the ideas we suggested, and we look very much
373 forward to working with the Congress to refine the ideas
374 we've proposed. But we very much think they head us in the
375 right direction.

376 Final comment about the budget proposals: while they are
377 focused on what we can do domestically investing in
378 technology, assisting our companies and industries in
379 providing tax cuts for American families, there also is an
380 international dimension. There is a dimension which tries to
381 open markets for U.S. companies and technologies abroad by,
382 for example, funding the global environment facility, and a
383 new initiative at U.S. AID which will enable our companies to
384 work in partnership with developing countries and seize those
385 growing markets in developing countries.

386 Finally, Mr. Chairman, again, Kyoto is an important first
387 step. It represents a triumph, I think, of some of the ideas
388 this Committee and other committees on the Hill have
389 emphasized, and that is the environment and the economy can
390 work together. But this is a long-term process. We have
391 only here taken the first step. What we want to do are those

392 | things that make sense both for the environment and the
393 | economy, but to engage in this over the long haul for the
394 | benefit of our environment, our economy, and the health and
395 | well-being of our citizens.

396 | Thank you very much.

397 | [The statement of Ms. McGinty follows:]

398 | ***** INSERT *****

399 Chairman SENSENBRENNER. Thank you, Ms. McGinty.
400 The next witness is the Honorable Jay Hakes,
401 Administrator of the Energy Information Administration. Mr.
402 Hakes.

403 STATEMENT OF JAY E. HAKES

404 Mr. HAKES. Thank you, Mr. Chairman, and members of the
405 Committee for the opportunity to participate today.

406 The Energy Information Administration is an agency within
407 the U.S. Department of Energy. We conduct independent data
408 collection and analysis on energy issues. And in keeping
409 with our statutory authorities, our views do not necessarily
410 reflect those of the Department of Energy, the
411 Administration, or any other organization.

412 Each year, EIA publishes projections of energy trends
413 roughly 2 decades into the future, and I think these
414 projections can be instructive in the current discussion.

415 Such forecasts are risky, as the widely wrong price
416 projections of the 1970s and early 1980s remind us. However,
417 the modeling of energy has improved in the past decade, and
418 the EIA model is widely reviewed and utilized by energy
419 experts in the private and public sectors. In part, because
420 EIA works on a nonpartisan basis, our projections serve as a
421 great starting point for many debates about energy policy.

422 Last November, EIA issued its latest update on energy
423 projections in its annual energy outlook. These projections
424 were based on current energy policies and analysis of major
425 factors such as projected rates of economic growth,
426 anticipated penetration of more efficient technologies, and

427 energy price forecasts. In this update, EIA projects that
428 U.S. carbon emissions from energy will grow to 1,803 million
429 metric tons in the year 2010, which is 34 percent above
430 levels in 1990. This is shown in the graphic that is in
431 your--in my--testimony, and you can see the sectoral
432 breakdown. And it also goes to 2020 for those who are
433 interested.

434 Several factors in our forecast restrained the growth of
435 carbon emissions. The first is the economic attractiveness
436 of generating electricity from natural gas, which leads to
437 our conclusion that most new electric plants will utilize the
438 least polluting of the fossil fuels and do so using very
439 efficient generating equipment.

440 Second, the efficiency of energy consuming machines and
441 appliances will likely continue to improve. The advances are
442 most striking for refrigerators. A new refrigerator in 2010
443 will likely use 48 percent less energy than one sold in 1990.

444 There are, however, other factors in addition to those
445 mentioned earlier that encourage the growth of carbon
446 emissions. First, 28 nuclear plants have or are expected to
447 retire between 1996 and 2010, reducing this noncarbon
448 capacity by 20 percent and generation by 12 percent. Second,
449 the expectation that fossil fuels will be available at
450 moderate cost has raised the bar for the entry of renewable
451 noncarbon technologies. Third, while the fuel efficiency of

452 equipment is likely to improve over the forecast period, the
453 gains are not expected to equal those of refrigerators or
454 those seen generally in some earlier periods.

455 Vehicles for personal transportation, for instance,
456 became dramatically more fuel efficient from the early 1970s
457 to the mid 1980s, but the miles per gallon for new vehicles
458 peaked in 1987. Because of switches to trucks and vans, the
459 average fuel efficiency of new vehicles remains below 1987
460 levels, and is likely to remain below those levels through
461 2010. The introduction of energy auto technologies is offset
462 by the demand for increased energy services, particularly
463 more powerful engines.

464 We do try to look at factors that would cause our
465 projections to be changed, and I will just show one of them
466 which relates to technology. We made some assumptions. What
467 would happen if the cost of the energy efficiency
468 technologies went down and people use more efficient
469 insulations and other factors. And if this would happen, you
470 can see it changes the line. The more efficiency that comes
471 in, the lower the carbon emissions. And the higher-- With
472 less efficiency, the emissions go up. But these changes do
473 not come close to getting us to the levels needed for
474 stabilization.

475 We have done this analytic work on other factors like the
476 availability of nuclear power, renewables, economic growth,

477 and we would be glad to share those at the appropriate time.
478 But we do not view our projections as fixed in stone.

479 Let me then turn to the Kyoto protocol. This is a
480 complex issue and I will try to contribute whatever clarity I
481 am able. Since EIA projects that carbon emissions will grow
482 by 34 percent from 1990 to 2010, and the Kyoto protocol would
483 require the U.S. to reduce carbon emissions 7 percent below
484 1990 levels, a cut of 550 million metric tons out of the
485 expected level will be necessary. This cut equals a 31
486 percent reduction below the expected levels.

487 The reduction actually required in the U.S., however, is
488 likely to be less deep if the system of international trading
489 is developed. Because of economic decline, Russia and other
490 annex 1 members of the former Soviet Union, are expected to
491 actually emit 165 million metric tons less of carbon in 2010
492 than in 1990, even under a business-as-usual analysis. Even
493 countries that expect growth in carbon emissions may have
494 cheaper ways of making reductions than the United States.
495 Some interpretations of the Kyoto protocol would allow
496 further offsets through reforestation.

497 There are numerous uncertainties concerning the Kyoto
498 agreement and we have not modeled the impact of its
499 provisions. However, our previous work on the subject does
500 allow us to make some tentative suggestions about what the
501 impacts would be. If the reductions result from domestic

502 trading of carbon, or some other system that encourages
503 least-cost options to be adopted first, the expected impacts
504 of reductions in carbon emissions are: one, dramatically
505 reduced use of coal, with petroleum dropping to a lesser
506 extent; faster growth in the use of natural gas and
507 renewables than in a nonreduction case; more rapid
508 improvements in efficiencies of electric generation and
509 end-use energy consumption; and some reduction in energy
510 services. Domestic impacts tend to be lessened if carbon
511 permits can be acquired internationally and at significantly
512 lower cost than possible in the United States.

513 It is unlikely the adjustments necessary can be achieved
514 without a significant price mechanism. Under most scenarios
515 the price mechanism selected would slow somewhat the rate of
516 economic growth. A critical issue for economic growth is
517 whether, or how, revenues from higher energy prices are
518 recycled back into the economy.

519 Finally, one of the most important lessons of the careful
520 modeling we undertake is the importance of the normal rate of
521 purchase of energy-using equipment, often referred to as
522 ''stock turnover.'' The major categories of energy-using
523 equipment tend to have useful lives of 8 to 50 or more years.

524 As a result, each month that goes by sees the purchase of
525 air conditioners, industrial boilers, and other equipment
526 that will still be in use in 2010 and beyond. Because of the

527 importance of stock turnover, there will be no quick fixes
528 from dramatically more efficient equipment that becomes
529 available only a few years before 2010. Such breakthroughs,
530 if they occur, will at that point have only limited
531 opportunities to penetrate the market. Any strategy that
532 depends on throwing away otherwise useful equipment, will
533 probably add substantially to the cost of adjusting to a
534 lower carbon economy.

535 [The statement of Mr. Hakes follows:]

536 ***** INSERT *****

537 Chairman SENSENBRENNER. Thank you very much.

538 The next witness is David Smith, Director of Public

539 Policy Program of the AF of L-CIO. Mr. Smith.

540 STATEMENT OF DAVID SMITH

541 Mr. SMITH. Thank you, Mr. Chairman, Mr. Brown. We're
542 delighted to be here. And on behalf of the almost 13 million
543 members of the AFL-CIO and their 40 million family members, I
544 want to congratulate you for holding this hearing which I
545 think is the first Congressional hearing since the Kyoto
546 negotiations.

547 Chairman SENSENBRENNER. We're proud of that.

548 [Laughter.]

549 Mr. SMITH. Well, you should be. This is important
550 business and we're glad that you've started this ball
551 rolling.

552 Let me try to summarize my statement which most of you
553 have.

554 Mr. Chairman, I agree with you that the science here is
555 not definitive, but I think it's our view that there is
556 enough information, enough indication, enough that the burden
557 of evidence here is that this is serious business. We ought
558 to pay attention to it; we have an obligation to our
559 children, to our grandchildren to take this seriously; and
560 that the President is right in suggesting that our country
561 both ought to act independently and it ought to lead the way
562 in the international community in an effort to decelerate and
563 stabilize the buildup of greenhouse gasses in the atmosphere.

564 The sooner we begin, the easier the task will be. The task
565 will be difficult under the best of circumstances, but as we
566 delay and as the hurdle gets higher, both the technological
567 problems and the economic consequences multiply and
568 intensify.

569 Having said that, it seems to me that Kyoto doesn't, in
570 fact, provide us with a very good road map. It indicates the
571 difficulties that we face and is not an agreement which at
572 this point that the President ought to sign. In fact, I
573 think, the colleagues to my right, Mr. Hakes, and Ms.
574 McGinty, have made that argument very well.

575 There are at least three reasons that the President
576 shouldn't sign the treaty and that the conversation that this
577 Committee has begun ought to continue. The first is the
578 point you made, Mr. Chairman. This is a global problem. It
579 is not sufficient, or even get us part way toward addressing
580 this question, if the United States succeeds in sharply
581 reducing our emissions, and the People's Republic of China,
582 the Indonesians, the Indians, the Mexicans, and the
583 Brazilians are not bound by an obligation to participate in
584 that effort. In fact, we're concerned that that creates a
585 double perversity. That in an environment where costs are
586 higher here because of the burdens of meeting emissions
587 reduction targets, that we may create a circumstance where
588 there's a bizarre incentive to move both pollution and jobs

589 offshore. American workers would be disadvantaged, the
590 American economy would be weakened, and the environment would
591 not be improved.

592 The President ought to use this year, as Ms. McGinty
593 said, to redouble his efforts to create a treaty which is
594 truly global, which assures us that at the end of the day our
595 efforts, combined with the efforts of our partners in the
596 world community, will result in meaningful and sustainable
597 reduction of these concentrations. Unilateral effort may
598 make us feel better, but it does very little to move us
599 toward that goal.

600 Second, this is an undertaking. Forgetting the
601 specifics, or perhaps more importantly the lack of specifics
602 in the Kyoto protocol, this is an undertaking of enormous
603 consequence. We're talking about reducing our carbon
604 appetite--the way we heat our buildings, we produce goods, we
605 move ourselves around--by something on the order of 30 or 35
606 percent below the base case by the second decade of the next
607 century. That's an effort with enormous consequences.
608 Enormous consequences for the way people work, the way people
609 live, the kinds of communities that they have. We need a
610 much more complete conversation with the country, with the
611 Congress, with men and women who work for a living, about
612 what this means and what their stake in these efforts is, and
613 what the consequences for them will be. The President ought

614 to lead us in that conversation. Congress ought to assist
615 the President in that effort. But that conversation needs to
616 be completed before we enter into a binding obligation. Need
617 to be clear about what the economic consequences are; about
618 what the adjustment needs are; about how we're going to pay
619 for those adjustment needs; and how we're going to pay for
620 the large-scale investments in technology and in research and
621 development which I think we all agree will be necessary.

622 The President made an important step, I think, in the
623 budget that he submitted to you on Monday. He outlined a
624 number of areas about tax, and research and development
625 spending, in the transportation sector, in the building
626 heating sector, which seemed to us to be useful first steps.
627 Six point five billion over several years is clearly, though,
628 only a first step in an undertaking of this magnitude.

629 Let me review just briefly the order of the economic
630 consequences that we face. There are a lot of studies, and
631 there are competing studies. And as Mr. Hakes' said, this is
632 a very imprecise business. But I think we should take
633 pause--take some caution--in the fact that the orders of
634 magnitude of every study that we're looking at about what the
635 consequences would be in terms of employment, of wages, and
636 of national output, would be moving--and most of these
637 studies were done assuming a return to 1990 levels but by
638 2010, and also assuming no meaningful participation by the

639 developing world--but these studies suggest that we could be
640 facing job losses in the neighborhood of 900,000 to 1.5
641 million jobs. A permanent reduction in GDP on the order of 1
642 percent. These are very, very big numbers. The transition
643 to an economy that accommodates the kind of reduction in our
644 carbon appetite that these studies suggest, will be very
645 difficult. Communities will be disrupted. People's
646 assumptions about their job, about it's stability, about
647 their ability to meet their family's obligations, will be
648 thrown into question.

649 Unfortunately, we are struck by the absence of concern,
650 or the absence of attention, to those transition
651 considerations in the Administration's planning to date. We
652 fear that they are too comfortably content that there is a
653 technological fix in our future that will figure this out;
654 that there will be some wondrous capacity that we don't yet
655 know about; and that at the end of the day, getting from here
656 to there will not be as difficult as some of us anticipate.
657 That may be true, and we welcome the Administration's effort
658 to invest in carbon suppression technology, in clean vehicle
659 technology, in restoring the energy efficiency of our
660 buildings. But even if they are right, there are people who
661 are making their livings, built their communities, and are
662 supporting their families based on today's technology. They
663 mine coal, they run power plants, they drive large trucks.

664 Our planning has got to take into account their concerns as
665 well. A job that my friend Mr. Hakes may get is cool comfort
666 to me if I've lost mine.

667 So we have a lot to do. We have a lot to do before we
668 sign this treaty. We think the President's initiatives in
669 his budget are part of getting that work done. We think this
670 hearing is part of getting that work done. We think this is
671 a serious problem. We want to join with you and the
672 Administration in figuring out how we can collectively do our
673 best to address it.

674 Thank you.

675 [The statement of Mr. Smith follows:]

676 ***** INSERT *****

677 Chairman SENSENBRENNER. Thank you, Mr. Smith.

678 The next witness is Joseph Goffman, Senior Attorney of

679 the Environmental Defense Fund. Mr. Goffman?

680 STATEMENT OF JOSEPH GOFFMAN

681 Mr. GOFFMAN. Thank you very much, Mr. Chairman. The
682 Environmental Defense Fund certainly appreciates the
683 opportunity to participate in the first post-Kyoto hearing
684 and we really do appreciate the privilege of the invitation.

685 As you said, my name is Joseph Goffman. I am a senior
686 attorney with the Environmental Defense Fund.

687 As part of my written testimony, I submitted three
688 documents that the Environmental Defense Fund developed prior
689 to Kyoto and since Kyoto. And together with our written
690 testimony, we think these documents lay the foundation for
691 the case that EDF would like to make here today.

692 It is EDF's view that through the use of the market
693 mechanism of emissions trading, as incorporated more or less
694 in the current Kyoto protocol text, the greenhouse gas
695 emissions reductions objectives of the protocol can be met
696 ultimately in an affordable fashion.

697 The importance of emissions trading and the emissions
698 trading mechanisms in the protocol was explained just last
699 week by Senator Robert C. Byrd of West Virginia in a Floor
700 speech on this same Kyoto protocol. And I'm quoting Senator
701 Byrd here. "The purpose of these mechanisms is to allow
702 advanced nations and their industries to satisfy their
703 requirement for emissions limitations by sharing, buying, and

704 selling credits internationally, and to fulfill part of their
705 obligations by assisting developing nations in developing
706 cleaner technologies and conservation. Emissions trading
707 will allow the industrialized nations to buy and sell credits
708 that can be created by the most cost effective reduction of
709 greenhouse gasses.' ' End quote.

710 The importance of the regime that Senator Byrd describes,
711 is that it will tap the creative energies of many, many
712 differently situated nations, businesses, and individuals,
713 and entice them to engage in an unending search for ever
714 better ways to reduce emissions at lower and lower cost. In
715 short, a greenhouse gas emissions trading market first and
716 foremost will do what markets do best, continually drive cost
717 down. In other words, there may or may not be a magic bullet
718 or a set of magic bullets out there to address the very real
719 concerns that Mr. Smith just raised. On the other hand, the
720 capacity of markets to find a wide variety of solutions, and
721 to do so at ever increasing--or at ever decreasing--costs, is
722 really what the Kyoto protocol, and the U.S. position leading
723 up to the protocol, delivered here.

724 As discussed more fully in our written testimony and in
725 the accompanying documents, the most striking result of the
726 U.S. acid rain emissions trading program, which was adopted
727 in the 1990 amendments to the Clean Air Act, is its
728 compliance costs which are dramatically lower than predicted.

729 Our own acid rain program probably provides the most
730 extensive evidence to date as to how emissions trading
731 markets can be expected to perform over time. What's
732 happening so far under the U.S. acid rain emissions trading
733 program, is that costs are being reduced by 20 to 45 percent
734 below predicted levels. And remember, at the time those
735 predictions were made, analysts were already taking account
736 of the cost saving benefits of emissions trading.

737 Although EDF has not done its own analysis of the likely
738 costs of compliance with the Kyoto obligations, we believe
739 that looking to experience such as that provided by the cost
740 saving dynamic of the acid rain emissions trading program,
741 provides the most compelling lesson of all--that markets are
742 inherently powerful in lowering cost and stimulating
743 innovation on a virtually continuous and unending basis.

744 Accordingly, in looking at the challenges presented by
745 the Kyoto protocol specifically and by the climate issue
746 generally, EDF would ask the Committee, and Congress as a
747 whole, and the Administration, to focus on the potential
748 interaction of new market-based proposals and the immediate
749 economic and environmental challenge that the U.S. faces if
750 it is to meet its responsibilities under the protocol and to
751 meet the larger environmental objectives.

752 In our testimony, we laid out what we call an early
753 reduction credit approach. And we laid it out for the

754 benefit of this Committee, not only because it represents an
755 important policy initiative in and of itself, but it also is
756 a perfect illustration of how the use of emissions trading
757 will enable the U.S. to answer "'yes'" to the question: can
758 we afford to meet the obligations of the protocol in an
759 affordable fashion.

760 The proposal laid out in our written testimony for an
761 early reduction credit program is a strictly voluntary
762 proposal. It would allow businesses, both large and small,
763 who choose to, to start taking steps now to lower their costs
764 in the future. These two aspects: action now, and voluntary
765 action now, are critical. It's quite likely that the
766 political controversy surrounding the climate issue could
767 take years to resolve, and from this perspective the
768 resolution is uncertain. Under the early reduction credit
769 approach, that controversy can play itself out without at the
770 same time playing chicken with the health of the U.S. economy
771 and that of individual businesses.

772 I would ask, Mr. Chairman, if you would indulge me in
773 putting up an overhead.

774 Chairman SENSENBRENNER. Certainly. Your five minutes
775 are up, sir. So if you can wrap it up in a minute or two,
776 then we'll go on to the last two witnesses.

777 Mr. GOFFMAN. Okay. Then perhaps I'll skip the overhead
778 and just try to summarize.

Chairman SENSENBRENNER. Thank you.

Mr. GOFFMAN. The proposal that we have included in our testimony essentially would use market forces to give businesses an economic reason to reduce their greenhouse gas emissions before they have to, but would at the same time give those businesses an opportunity to earn emissions reductions credits, so that by the time any mandatory budget period began in 2008, businesses participating in the program would already have on-hand inexpensive compliance options, so that the cost to those businesses, and the overall cost to the economy, of compliance would be lowered.

In the course of earning those credits, individual businesses and the economy generally would start the process now of uncovering the cost-saving innovations ultimately available for meeting the compliance obligations of the treaty.

Thank you very much.

[The statement of Mr. Goffman follows:]

***** INSERT *****

798 Chairman SENSENBRENNER. Thank you, Mr. Goffman.

799 The next witness will be Dr. Constance Holmes, Chairman
800 of the Global Climate Coalition. Dr. Holmes?

801 STATEMENT OF CONSTANCE HOLMES

802 Ms. HOLMES. Thank you, Mr. Chairman. Before I begin,
803 I'd say I appreciate the promotion, but I'm not a doctor. I
804 wish I were.

805 As you said--

806 Chairman SENSENBRENNER. The staff stands corrected.

807 [Laughter.]

808 Ms. HOLMES. Very good.

809 As you mentioned, I'm Connie Holmes, Chairman of the
810 Global Climate Coalition. Our members represent more than
811 230,000 individual companies with million of American workers
812 engaged in manufacturing, forest management, agriculture,
813 transportation, energy, utilities, and mining. We would like
814 to commend you, Mr. Chairman, for your role as leader as the
815 House Observer Delegation in the meetings last December in
816 Kyoto. Your presence there and your continued leadership is
817 certainly invaluable, and we very much appreciate the
818 opportunity to be here today to give you our views on the
819 outcomes of that meeting.

820 Our members agree that potential human-induced climate
821 change is a concern that does need to be addressed. The
822 issue is not action versus inaction, but responsible action.
823 Under that lens, we do not believe the Kyoto Protocol
824 represents a responsible form of action. We believe that it

825 is fatally-flawed and really can't be fixed in its current
826 form.

827 Ratifying it would intrude on U.S. sovereignty, cause
828 substantial economic damage and loss of jobs, and yet in the
829 end the primary objective of the protocol, stabilization of
830 greenhouse gas concentrations, would not be realized. The
831 President should not sign this flawed treaty. The Senate
832 should not approve it. Congress should not pass legislation
833 to implement its provision, and the Administration should not
834 implement it without ratification.

835 Having participated in every stage of its development, we
836 remain convinced that the Kyoto Protocol is not just bad
837 climate policy; it's even worse economic policy. It's a bad
838 deal for America.

839 The protocol reflects an extreme response to an issue
840 that we still don't adequately understand. Kyoto does little
841 to reduce the risk of adverse human impact on climate, as it
842 limits substantive actions to the developed countries only.
843 As many have said, it's not global and it won't work.

844 As we point out in our written submission, the science
845 supporting the protocol is far from certain, but its effects
846 on our sovereignty and economic well-being are a little more
847 certain. The protocol would establish a new U.N. bureaucracy
848 that would have a good deal of control over U.S. energy use.
849 For the first time in history, a foreign entity would have

850 the power to limit our economic growth. This mentality, that
851 the climate is in crisis, and industrial nations must bear
852 the entire burden of addressing the problem, can be traced
853 back to the 1995 Berlin Mandate.

854 Some U.S. officials have privately admitted that this
855 agreement, which established the negotiating framework for
856 the Kyoto Protocol, was a mistake, but because of Berlin,
857 Kyoto was fated to be a one-sided agreement, so flawed that
858 even the Administration has conceded it cannot be ratified in
859 its current form.

860 The official response is that the protocol can be fixed
861 through bilateral agreements with certain developing
862 countries or other similar measures. Any such fixes,
863 however, would be window-dressing that cannot fix the two
864 very major flaws that we see: the failure to include
865 participation by developing countries and the economic damage
866 to the U.S. economy, which would occur with the required huge
867 reduction in the use of fossil fuels.

868 As Mr. Hakes mentioned, the U.S. Energy Information
869 estimates that U.S. carbon emissions in 2010, under business
870 as usual, would be at least 550 million metric tons greater
871 than the Kyoto target. WEVA, one of the consulting firms
872 that has done some economic analysis, estimates that meeting
873 the target, the target of the Kyoto Protocol, 7 percent below
874 1990 levels, would cost the American economy about 3 percent

875 of GDP or about \$300 billion in lost economic activity, cut
876 the average household income by \$2,000 annually, produce
877 approximately 2.5 million fewer jobs in 2010 than now
878 projected, and reduce business investments by approximately
879 \$35 billion per year.

880 The closest historical example we have to this type of
881 economic and social upheaval that are really buried in these
882 numbers is the energy price shocks of the 1970'S and 1980's.
883 Between 1973 and 1985, real U.S. energy prices quadrupled,
884 and at the same time the economy experienced three
885 recessions, and GDP declined in four years, and this was a
886 short-term crisis.

887 Complying with the Kyoto Protocol would be a long-term
888 permanent situation, as emissions must continually decline.
889 It's not just 2008 and 2012; it's the budget periods beyond
890 that, and beyond that, and beyond that. The necessary
891 increase in the price of coal, home heating oil, gasoline,
892 diesel, and aviation fuels to bring about these declines
893 could destabilize the U.S. economy and send it into a
894 prolonged economic recession.

895 It's argued that joint implementation and emissions
896 trading will lower costs dramatically, but, as we know, both
897 did barely survive as concepts in the Kyoto Protocol, and the
898 final design has to be determined in future negotiations in
899 this save unsettling situation. Emissions trading is limited

900 to industrialized countries. In essence, only two countries,
901 Russia and the Ukraine, will have credits to sell, and the
902 U.S. is going to be competing with others, such as Japan,
903 Canada, and others in the developed world to buy these
904 credits. Billions will be paid overseas each year just to
905 continue to do the everyday things we're already doing.

906 No trading regime based on the Kyoto Protocol, no matter
907 how it's designed, can circumvent that fact, and we believe
908 that it's quite unrealistic to expect that American workers,
909 consumers, and businesses will be willing to pay high costs
910 and really hidden taxes for such a massive foreign aid
911 program.

912 In conclusion, the Kyoto Protocol is a straitjacket for
913 the American economy unsupported by sufficient scientific
914 evidence. Moreover, it fails the test, the Senate has said
915 unanimously, are necessary for ratification: full
916 participation by developing countries and no serious harm to
917 the American economy or to American jobs.

918 The Global Climate Coalition encourages policymakers on
919 both sides of the aisle to work together with labor,
920 agriculture, business, and the American public to set aside
921 the Kyoto Protocol, but instead to work toward developing
922 long-term global climate strategies that will help the
923 environment while avoiding unwarranted economic damage and
924 job loss.

925 Thank you, Mr. Chairman.

926 [The statement of Ms. Holmes follows:]

927 ***** INSERT *****

928 Chairman SENSENBRENNER. Thank you, Ms. Holmes.
929 And, finally, Mr. Michael Marvin, Executive Director of
930 the Business Council for Sustainable Energy. Mr. Marvin?

931 STATEMENT OF MICHAEL MARVIN

932 Mr. MARVIN. Thank you, Mr. Chairman, Mr. Brown, members
933 of the Committee. Just for background, the Business Council
934 for Sustainable Energy was created in 1992 and is comprised
935 of companies and energy industry trade associations who are
936 concerned about the economic, environmental, and national
937 security ramifications of our energy production and use.

938 The Business Council for Sustainable Energy believes that
939 we have sufficient information about the science of global
940 science change to merit a response by policymakers. The
941 Council has supported early action on CO2 reduction, if those
942 efforts focus on technology substitution and market-based
943 responses. There are right ways and there are wrong ways to
944 reduce CO2 emissions.

945 Having begun with that, I want to say that the Council as
946 a whole believes that the agreement reached in Kyoto could be
947 a first step. I say "could be" because, as has been made
948 clear this morning, there remain enough questions about the
949 treaty's provisions that it is prudent to withhold a final
950 verdict until some of those more critical holes are filled.
951 I'll talk a little bit more about that later.

952 I also want to tell this Committee that there actually is
953 more agreement within the business community than there might
954 first appear. For example, let me read you this quote from

955 just last October: "We recognize that there has been an
956 increase in CO2. It is cause for concern, and we feel very
957 strongly that there needs to be a significant effort to
958 improve the technology that will reduce CO2 emissions."
959 That statement was made by Jack Smith, Chairman of the Board
960 for General Motors.

961 Now our only difference with that is that we believe many
962 of the answers to reducing our carbon emissions are here and
963 available today, sometimes as close as your local hardware
964 store, in the form of insulation, high-efficiency lighting,
965 energy-efficient appliances, heat pumps, chillers, and so on.

966 We know combined cycle natural gas plants emit 60 percent
967 less CO2 per unit energy than a conventional power plant. We
968 know that wind-energy contracts in Minnesota and in Texas
969 have been signed for 4 cents a kilowatt hour, and we know
970 that the million solar roof program that is now continuing to
971 grow will help bring down the already lowering costs of
972 photovoltaic panels.

973 The key here is that we are not waiting for some black
974 box to come from a national laboratory to reduce CO2
975 emissions. Together, renewable energy, energy efficiency,
976 and natural gas can form an energy triad that, combined with
977 a market-based emissions trading program and sequestration,
978 will enable this country to meet reasonable international
979 emissions reduction targets.

980 As has been said before, we concur with the concept that
981 the most efficient method to reduce CO2 emissions is through
982 market-based mechanisms that move away from traditional
983 command-and-control regulation. As the Senior Vice President
984 from Enron Corporation from Houston, Texas, had said earlier,
985 late last year, "We need two things from this Government:
986 Set a target and time table and get out of the way."

987 The Kyoto treaty did include the concept of emissions
988 trading, but we know that details remain to be determined,
989 and the Business Council will be working aggressively to see
990 that that momentum continues to make international emissions
991 trading a reality.

992 Kyoto was also important for what it failed to address as
993 well, and again, we talk about the lack of clarity with, in
994 particular, the role of sequestration, who would run the
995 clean development mechanism, how it might be funded, the role
996 of joint implementation within the clean development
997 mechanism, and of course the all important role of developing
998 countries.

999 However, we do believe that each of these can be
1000 addressed, and many in ways that are conducive to an
1001 efficient market. They also can be addressed inefficiently.
1002 We remain convinced that when American business focuses on
1003 solving a problem, a problem gets solved.

1004 Let me offer an example. American Electric Power, one of

1005 the Nation's largest electric utilities, has developed
1006 sequestration projects that are projected to remove 53
1007 million tons of carbon from the atmosphere. That's 53
1008 million tons, one company, 10 percent of the 550 million tons
1009 that we've heard. Average cost for those credits estimated
1010 by AEP: 37 cents, zero dollars and 37 cents. That's 53
1011 million carbon credits.

1012 And as we've talked and have heard earlier about the
1013 Clean Air Act Amendments and how the estimates for the sulfur
1014 allowance credits are running at about 90 percent off;
1015 they're about 10 percent the cost that was estimated, which
1016 was between \$700 and \$1,500 back in 1989 and 1990. That
1017 figure, the transaction cost for you to purchase one
1018 allowance of sulfur credit, the transaction costs are higher
1019 than the 37-cent figure.

1020 Before concluding, I also want to clear up a
1021 misconception that continues to persist. When one hears
1022 about a 31 or a 34 or a 40 percent reduction in emissions, we
1023 are not automatically talking about reductions in energy use.

1024 Switching to a less-polluting fuel does not impact energy
1025 production and simply reduces CO2 emissions. Many of the
1026 programs that this Committee oversees directly within the
1027 Department of Energy, those highlighted in the Climate Change
1028 Initiative that we saw pieces of earlier this week from the
1029 Administration, are living proof that cost-effective

1030 fuel-switching remains a viable option.

1031 I know my time is short. So let me summarize the
1032 Council's position, Mr. Chairman.

1033 First, voluntary programs have helped greatly reduce
1034 emissions from business-as-usual levels, but they're not
1035 enough. Domestic programs that encourage the increased use
1036 of cleaner, more efficient technologies are a reasonable and
1037 appropriate response to the threat of climate change,
1038 regardless of whether you believe that climate change is an
1039 absolute certainty or that it may be unlikely.

1040 Second, we believe the costs of compliance are again
1041 being severely overstated. In many cases, consumers spurred
1042 to action as a result of the threat of climate change can
1043 find energy savings to be a financial benefit.

1044 Finally, if we believe climate change could be a threat,
1045 which I believe most of us in this room do, as we consider
1046 the possible costs of action, it's important that we give
1047 equal consideration to the other side of that coin, the cost
1048 of inaction, and those costs, Mr. Chairman, could simply be
1049 too heavy to bear.

1050 Thank you again for the opportunity to testify this
1051 morning.

1052 [The statement of Mr. Marvin follows:]

1053 ***** INSERT *****

1054 Chairman SENSENBRENNER. Thank you very much, Mr. Marvin,
1055 and thanks to all of the witnesses.

1056 We have a large number of Committee members here, and the
1057 Chair will announce that we will be operating under the
1058 five-minute rule, including on the Chair, I might add, and
1059 the Chair intends to recognize members alternatively on each
1060 side of the aisle in the order in which you appeared on your
1061 side of the aisle. So those who came here first get to ask
1062 their questions first and then can excuse themselves and go
1063 on and do whatever else you have to do.

1064 So let me begin. Ms. McGinty, we are aware that the
1065 Senate unanimously passed the Byrd-Hagel Resolution, which
1066 stated that the Administration should not sign any treaty
1067 that imposed binding commitments on the United States unless
1068 there were also binding commitments placed on the Third World.
1069 We know that that did not come out of Kyoto.

1070 If the Buenos Aires Conference does not provide some type
1071 of a mechanism for developing nation adherence to reducing
1072 emissions of greenhouse gases, is the Administration prepared
1073 to announce that this process is fatally-flawed and walk away
1074 from it?

1075 Ms. MCGINTY. Let me say, Mr. Chairman, first, that the
1076 resolution in the Senate is one we supported. It was helpful
1077 to us in these negotiations. The President has said clearly
1078 and consistently that this is a global challenge and we need

1079 global participation to get the job done.

1080 We are working very hard right now to further that
1081 objective, ^hwether it's in continued multilateral ^{discussions}for the
1082 preparations for Buenos Aires, and, frankly, beyond Buenos
1083 Aires, or on bilateral discussions with various countries to
1084 get those developing countries to step up to the plate ^{+o}become
1085 part of this process.

1086 Chairman SENSENBRENNER. Now if that fails, are you going
1087 to walk away from it? That's what my question is.

1088 Ms. MCGINTY. Well, the President has said very clearly
1089 that the United States won't assume binding obligations until
1090 we have effectively secured that meaningful participation by
1091 developing countries.

1092 Chairman SENSENBRENNER. I guess my question is, how long
1093 is this process going to play out without any results in
1094 getting developing nations to have meaningful participation
1095 before the Administration pulls the pin and says, you know,
1096 we've tried and tried and tried, and we have not gotten any
1097 of the developing nations to sign up, so we, as Americans,
1098 are going to walk away from this process and perhaps do
1099 something else?

1100 Ms. MCGINTY. Well, let me reiterate two things that are
1101 very important in terms of what we have accomplished already
1102 in that regard.

1103 Chairman SENSENBRENNER. Please answer my question.

1104 You're not answering the question. The question is, if we
1105 don't get meaningful participation in developing countries,
1106 when is the Administration prepared to walk away? I don't
1107 believe that going about this bilaterally or multilaterally
1108 is going to work. If China, for example, says, no, we're not
1109 going to participate in this--no way, no how--they've already
1110 bought electric plants and steel mills that we closed down
1111 because they pollute too much and reopened them over there,
1112 and I don't think that there's anything that's really in
1113 evidence that indicates that anything's going to be
1114 different.

1115 Ms. MCGINTY. Well, I think that in some respects our job
1116 is more difficult going forward from Kyoto and securing that
1117 developing country participation, but in some respects it's
1118 less difficult. One of the most interesting dynamics that
1119 I'm sure you observed also when you were there is that the
1120 G-77 is not a monolith. When the G-77 is concentrated in one
1121 room, there are voices that are louder than others, and
1122 China's was a very loud voice. But there are also the
1123 Mexicos of the world, the Koreas of the world, countries that
1124 are much more interested in working positively and
1125 progressively on this front. And, in fact--

1126 Chairman SENSENBRENNER. Now, Ms. McGinty, you and I were
1127 both there--

1128 Ms. MCGINTY. Yes.

1129 Chairman SENSENBRENNER. --and we know tha tthe job of
1130 the Chairman of the Committee of the Whole, a gentleman named
1131 Raoul Estrada, is the Argentine Ambassador to China. Now Mr.
1132 Estrada is the person who makes the determination on whether
1133 there is consensus of the participants in the Conference or
1134 whether there isn't. Now his main job isn't dealing with
1135 global climate change; it's representing his country's
1136 position with the Chinese government. If the Chinese get up
1137 and say, no, we object; we don't consent to this, do you
1138 think Mr. Estrada is going to ignore them and say consensus
1139 has been reached, like he did against us and some other
1140 people in Kyoto?

1141 Ms. MCGINTY. Well, it is, in part, why we will not have
1142 as our strategy simply to talk to countries in multilateral
1143 fora. We will work with them on a bilateral basis, and I
1144 think it's very important to note and underscore that the
1145 clean development mechanism, while the original idea of the
1146 United States, was put into the treaty by Brazil. Second,
1147 that the mechanism that will allow developing countries to
1148 opt into this treaty was put into the treaty by Mexico.
1149 These are countries who have a different view than China, who
1150 is very loud, and--

1151 Chairman SENSENBRENNER. But who controls the
1152 distribution of the funds through the clean development
1153 mechanism? I'm sure that very few American consumers would

1154 | like to see the money that they spent to help their electric
1155 | utilities buy credits end up in Iraq or Iran. Are we going to
1156 | be able to prevent that?

1157 | Ms. MCGINTY. There will not be a single U.S. Treasury
1158 | dollar that goes into those mechanisms. Those are private
1159 | sector--

1160 | Chairman SENSENBRENNER. Ma'am, that's not my question,
1161 | with all due respect. We all know that because the
1162 | Administration has correctly rejected a carbon tax or a Btu
1163 | tax, the way the market is going to work is that the price of
1164 | particularly dirty energy will increase through the purchase
1165 | of credits by those who sell this so-called dirty energy,
1166 | through the clean development mechanism or otherwise. This
1167 | is not U.S. Treasury dollars; these are consumers' dollars.
1168 | What's going to protect the consumers from having their money
1169 | end up in Iraq helping Iraq build weapons of mass
1170 | destruction?

1171 | Ms. MCGINTY. The clean development mechanism, as the
1172 | emissions trading mechanism and the other flexibility tools
1173 | that are in the Kyoto agreement are tools there at the
1174 | disposal of U.S. businesses, businesses around the world, in
1175 | their sound business judgment to either use or not use. The
1176 | decision will be made on their basis, their estimations and
1177 | calculations, as to whether or not it is a cost-effective,
1178 | wise investment strategy for them to take advantage of--

1179 Chairman SENSENBRENNER. Okay, my time is up. I'm going
1180 to announce that we're going to have a second round of
1181 questions, so that I get another chance at you.

1182 Ms. MCGINTY. Fair enough.

1183 [Laughter.]

1184 Chairman SENSENBRENNER. The gentleman from California,
1185 Mr. Brown.

1186 Mr. BROWN. Mr. Chairman, you might announce that some of
1187 us would like to submit written questions also.

1188 Chairman SENSENBRENNER. Written questions will be
1189 allowed, and I would like to ask all of the witnesses to whom
1190 written questions are directed to respond within about 21
1191 days' time, so that we can close the hearing record and get
1192 it published.

1193 [The information follows:]

1194 ***** COMMITTEE INSERT *****

1195 Chairman SENSENBRENNER. The gentleman from California.

1196 Mr. BROWN. Mr. Chairman, obviously, it's of key
1197 importance to understand how we could get the significant
1198 involvement of the less-developed nations who will be major
1199 polluters, and I frankly confess I don't understand that.

1200 I am aware that some of these nations are deeply
1201 interested in cutting their emissions. China is, for
1202 example, and is engaged in a number of programs to do that.
1203 They have reduced energy subsidies, and they have major
1204 reforestation programs, and so on.

1205 But let me ask this question: In an ideal world, not one
1206 in which we were just looking for some immeasurable,
1207 significant change, what would we expect of the Chinese? And
1208 I ask this in part because we have a Chinese delegation
1209 visiting with us this week, a distinguished group of senior
1210 officials from their Science Academy and other places, and I
1211 might want to pose a question to them. What would we expect?

1212 Would we expect, for example, that they would accept Mr.
1213 Hague's prediction of what their energy consumption would be
1214 in 2010 and agree to cut it 31 percent or something like
1215 that? Is there a metric that we can apply that we would find
1216 agreeable to measure this with?

1217 Ms. MCGINTY. Thank you, Mr. Brown. I think there are a
1218 number of different approaches that have been suggested. In
1219 the President's own dialog, both with the Chinese, with the

1220 Mexicans, with the Koreans, the first and most important
1221 principle we have tried to make clear is that there is
1222 nothing in our agenda in wanting them to be part of this
1223 treaty which is about reducing their economic growth. In
1224 fact, to the contrary, when Mexico is shutting down its
1225 factories because people are choking to death on pollution,
1226 and the pictures we all remember in Southeast Asia this
1227 summer of the very same phenomenon, industries shutting down,
1228 tremendous tragedies because of pollution hurting the
1229 economy, the first and most important point we've said to
1230 them is we're not interested in slowing their economic growth
1231 in any way, shape, or form.

1232 In Kyoto, some of the various approaches that were talked
1233 about would offer ideas such as sign up to a target, but it
1234 can be a growth target, the idea being, no, we don't expect
1235 Bangladesh to do the same amount of work that the United
1236 States will do here, but can we at least get some deflection
1237 from where those emissions would otherwise be growing toward?
1238 Those are ideas that seem to offer some room for
1239 discussions.

1240 Mr. BROWN. All right, but if we want the underdeveloped
1241 nations to sell credits, it must be credits earned by cutting
1242 emissions below some target, and you're saying you don't want
1243 them to curtail their rate of economic rate, but they can
1244 have economic rate with less energy use if they adopt certain

1245 new technologies. Do we have standards for what we would
1246 expect them to do in order to generate credits, basically?

1247 Ms. MCGINTY. Yes. Yes, we do, because for the last four
1248 years we have invested in a pilot project on this idea of
1249 joint implementation to prove to the rest of the world it's a
1250 good idea. The essential thrust of that is that if a country
1251 faces a choice of putting in place a polluting and
1252 inefficient power plant, for example, or with some additional
1253 upfront investment, could put in a place a similar power
1254 plant to provide an exactly equal amount of energy, but with
1255 significantly reduced pollution, then that action would be
1256 one which would earn them credits, the credits representing
1257 the difference between the pollution there would have been
1258 and the lesser pollution that results because of the
1259 investment in the cleaner technology.

1260 Mr. BROWN. So we could make the argument to Mexico or
1261 China or these underdeveloped nations that, if you set up a
1262 metric which we can use to quantify your reductions, we might
1263 be able to pay you enough for credits to invest in and
1264 improve technology that would improve your efficiency?

1265 Ms. MCGINTY. Well, and on a business-to-business basis
1266 that could happen, as a business partnership, yes.

1267 Mr. BROWN. Well, thank you. That helps clarify it for
1268 me.

1269 Chairman SENSENBRENNER. The gentleman from Maryland, Mr.

1270 Bartlett.

1271 Mr. BARTLETT. Thank you very much.

1272 I have what is probably an impediment; that is, I'm a
1273 scientists. My master's and my doctorate thesis was on CO₂,
1274 so I begin the discussion here at a big disadvantage.

1275 [Laughter.]

1276 I would like to note that the global temperature
1277 increase, as I understand it, has been order of magnitude of
1278 something less than a degree centigrade. That's roughly a 1
1279 degree Fahrenheit. Most of that occurred before the ramp-up
1280 in CO₂ production. So I think it's very difficult to credit
1281 greenhouse gas production with the very modest increase in
1282 global temperatures.

1283 If we look back through the history of our world, we note
1284 that we have been through several ice ages; we also note that
1285 at one time the earth was very much warmer, because we are
1286 still finding mammoths in the tundra that still have
1287 subtropical vegetation in their stomachs; it was such an
1288 abrupt climatic change; that with subtropical vegetation like
1289 northern Florida that was growing in the tundra, the climate
1290 changed very abruptly, and the mammoths are still frozen
1291 there as evidence that we one time had a very much warmer
1292 world.

1293 Pollution does two things. I remember that Carl Sagan
1294 was cautioning us that, if we had a nuclear, we would have

1295 | what he called a nuclear winter, because any time you have
1296 | pollution, you cannot produce CO2 without producing other
1297 | pollutants. Pollutants can either block the long wave
1298 | lengths that come back--they let the short wave lengths
1299 | in--or they can block the sun from coming in, and make us
1300 | cooler. So pollution can both warm us and cool us, and I
1301 | submit that, on balance, we don't have the foggiest idea as
1302 | to whether pollutants will, in fact, cause global warming or
1303 | global cooling.

1304 | Although we are in a very short cycle of global warming
1305 | now, that could very well be simply a small upswing in what
1306 | is otherwise a gradual downturn in temperatures. We could
1307 | just as certainly be moving to another ice age as we are to
1308 | global warming.

1309 | I would note that we still enjoy very pretty sunsets and
1310 | sunrises, primarily thanks to Rackatowa, but through
1311 | millions, billions of tons up into the atmosphere, we're
1312 | still seeing those effects years after the volcano. So what
1313 | nature does kind of dwarfs what we are able to do in
1314 | affecting the climate.

1315 | I'm not sure what present CO2 levels are. When I was
1316 | doing my research, they were .04 percent. That is barely
1317 | enough for plants to make it. Any serious rose fancier who's
1318 | growing roses in a greenhouse will release additional CO2
1319 | into the greenhouse because his roses will grow faster if he

1320 does that. If, in fact, we're having CO2 increases, there
1321 will be losers and winners. All plants will be winners
1322 because plants grow faster with increased CO2.

1323 No one has mentioned the ocean has a sink for CO2. A CO2
1324 is very soluble in water. The oceans cover three-fourths of
1325 the earth's surface. They have a very large fauna and flora,
1326 and all of the flora in the ocean, just like our plants on
1327 land, use CO2 and produce carbon dioxide.

1328 Some of you mentioned the renewables. I want you to know
1329 I'm a very strong supporter of renewables, not so much
1330 because I think they're important to prevent global climate
1331 change, but because they will limit the use of fossil fuels,
1332 which are not infinite in their supply, and we will one day
1333 run out of them.

1334 If there is, in fact, global warming--and I'm not at all
1335 convinced we're on a global warming swing--but if there is
1336 global warming, then you have to convince me that that, in
1337 fact, is bad. There will be winners and losers. I doubt
1338 that Russia and Canada would be very much disadvantaged by a
1339 bit of global warming. So I'm not sure on a grand scale
1340 whether a little bit of global warming will produce more
1341 winners or losers on the earth.

1342 I'm very strongly supportive of reducing CO2 production,
1343 not at all because I think that it is a disaster if we
1344 continue to produce CO2 at current levels. I'm not convinced

1345 that that's going to be a disaster, because CO2 is produced
1346 in burning fossil fuels; they will not last forever. We have
1347 a very enormous petrochemical industry that is totally
1348 dependent on fossil fuels. In a very large sense, gas and
1349 oil are too good to burn; we shouldn't be burning them. As a
1350 matter of fact, the food you eat is produced largely because
1351 of the nitrogen that's put on there. Almost every bit of
1352 that nitrogen fertilizer comes from natural gas. Before we
1353 could do that, we got it by mining guano from bat caves in
1354 islands where birds had dropped it for thousands of years.
1355 That source is no longer available to us. We have a finite
1356 reserve. We should limit it.

1357 Three quick questions, and you can answer them for the
1358 record.

1359 [Laughter.]

1360 Chairman SENSENBRENNER. The gentleman's time is expired,
1361 and we do have two votes, and we're well into the first vote.

1362 The Chair will recess the Committee for the two votes, and
1363 ask the members to be back promptly after the second vote.

1364 The Committee is in recess subject to the call of the Chair.

1365 [Recess.]

1366 Chairman SENSENBRENNER. The Committee will be in order.
1367 And it is the turn of the Democratic side to ask questions,
1368 so the Chair recognizes the gentlewoman from California, Ms.
1369 Lofgren--ready or not.

1370 Ms. LOFGREN. Well, thank you, Mr. Chairman. Let me ask
1371 Ms. McGinty about the proposal before us and, really, what
1372 the stakes are.

1373 As I think through what's happening in my own home right
1374 now, which is another flood--and I think we've had a number
1375 of severe floods, more floods in the last 15 years than we
1376 had in the prior 150 years--I'm mindful that most
1377 scientists--including 1,500 scientists who signed up, I think
1378 just in early-December, along with Nobel Prize
1379 winners--indicating clearly that there has been human impact
1380 on the climate, and noting that 1997 was the hottest year of
1381 this century--and that all of the hottest years were in the
1382 last 10 years, from the last century--recognizing, also, that
1383 the Wordie Ice Shelf is collapsing in Antarctica, melting
1384 away, and noting also the Reinsurance Association of America
1385 has communicated that they are estimating losses of a billion
1386 dollars a week in the United States due to climate change.

1387 Clearly, the stakes are very high, if we do not act. Now
1388 I realize that we have focused here on the treaty, and that's
1389 absolutely appropriate, but I'm wondering, in answer to the
1390 Chairman's earlier question, if we were not to get the kind
1391 of participation we want, and really need and deserve for
1392 this global emergency, from some of the emerging nations,
1393 would we be wise to fail to act ourselves in some manner
1394 anyhow, given the implications?

1395 Ms. MCGINTY. Well, I think, Congresswoman, your question
1396 really does point up the other side of the equation.
1397 Sometimes the focus is only on, what is the energy cost going
1398 to be. And we lose sight of the very real cost communities
1399 across the nation are experiencing right now.

1400 Now, of course, no scientist will ever say that any
1401 specific weather event or even series of weather events is
1402 the signature, ^{the}aha, it's climate change. But, everyone of
1403 these things that you have recounted are all well within what
1404 the scientists predict we can expect with much greater
1405 frequency if we see this kind of climate disruption. That's
1406 why the President is urging that we start to take steps now
1407 that make sense, whether or not the science changes, or
1408 doesn't change, becomes more firm or less firm. If we invest
1409 in the kind of technologies we're talking about--energy
1410 efficiency, renewable energy, that is about both removing
1411 those pollutants from the atmosphere, and creating economic
1412 opportunity.

1413 Ms. LOFGREN. If I may just reclaim my time, because I
1414 think this--the public, as usual, is way ahead of some of the
1415 policymakers in the country, and people know there's
1416 something odd going on, and, in fact, the scientists have
1417 told us that extreme weather events is part of this whole
1418 issue. People understand that at a gut level. What we can
1419 do about it is not yet known. And I guess the question I

1420 have is, have we plotted out--understanding that it is
1421 almost, I mean, it is as certain that we have added emissions
1422 and helped create climate change as tobacco causes health
1423 problems. What is the answer?

1424 And, I think, you know, we've referenced it in the Kyoto
1425 documents, there are different ways to help. Maintaining a
1426 forest, if you're a third world country, helps, just as
1427 reducing emissions, if you're a developed country, helps,
1428 however, isn't it true that Americans, per capita, consume
1429 more energy than any other country in the world?

1430 Ms. MCGINTY. Any other developed country in the world,
1431 that is absolutely my understanding, yes.

1432 Ms. LOFGREN. And, so the concern is that we need to do,
1433 since we, per capita, consume more energy, we really need to
1434 do something about that, but also, if the Chinese were to
1435 consume, per capita, the amount of energy that we are
1436 currently consuming, what impact would that have on the
1437 globe?

1438 Ms. MCGINTY. I'm sorry, Congresswoman, your last question
1439 again?

1440 Ms. LOFGREN. If the Chinese were to consume, per capita,
1441 what we consume in energy, what impact would that have on
1442 global climate change?

1443 Ms. MCGINTY. Well, I think it would dramatically increase
1444 the amount of pollution that is in the atmosphere and

1445 therefore dramatically increase the impacts that would result
1446 from that, without question.

1447 Ms. LOFGREN. And, so the Administration's goals, as I
1448 understand it, is not to bring this treaty for ratification
1449 until we have some meaningful participation with emerging
1450 countries to do something. It's really, they're going in
1451 this direction, and we need them to go in this direction, is
1452 that correct?

1453 Ms. MCGINTY. That is correct, but we do urge that we get
1454 started now, and that we not wait until every 'i' is dotted
1455 or 't' is crossed; that there are steps we can and should
1456 take now.

1457 Ms. LOFGREN. Now, the final question I have--and it may
1458 not be possible to do this with precision, since we know more
1459 about what we're doing than how to undo the damage we've
1460 done--have we plotted out in any way, are we certain about
1461 how much time we have. There is some growing scientific view
1462 that the climate change may occur much more rapidly, really
1463 over a period of decades, rather than centuries. Do we know
1464 that if we fail to act over five years, for example, it will
1465 have 'x' effect or 'y' effect? Have we plotted out that?

1466 Ms. MCGINTY. Well, let me make two points with regard to
1467 that. First, our scientists tell us that unless we begin to
1468 bring worldwide emissions of greenhouse gasses down by 2013,
1469 and this treaty speaks ^{to} 2008 to 2010, unless we actually

1470 reduce emissions in that time period, we cannot avoid
1471 doubling the amount of greenhouse gasses in the atmosphere as
1472 compared to pre-industrial times. So, we are hitting
1473 irreversibilities.

1474 That's first, and the second, I think your comment
1475 harkens back to Mr. Bartlett's comment, which is, one thing
1476 that is very important here, is that our climate system may
1477 well not be a steady, stable, predictable system. But there
1478 are nonlinearities where you meet thresholds; thresholds
1479 beyond which changes accelerate.

1480 And one dramatic example we have of that is the ozone
1481 depletion situation. That was a nonlinear situation. At a
1482 certain level of pollutants, it wasn't a little bit of
1483 damage, it was a continent-size hole over ^{Antarctica} ~~the~~ in the ozone
1484 layer. Those are the kind of nonlinearities we could see
1485 here.

1486 Chairman SENSENBRENNER. The gentlewoman's time has
1487 expired. The gentleman from California, Mr. Calvert.

1488 Mr. CLAVERT. Thank you, Mr. Chairman.

1489 I just wanted to point one thing out. It's true that we
1490 do consume more energy, per capita, than any other country in
1491 the world, but we're also the most productive economy, per
1492 capita, of any country in the world. We also enjoy the
1493 highest standard of living of any other country in the world,
1494 and I don't think we should apologize for that.

1495 First, I would like to say what this Committee has been
1496 in favor of, I think on a bipartisan basis, is that we have
1497 been in favor of research for alternative energy sources such
1498 as solar, hydrogen, fuel cell technology, wind, geothermal,
1499 clean nuclear technology, certainly better and more efficient
1500 use of existing energy sources, there's coal, petroleum, that
1501 would lessen pollution and cause lower carbon emissions,
1502 which is good. Not only for that reason, but just as
1503 importantly, because it lessens our dependence on importing
1504 energy and on fossil fuel, and as Mr. Bartlett pointed out,
1505 it's a diminishing resource.

1506 However, I am extremely concerned that this country is,
1507 because of the Administration's efforts, into an agreement
1508 that does not enjoy the support of the American public. This
1509 agreement that the Administration is promoting, I don't
1510 believe will have any meaningful effect on emissions
1511 worldwide, but could have an extremely negative effect on our
1512 economy.

1513 This concept of trading credits, which has been brought
1514 up, cheaper energy costs overseas which would be the, a
1515 potential problem, would have the effect of transferring jobs
1516 overseas, especially those jobs that have high energy
1517 dependance. I don't think, and I think the majority, by the
1518 way, of both the House members and Senate members, the Senate
1519 especially, who have to make determination on this, believe

1520 that this treaty isn't responsible to act in a
1521 responsible--or needed, to act in a responsible way. And I
1522 think, in fact, it could make our economy act irresponsibly.

1523 Mr. Chairman, you and I were both in Kyoto with other
1524 members of this Committee, and we had the opportunity to meet
1525 with the Chinese delegation, and after a meeting that Mr.
1526 Dingell questioned the gentleman from China, we, I don't
1527 think any of us left that room with any confidence that China
1528 intends to enter into any agreement that is binding upon
1529 their economy. So, from my perspective, and, I think, the
1530 perspective of majority of Members of the Congress and
1531 members of the Senate, we want to find solutions that are
1532 pro-active in finding alternative energy that is good for our
1533 economy and good for the country, but, on the other hand,
1534 will not put us at a competitive disadvantage to other
1535 countries in the world.

1536 Mr. Smith, I was interested in your testimony, and we
1537 know that plants move outside of this country for various
1538 reasons. Obviously labor costs is a part of that, but it's
1539 not the only reason. Energy costs are also part of
1540 manufacturing costs, and do you believe that big companies,
1541 or even smaller companies, that make decisions in the
1542 long-term--especially if they believe that there may be laws
1543 that may make them less competitive--may make a decision to
1544 transfer their operations overseas?

1545 Mr. SMITH. Mr. Calvert, as I said in my testimony, I
1546 think this is a real risk. Certainly our experience in the
1547 international trading system has been that investors and
1548 corporate managers who make facility location decisions worry
1549 about costs. And, if we systematically put American location
1550 decisions at a cost disadvantage, I think it would be foolish
1551 to believe that investors wouldn't respond. And I think that
1552 argues not to do nothing, but to seek a treaty where those
1553 perversities aren't built-in to one chunk of the global
1554 community having binding undertakings, and the balance being
1555 exempt.

1556 I mean, I think one only has to, to take a look at the
1557 boarder area with Mexico to understand just how powerful the
1558 competitive cost issue is. It would be foolish to argue that
1559 what is going on in the Maquiladoras has to do with greater
1560 efficiency on the part of Mexican workers, or a greater
1561 opportunity in the Mexican market, or higher standards of
1562 technology available in production facilities. It's a
1563 combination of the failure of the Mexican government to
1564 have--and in the cases where it does have, to
1565 enforce--adequate standards of labor rights and adequate
1566 standards of environmental protection.

1567 Magnifying this by obligating yet a higher threshold for
1568 American companies, I think, is very dangerous business.

1569 Mr. CALVERT. Mrs. Holmes, did you have any comment on

1570 that?

1571 Ms. HOLMES. Yes, Mr. Smith is exactly right. Companies,
1572 all of our companies in the United States are competing on a
1573 global basis, and they have to look at the most
1574 cost-effective way to do business. Companies when they
1575 locate overseas, of course, meet the same high environmental
1576 standards that we enjoy here in the United States. When they
1577 build a plant overseas, they make darn certain that they meet
1578 those same environmental requirements. But, at the same
1579 time, they have to look at overall costs, and if they do not
1580 have to buy credits, they do not have to restrict themselves
1581 to a certain kind of energy, for example, they will have to
1582 seriously consider, as competitors in a global market, to
1583 move their facilities overseas.

1584 Chairman SENSENBRENNER. The gentleman's time has expired.
1585 The gentlewoman from Texas, Ms. Johnson.

1586 Ms. EDDIE BERNICE JOHNSON OF TEXAS. Thank you, Mr.
1587 Chairman. And thank you for having this hearing.

1588 I have a question for Ms. McGinty first, and that is,
1589 with this agreement, it's been described as binding, and what
1590 are the sanctions if we fail to meet that requirement.

1591 Ms. MCGINTY. Right now, Congresswoman, the compliance and
1592 enforcement provisions are among those provisions that are in
1593 the list of items that still need further detail. The
1594 enforcement, as it stands now, would involve a team of

1595 experts, that currently exist under this treaty, that comes
1596 and reviews reports that are developed by the various
1597 countries. Those experts review the reports and comment on
1598 them, and that's the system that's been underway since 1993.

1599 Ms. EDDIE BERNICE JOHNSON OF TEXAS. Thank you. Now,
1600 notwithstanding this treaty, it is clear that we have some
1601 environmental problems--and I'm from an area that has its,
1602 more than it's share--and notwithstanding any more scientific
1603 science, we know that it's affecting us, health-wise.

1604 And I want, Mr. Marvin, if you can tell me, what
1605 incentives will be required to encourage industry to take
1606 early action before the emissions trading regime goes into
1607 effect because my constituency, and everyone else's around
1608 the north Texas area there, are choking with emissions, and
1609 our children and our elderly are already being affected with
1610 respiratory illnesses, and it's something we cannot deny even
1611 if we'd like to. And we understand about the threatening of
1612 the jobs, we want to save jobs, but we also need to look
1613 after the health status of the people.

1614 Mr. MARVIN. Thank you. I think maybe I can narrow it
1615 down to three things. I would say, first and foremost, is to
1616 guarantee that the actions that a company takes today, that
1617 they will be given credit for that when and if an emissions
1618 credit trading program is put into place. In other words,
1619 don't create this perverse disincentive to wait until an

1620 emissions credit trading program is established before you
1621 begin to get credit for anything that you do. Otherwise
1622 we'll find that the next several years actually move us in
1623 the wrong direction, and away from more efficient
1624 technologies.

1625 So, along with those lines, I would also argue that it
1626 isn't necessary that an international emissions trading
1627 portfolio or program be put in place prior to a domestic
1628 credit trading program being enacted. So, give
1629 consideration, again, to moving things over which we have a
1630 great deal more control. The Congress, obviously, has a
1631 great deal more control over a domestic emissions credit
1632 trading program than it does over a trading program in which
1633 we are one of roughly 165 voices as we find within the
1634 framework convention.

1635 Finally, I would say that many of the provisions that
1636 have been introduced earlier this week by the Administration
1637 begin to tackle, kind of what I would call the two-sides of
1638 the coin, as far as spurring technological innovation and
1639 market growth for those. And that is, the technology push by
1640 encouraging research and development programs, which this
1641 Committee has been so helpful in over the years, as well, the
1642 second side of that, and that's the market pull, give--pull
1643 technologies out. The economists will argue that there's
1644 roughly a ten-year window between the time that a new

1645 technology is ready for the market and the time that the
1646 market is ready for the technology. So, pulling those
1647 technologies through tax credits, through incentives to move
1648 to a higher-efficiency chiller or heat pump or washer or
1649 dryer, those are some of the things that we can do today, and
1650 some of the things that will have a clear effect. Because, if we
1651 don't, if there's a 100 kilowatt hours or 100 tons of carbon
1652 that are emitted by our activities in 1997, they'll be
1653 emitted in 1998, 1999, and 2000, to the earlier--in other
1654 words, when what we've argued, as an organization, is to
1655 start early and start small, because the earlier we start the
1656 less of a problem we will have at the end, because it's a
1657 cumulative problem--total emissions in the air. So start
1658 early, and start small.

1659 And these are some of the things, I think, that can move
1660 us in that direction.

1661 Ms. EDDIE BERNICE JOHNSON OF TEXAS. Thank you. Let me
1662 say, Mr. Chairman, and members of this panel, clearly we use
1663 more energy than anybody else; we have more pollution than
1664 anybody else in the world. And we want to make sure that
1665 other countries don't get to that point before we put some
1666 kind of guidelines there, but is it fair? We have fax
1667 machines, and mobile telephones and all kinds of technology
1668 that's only driven by electrical energy of some sort, and the
1669 only way we're going to be able to accommodate all

1670 | this--we're not buying less of it, we're buying more--is to
1671 | substitute some of the other polluting areas with new
1672 | technologies, hydrogen cars or whatever. But at what point
1673 | are we going to get there?

1674 | You just mentioned 10 years, that's still in research, so
1675 | it's not even on the market yet. Once it comes to the
1676 | market, it'll take ten years. Where else do we go, can
1677 | anybody--anybody on the panel?

1678 | Ms. HOLMES. I'd like to address that for just a minute.
1679 | As you know, first of all, I'd like to just say one thing
1680 | about pollutants, CO2 isn't a pollutant, per se. It is, as
1681 | you know, a naturally occurring gas that we all need to live
1682 | and breathe. With that said, we would agree with Mr. Marvin
1683 | that the early--that credits for early action are
1684 | extraordinarily important for businesses and companies to be
1685 | able to respond and respond in a very fast way. The R&D, the
1686 | incentives that we need, and that are beginning to show, are
1687 | certainly very, very important, but it's going to take a very
1688 | long time to change our patterns of--to change our lifestyle
1689 | patterns, to change the way that we use energy, so that we
1690 | can ultimately reach a goal, should that goal be set, of
1691 | reducing emissions.

1692 | And, by 2008, we're very frankly concerned that it's such
1693 | a short time frame to meet such a very, very large goal, that
1694 | we will have to expend dollars and our economy will suffer,

1695 and that, in turn, will lead to additional health problems,
1696 and additional problems for our citizens in being able to pay
1697 for the things that they need.

1698 Chairman SENSENBRENNER. The gentlewoman's time has
1699 expired. The gentleman from Pennsylvania, Mr. Doyle.

1700 Ms. EDDIE BERNICE JOHNSON OF TEXAS. Mr. Chairman, may I
1701 ask unanimous consent to submit a statement from the
1702 Physicians for Social Responsibility?

1703 Chairman SENSENBRENNER. Without objection.

1704 Ms. EDDIE BERNICE JOHNSON OF TEXAS. Thank you.

1705 [The statement of Dr. Balbus follows:]

1706 ***** INSERT *****

1707 Chairman SENSENBRENNER. Mr. Doyle?

1708 Mr. DOYLE. Thank you, very much, Mr. Chairman. Thank you
1709 for holding this hearing.

1710 Well, I think, you know, I can just think back to my
1711 mother saying to me when I was a kid, you've got a lot of
1712 explaining to do. And I think that you guys have a lot of
1713 explaining to do before this, this treaty should even be
1714 thought about ratifying.

1715 I come from a region of the country where we've got a lot
1716 of coal, and we still make a little steel and aluminum and
1717 some other things. And we look at this agreement--which, by
1718 everyone's admission, is not a global agreement--that, if
1719 it's implemented as currently written, will put our
1720 industries at a competitive disadvantage. And I listen to
1721 the testimony from Mr. Smith, and I just share many of the
1722 concerns that Mr. Smith has about how this is going to affect
1723 people living not only in western Pennsylvania, but other
1724 parts of this country, and I don't think we've factored those
1725 people into this equation.

1726 Mr. Hakes, I want to first ask you some questions about
1727 how you see this impacting the domestic energy supply,
1728 production, for this country. Assuming that we're going to
1729 need to seek the reductions that you spoke of in your
1730 testimony, it seems to me that these coal-fired utility
1731 plants are going to be the obvious target for a lot of these

1732 reductions. And I didn't hear the Administration coming out
1733 with any new nuclear power plant initiatives to replace some
1734 of these facilities, so if we assume that these coal-fired
1735 utilities--they're either going to have to undergo extensive
1736 retrofitting, and we're in an era now of deregulation where
1737 we're deregulating the electric utility industry--that a lot
1738 of these companies, I think, are going to see that it's going
1739 to be more profitable just to become transmission companies
1740 instead of generating companies. And, given that
1741 reality--that coal is going to have a diminished role, and
1742 that nuclear is going to remain static--it seems to me that
1743 even if we factor in the contributions of solar and renewable
1744 energies well beyond current projections, that we're going to
1745 end up relying on natural gas for almost 50 percent of our
1746 energy needs under that scenario. And I just wondered,
1747 number one, how will we build that infrastructure to
1748 accommodate that increase in natural gas, and what that will
1749 cost, and what is likely to be the effect on natural gas
1750 prices if that demand, you know, raises to that capacity.
1751 And is that even feasible, you know, given that scenario, if
1752 we're not going to be building a whole new generation of
1753 nuclear power plants that don't emit any CO₂; I've not heard
1754 of any plans to do that. So, assuming nuclear is not going
1755 to play a prominent role in the future, and coal is going to
1756 play a diminished role, how feasible is it, and what might it

1757 | cost to use natural gas at the levels that may be necessary?

1758 | Mr. HAKES. I think that is a very important question.

1759 | Even without the Kyoto agreement, our projections show that
1760 | the use of natural gas would increase dramatically from the
1761 | current level of about 22 trillion cubic feet per year to 32
1762 | trillion cubic feet a year. So, there will be a lot of
1763 | pressure on the gas system.

1764 | In any case, we think that gas can be supplied in these
1765 | greater amounts. The developments off the Gulf Coast,
1766 | particularly, are very encouraging the last few years, in
1767 | finding very large supplies of very deep gas. It's also our
1768 | judgment that the gas supply can be expanded beyond that
1769 | level of growth, and supply the growth needed for carbon
1770 | stabilization of the Kyoto agreements.

1771 | That will raise the price of natural gas, and that
1772 | transition could not be made quickly because you'd have to
1773 | build pipeline structure and all sorts of things. You can't
1774 | just snap your finger and all of a sudden next year the gas
1775 | industry produces "'x'" amount of gas. They've got to sort
1776 | of know and plan in advance with clear schedules well into
1777 | the future--it affects their exploration and development
1778 | budgets.

1779 | So, we don't--we have not precisely modeled the Kyoto
1780 | treaty. We would be glad to do that, if the Committee would
1781 | like us to. So we can't really estimate the precise effect

1782 on gas prices, but they would go up. This is the key
1783 question--

1784 Chairman SENSENBRENNER. Excuse me, Mr. Hakes. Consider
1785 that a request which we will be happy to include in the
1786 hearing record.

1787 [Laughter.]

1788 Mr. HAKES. Okay. But this is the key question, and it
1789 also raises the question, if, at a certain gas price, whether
1790 nuclear then becomes an economic alternative--there may be
1791 other issues than economics at play--that at a certain price
1792 of gas, it's conceivable that nuclear plants might become
1793 economic again.

1794 Mr. DOYLE. Mr. Hakes, let me just follow up on that, too,
1795 with regards to our use of coal in the country. Do you think
1796 it makes sense that we start to explore two new
1797 state-of-the-art technologies to utilize coal, to find ways
1798 to burn it cleaner and cheaper, and to put that in the mix
1799 also?

1800 Mr. HAKES. Well, under the current projections, even
1801 without Kyoto, we estimate that about 85 percent of the new
1802 electric generation will come from natural gas. The reason
1803 for that is partly environmental regulations that already
1804 exist, but it's also the great efficiency of these new
1805 combined-cycle plants that can get efficiencies up close to
1806 60 percent. There will, however, be a lot of coal plants

1807 built around the world in any scenario, I believe. So I
1808 think coal will be playing a large role in any case.

1809 Mr. DOYLE. I'll just close, Mr. Chairman--

1810 Chairman SENSENBRENNER. The gentleman's time has expired.

1811 Mr. DOYLE. Could I just close by saying that I think the
1812 R&D effort is a good effort, but I think that it falls
1813 well-short in that area, and I would like to see that plussed
1814 up.

1815 Chairman SENSENBRENNER. The gentleman from Texas, Mr.
1816 Lampson.

1817 Mr. LAMPSON. Thank you, Mr. Chairman.

1818 Obviously, I come also from an area that is going to be
1819 significantly concerned about what, where we go with all of
1820 this, but without getting into that, I was concerned and
1821 curious, and wanted to ask Miss McGinty; Mrs. Holmes
1822 testified that the Kyoto protocol would cede powers to a
1823 United Nations bureaucracy to control U.S. economic growth
1824 and our foreign policy. Would you comment some on that,
1825 please. Do we need to be concerned about how this is going
1826 to be implemented or are we giving up our powers?

1827 Ms. MCGINTY. Yes, thanks, Congressman. No, there is no
1828 relinquishment of sovereignty here in this agreement. First,
1829 look at the treaty itself. The treaty involves a target that
1830 the United States picked for the United States, One. Two,
1831 the treaty involves, at our insistence, that there would be

1832 no prescription in that treaty as to what measures we would
1833 undertake, whether they're energy measures, whether they are
1834 the sinks measures, planting forests, replanting
1835 forests--whatever the measures are, those we would decide
1836 solely for ourselves. So, there's nothing in this treaty
1837 that is about a relinquishment of sovereignty and I think,
1838 time and again, this nation has reached out and secured the
1839 participation of other nations to work toward objectives that
1840 are in our sovereign interests.

1841 We have a sovereign interest in making sure that the
1842 economy, the environment, and the health and well-being of
1843 the people of the United States are not adversely impacted by
1844 global climate change. That means we need the nations of the
1845 world to participate with us to that end, and that is the
1846 goal that we are advancing through this agreement.

1847 Mr. LAMPSON. Thank you. I have no further questions
1848 right now, Mr. Chairman.

1849 Chairman SENSENBRENNER. The gentlewoman from Michigan,
1850 Ms. Rivers.

1851 Ms. RIVERS. Thank you, Mr. Chair. I think that Mr. Smith
1852 really put his finger on the issue here, when he talked about
1853 finding some way to balance the competing interests that are
1854 at work, and so I would like to explore that a little bit.

1855 And I would like to turn to Mr. Smith to begin with; what
1856 would the changes that you could feel comfortable with look

1857 like? Obviously expanding it to all the developing
1858 nations--which is something that I happen to agree with, with
1859 you--but beyond that, what other sorts of things would, you
1860 would like to see as part of this?

1861 Mr. SMITH. Well, Ms. Rivers, let me, I think many of your
1862 colleagues have addressed some of those questions in your
1863 comments from the dais.

1864 Mr. Doyle raises an important question; coal remains our
1865 most abundant, least expensive energy resource. It is dirty,
1866 and we ought to figure out, and we ought to be prepared to
1867 invest far more than the Administration has proposed, in
1868 carbon sequestration technology and clean-coal technologies,
1869 so we increase the efficiency with which we can use this
1870 resource.

1871 I think a second thing that's important here, let me,
1872 actually, let me comment here for just a moment on the
1873 sovereignty question. Ms. McGinty is absolutely right. In
1874 our increasingly interconnected global atmosphere, or global
1875 economy, it's terribly important that we seek rules-based
1876 regimes which oblige our trading partners, our economic
1877 partners, the people with whom we share this planet, to play
1878 by rules which protect all of us. Precisely what the labor
1879 movement and many of you argued in the Fast Track debate;
1880 that we need a set of rules, that we need to have rules that
1881 work in a global environment, not simply in a national

1882 environment. And that underscores the importance that we
1883 think is associated with making sure that this treaty has
1884 global reach rather than simply being confined to the Annex 1
1885 countries.

1886 I think the second thing, or the third thing, Ms. Rivers,
1887 that we'd argue is, several of my colleagues on the panel
1888 have talked about the magic of the market, and in fact have
1889 invoked the acid rain permit trading program as evidence of
1890 the magic of the market. Perhaps that's true, but I'd think
1891 you'd have an awful hard time explaining that to the 40,000
1892 coal miners who lost their jobs. And who bear economic
1893 consequences for the rest of us that we decided should be
1894 born by them alone, and not shared. And that's--

1895 Ms. RIVERS. Excuse, but is your argument that we can't
1896 move forward--

1897 Mr. SMITH. No, that--

1898 Ms. RIVERS. --or that as we move forward, there have to
1899 be provisions to deal with the consequences.

1900 Mr. SMITH. It's precisely the latter, Congresswoman.
1901 That we have to take account of the consequences for people
1902 and places and industries, of the steps we take. And, in the
1903 absence of that, a, I don't think we'll be able to move
1904 ahead, which I think we agree with you that we should, I
1905 don't think the American people will let us, and they should
1906 not. We must pay attention to the enormous transition costs

1907 associated with moving from one energy regime to another, and
1908 when we talk about the great success of the market, we need
1909 to account for all of its consequences not just the ones that
1910 bolster our case.

1911 Ms. RIVERS. Okay. Ms. Holmes, I would ask a similar
1912 question to you in that, in your statement, your testimony,
1913 you really implied that you recognized that there was a
1914 problem, but that you didn't feel Kyoto addressed the problem
1915 very well. What actions to reduce greenhouse gasses could
1916 your organization support?

1917 Ms. HOLMES. Well, a couple of things. We indicated that
1918 we believe that this is an issue that we have to consider
1919 very seriously. We're not quite--we haven't quite gone over
1920 the line yet to say that this is such a problem that we have
1921 to, that we have to take measures such as would be required
1922 by the Kyoto protocol, which, as has been explained by other
1923 panelists, would require us to reduce our energy use fairly
1924 significantly, by approximately one-third.

1925 Our companies are already involved in a number of
1926 measures that increase energy efficiencies. In fact, the
1927 companies in your own area, the automobile companies that are
1928 located in Detroit and in the Michigan area, are involved in
1929 developing low-emission vehicles that will be on the market,
1930 I have read, at about 2003, 2005 or so.

1931 A number of our other companies, our eclectic utility

1932 companies are engaged in projects here and abroad--

1933 Ms. RIVERS. What--

1934 Ms. HOLMES. --however, we believe, in the future, we need
1935 to continue those efforts, we need to continue to work with
1936 R&D, and develop and put in place new technologies, but we
1937 need to do it at the pace at which our economy can afford.

1938 Ms. RIVERS. So that nothing other than what is currently
1939 being pursued should be done?

1940 Ms. HOLMES. Currently being pursued, and there is more,
1941 when we look at more, additional R&D.

1942 Ms. RIVERS. So no new initiatives or no attempt to push
1943 ourselves harder?

1944 Ms. HOLMES. We think that the attempts that are being
1945 made now really do push ourselves quite hard, to be very
1946 honest with you. We are--

1947 Ms. RIVERS. The last question that I have for you, is,
1948 if, as you say, the investors and business managers of the
1949 world are looking for the most cost-effective place to put
1950 their operations, wouldn't that argue for a repeal of our
1951 current environmental regulations?

1952 Ms. HOLMES. No, absolutely not, I think all of our
1953 companies--

1954 Ms. RIVERS. It wouldn't?

1955 Ms. HOLMES. No, I don't think so. All of our companies
1956 are very environmentally-conscience. When I mentioned that

1957 they were looking at the most cost-effective--and remember,
1958 good environmentalism is good business--it always is--

1959 Ms. RIVERS. So, your coalition would argue that the
1960 current environmental laws and regulations in this country
1961 don't hurt business at all?

1962 Ms. HOLMES. I don't think we would probably argue that.
1963 I wouldn't go into all of the details, but we certain--what I
1964 was mentioning was that when you look at the total cost, and
1965 you can see that you do not have to buy a credit for CO2
1966 reduction, for example, in another country, and that cost
1967 would be considerable, and enough to make uncompetitive in
1968 the global market, you would have to seriously consider
1969 moving your plant.

1970 Ms. RIVERS. Thank you. Thank you, Mr. Chair.

1971 Chairman SENSENBRENNER. The gentlewoman's time has
1972 expired. The gentleman from Texas, Mr. Hall.

1973 Mr. HALL. Mr. Chairman, thank you, very much. I would
1974 ask unanimous consent to put my statement in the record.

1975 Chairman SENSENBRENNER. Without objection.

1976 [The statement of Mr. Hall follows:]

1977 ***** COMMITTEE INSERT *****

1978 Mr. HALL. I was almost sure you'd insist on me reading
1979 it, here, but--

1980 [Laughter.]

1981 Chairman SENSENBRENNER. The Chair has absolute confidence
1982 in the ability of the gentleman from Texas to do what's
1983 right.

1984 [Laughter.]

1985 Mr. HALL. As you know, Mr. Chairman and members, I've
1986 been fairly vocal on what a good climate control treaty ought
1987 to require of the American businesses. I see, from the
1988 testimony today, that from the Kyoto documents, that we have
1989 some good things to examine and report, and that's heartening
1990 to me.

1991 I guess I was pleased on Monday that the President's
1992 budget included the \$2.7 billion in new R&D. And I suppose
1993 to Ms. McGinty, my question would be how these are to be
1994 divided between the private and the public sectors. And, if
1995 you would cover, during my five minutes, whether any specific
1996 research programs would be earmarked for grants and, if so,
1997 what. And I think to start-off with, you might tell us what
1998 the current level of R&D--I think Mr. Doyle got into this,
1999 but didn't cover these aspects--what is the current level of
2000 R&D spent by Government on clean energy issues? If you'd
2001 just kick that off, to start with, if you know.

2002 Ms. MCGINTY. I can tell, Congressman, right off the bat,

2003 that ^Sthere are some of the details we'll have to provide for
2004 you for the record. The one piece that I would address,
2005 though, ~~as part of the~~, your comments about the R&D portion
2006 of the initiative the President is proposing, some of it is
2007 basic research and development on energy technologies, on
2008 clean coal technologies, in fact, also on nuclear
2009 technologies in that proposal. But, a large portion of it is
2010 aimed at trying to encourage partnerships between the private
2011 sector and our national laboratories, which are doing all of
2012 this good work and have developed a lot of technologies, but
2013 those technologies haven't moved out into the market place.

2014 The automobiles that Mrs. Holmes was speaking about,
2015 that, those emanate from our partnership for a new generation
2016 of vehicles, where we are investing our resources in
2017 partnership with the big-three to develop cars now that
2018 promise to achieve 80 miles-to-the-gallon. So, it's a
2019 partnership, private-public partnership kind of approach.

2020 Mr. HALL. Because I have real problems with, and I think
2021 I've signed a letter to the negotiators, that you may have
2022 seen, in opposition to any agreement that didn't include the
2023 developing nations--and I don't have to name them because
2024 they're well-known and important. And I've heard some of the
2025 testimony today, and read other bits of the testimony
2026 minimizing some of the costs of the goals that we seek. I
2027 will have some questions, Mr. Chairman, to submit, along that

2028 | line, as to what those costs are, and how you arrive at the
2029 | small amount that you attribute to the cost, if, I
2030 | suppose--and I hope I'm wrong--but I suppose you're talking
2031 | about, if we go it alone, and go it without these other
2032 | emerging nations, which I hope you don't do.

2033 | Ms. MCGINTY. Right. Shall I respond?

2034 | Mr. HALL. Yes, please.

2035 | Ms. MCGINTY. Yes, Congressman, I think you put your
2036 | finger on one of the very key points of this. There are all
2037 | kinds of economic models out there. Without exception, they
2038 | do not model reality. They don't model the reality of the
2039 | elements that we have fought hard for, and insisted upon in
2040 | this agreement. One of the primary ones, that you're
2041 | pointing to, is that there will be opportunity to work not
2042 | only here in the United States, but in developing countries
2043 | as well. The flexibilities we've talked about, whether it's
2044 | joint implementation, emissions trading, being able to use
2045 | sinks as well as sources. In addition to other movements in
2046 | the economy, electricity restructuring being a primary one,
2047 | all of these things, if not included in the economic models,
2048 | you'll get your dooms-day scenario that some of these models
2049 | provide because you put dooms-day scenario assumptions in.

2050 | But if you model the reality in these very important
2051 | provisions we're talking about, you get a very different
2052 | picture of how this environmental challenge is, in fact, an

2053 economic opportunity for us.

2054 Mr. HALL. I thank you. And, Mr. Chairman, I will have
2055 questions, basically, well, to most of those. And I thank
2056 you for the time in preparing to come here, and for the time
2057 you've given us. I yield back my time.

2058 Chairman SENSENBRENNER. The questions and the replies
2059 will be placed in the hearing record.

2060 [The information follows:]

2061 ***** COMMITTEE INSERT *****

2062 Chairman SENSENBRENNER. The gentleman from Indiana, Mr.
2063 Roemer.

2064 Mr. ROEMER. I, too, want to join in thanking the panel
2065 for their expertise and their help in assisting us in
2066 understanding a very complicated issue in a complicated
2067 negotiation in complicated treaty.

2068 Mrs. Holmes, I would want to start by just asking you a
2069 question. Is your organization, the Global Climate
2070 Coalition, responsible for a commercial that has been
2071 currently been playing against the treaty?

2072 Ms. HOLMES. The, the campaign that was conducted before
2073 the, the December meeting was sponsored by a number of
2074 concerned groups, including ours, including many of, of our
2075 labor groups, agricultural groups, senior citizens' groups,
2076 and a very broad spectrum of, of companies and concerned
2077 organizations throughout the United States.

2078 I'd like to say one thing, if I could, about economic
2079 models, though. A lot--

2080 Mr. ROEMER. Excuse me, one second.

2081 Ms. HOLMES. Surely.

2082 Mr. ROEMER. So you have sponsored this commercial.

2083 Ms. HOLMES. We were one of many.

2084 Mr. ROEMER. One of many. And do you have any idea how
2085 much has been spent on the commercial?

2086 Ms. HOLMES. Well, I'm not the treasurer of that

2087 particular organization, I, it was somewhere in the vicinity
2088 of \$10 to 12 million. I couldn't give you an exact figure;
2089 we probably can, for the record.

2090 Mr. ROEMER. Okay, I would appreciate that, for the
2091 record. My only caution on that, and I certainly am not an
2092 expert in this business, nor am I an expert on consulting
2093 with TV commercials, I happen to share your concern about
2094 this treaty, I applaud the Administration for their initial
2095 position on this treaty. I thought it was an excellent
2096 position to go into Kyoto on; I share their concerns coming
2097 out of Kyoto, I, however, think that when you get into the
2098 advertising, the way that could--this is a very personal
2099 opinion, and this is only mine--that sometimes the way these
2100 commercials are portrayed, they make it appear to the
2101 American public that this is a trade agreement rather than an
2102 environmental agreement, and it makes it exceedingly
2103 difficult for us to communicate with our constituents on
2104 important trade matters as well, too. I happen to be a
2105 strong proponent of MFN and GATT, and I was against the Fast
2106 Track proposal, but I think that that is something that your
2107 agricultural and business interests, you know, might, might
2108 be concerned about. But, I'm not--again, this is a very
2109 personal comment.

2110 Ms. McGinty, in terms of the Administration's proposal on
2111 this, I just have two very quick comments which are hopefully

2112 questions for you. One is, these are binding agreements;
2113 what are the sanctions and penalties that come out of this
2114 kind of agreement if we do not reach the targeted goal?

2115 Ms. MCGINTY. The enforcement mechanisms that are in the
2116 treaty, as it stands, involve only, each country is required
2117 to report both on its emissions and the policy measures it
2118 has put in place to reduce those emissions, and the United
2119 States would be involved in having experts serve on a panel
2120 that would review those reports when they come in.

2121 Mr. ROEMER. And how about in terms of some of the things
2122 that we may look at on monitoring and enforcement of the
2123 treaty? There have been some criticisms that this brings the
2124 United Nations into this realm; how do we make sure that we
2125 trust other countries, but verify what they've been able to
2126 agree to.

2127 Ms. MCGINTY. Yes, Congressman, I think you paint the
2128 poles of a balance that needs to be struck. One is, our
2129 industries, the United States, when it signs up to a treaty
2130 means it, and does it, and our industries, we have
2131 confidence, will comply. So, it's in our interest to have an
2132 enforcement mechanism so that we can be sure everyone else is
2133 complying. But, we'll want to be very much involved in what
2134 the details are because we wouldn't want, for example, there
2135 to be any issue about confidential business information from
2136 our industries in any way having to be disclosed. So while

2137 | we want an enforcement mechanism, the details are going to be
2138 | very important, and we'll watch that very closely.

2139 | Mr. ROEMER. Well, again, in conclusion--I thank the
2140 | panel again for your time--I want to tell you, Ms. McGinty,
2141 | that I hope the administration and get back to their original
2142 | position. I think that was a balanced proposal, trying to
2143 | get developing countries involved in the reduction of gases.
2144 | I think that you looked at trading credits, and now you've
2145 | come forward with an investment and tax credits for enhanced
2146 | cooperation on the technology side. I hope that you get back
2147 | to that particular position, and that if you can't get back
2148 | to that position, that you assess this thing very, very
2149 | carefully and don't agree to a bad treaty.

2150 | Ms. MCGINTY. Thanks, Congressman.

2151 | Chairman SENSENBRENNER. The gentlewoman from Texas, Ms.
2152 | Jackson Lee.

2153 | Ms. JACKSON LEE. Thank you very much, Mr. Chairman.
2154 | This is certainly an important meeting and hearing, and I
2155 | thank you for the opportunity.

2156 | If I can ask Ms. McGinty the status of the procedural
2157 | posture we find ourselves in, there is word that there is
2158 | supposed to be a signing in March. What opportunities for
2159 | input from Congress, and what will you convey back to the
2160 | Administration in terms of wanting to have input with some of
2161 | the many issues that we've raised today?

2162 Ms. MCGINTY. Thanks, Congresswoman. Yes, the treaty
2163 itself becomes open for possible signature in March; I think
2164 it's March 15 or 18. It remains open, however, for a year,
2165 and even after that a year, any country that wishes to can
2166 accede to the treaty. The March timeframe is only dictated
2167 by the degree of time it takes to translate the document and
2168 that kind of thing. It's very much our intention, and I
2169 think this is a good start, in terms of having dialog as we
2170 move forward and plan a strategy for how we should move
2171 forward.

2172 Ms. JACKSON LEE. I wanted to make sure I got you on the
2173 record for the openness that I hope the Administration will
2174 show in terms of hearing many of the concerns that may be
2175 raised.

2176 Let me, Mr. Chairman, ask that I might have unanimous
2177 consent to submit my statement into the record.

2178 Chairman SENSENBRENNER. Without objection.

2179 Ms. JACKSON LEE. Thank you very much

2180 [The statement of Ms. Jackson Lee follows:]

2181 ***** COMMITTEE INSERT *****

2182 Ms. JACKSON LEE. Let me try to focus on what we might
2183 have gotten, doing what I will call the initial negotiations.
2184 Help me understand the impact that the international trading
2185 emissions might have. And let me say this in the context of
2186 an industry that I represent, the energy industry, which is
2187 obviously going through many changes, including potential
2188 electricity deregulation. And the question would be: How do
2189 we match the interests of maintaining the productivity of our
2190 industries, but with very high interest, of what I have great
2191 concern of the many of my constituents with asthmatic
2192 illnesses and other breathing illnesses, along with, of
2193 course, my working families who have to work?

2194 So what did you secure out of the international emissions
2195 trading concept in contrast to what I understand we do not
2196 have, these mandatory measures such as energy taxes, if you
2197 can compare those two issues?

2198 Ms. MCGINTY. Yes, yes. Congresswoman, our approach in
2199 these negotiations is very similar to what we've tried to do
2200 working with you domestically, and that is, yes, we have
2201 called for tough environmental protection, whether it means
2202 cleaning up the air, so our children don't have asthma and
2203 other lung disease, or now in this context that they're not
2204 suffering the consequences of global climate change. But
2205 with those tough standards or tough goals, we've really said
2206 we should have all the flexibility in the world, so that our

2207 industries can figure out the best, cheapest, most
2208 cost-effective ^{way} to get that job done.

2209 So we've tried to have two things, both domestically and
2210 internationally: Have the tough target, but through things
2211 like emissions trading, joint implementation, now called the
2212 clean development mechanism, and using sources and sinks, in
2213 the jargon of all of this, that industry is assured complete
2214 flexibility in how they achieve the target.

2215 And I would just say that the energy industry has been
2216 very much in the forefront of this. Whether it's the Sunoco
2217 Company, who has endorsed the approach we have taken here,
2218 British Petroleum, who has endorsed the approach we have
2219 taken here, or other companies, they're saying, look, we
2220 don't mind environmental challenges; we're good environmental
2221 companies, but give us the flexibility and the tools we need
2222 to get the job done, and that's what we tried to do

2223 Ms. JACKSON LEE. Excuse me for interrupting, but I want
2224 to sort of pursue--what does not having the energy taxes do?

2225 Ms. MCGINTY. It means that if you are, let's use the
2226 Sunoco Company again, a company that wants to reduce your
2227 greenhouse gas emissions, you have a universe of choices as
2228 to how to go about that. No one is telling you we're going
2229 to impose an energy tax on you. So you decide yourself. It
2230 makes more sense for us, for example, to plant trees and ^{sack} ~~such~~
2231 CO2 out of the air than it does to reduce our emissions per

2232 se.

2233 Ms. JACKSON LEE. So it adds to the flexibility, in
2234 response to some of the concerns as to whether we're all
2235 going to play in the same playing field, which is commitment
2236 to improving the environment, but how we do it leaves the
2237 door open? Is that where we are, from your perspective?

2238 Ms. MCGINTY. Open, yes.

2239 Ms. JACKSON LEE. Mr. Smith, let me ask again, and I
2240 think the question had been asked by my colleagues, when do
2241 you think we can go forward with the kind of international
2242 cooperation and treaty that would get to where many of us
2243 want to be, which is to assure a good environment for our
2244 children and our grandchildren?

2245 Mr. SMITH. Well, I think the answer to that, Ms. Lee, I
2246 don't know the precise date, but it's when the Administration
2247 has succeeded in meeting the goal that the President
2248 articulated on his way--or on the way of the negotiators--to
2249 Kyoto: that we secure meaningful participation by the entire
2250 world community, and that means not necessarily, and
2251 certainly not likely, that the same kind of targets that we
2252 accept, but nonetheless, measurable and enforceable targets.
2253 So that at the end of the day we can all be assured that
2254 we've stabilized the concentration of greenhouse gases at a
2255 level that's appropriate to a secure environment.

2256 In the meantime, we quite agree with the Administration

2257 and with many of my colleagues on the panel, we oughtt to
2258 proceed in a way to encourage investments in clean
2259 technology, to encourage research and development in both how
2260 to use our existing resouces more effectively and exploring
2261 new energy resources. There's nothing about the treaty that
2262 says we can't start doing that now. We agree with the
2263 Administration that we should, but we should not undertake
2264 binding commitments to a potentially very disruptive regime
2265 without the inclusion of the balance of the global community.

2266 Ms. JACKSON LEE. Mr. Chairman--

2267 Chairman SENSENBRENNER. The gentlewoman's time has
2268 expired.

2269 Ms. JACKSON LEE. Mr. Chairman, I would ask for an
2270 additional 15 seconds to pose a question, and then I would be
2271 happy if either Mr. Goffman could answer it in two seconds,
2272 but if he could not, then I will certainly appreciate it
2273 being in writing.

2274 Chairman SENSENBRENNER. The gentlewoman will get 17
2275 seconds.

2276 [Laughter.]

2277 Ms. JACKSON LEE. Thank you very much, Mr. Chairman, for
2278 your indulgence, and also, Mr. Luther, thank you very much.

2279 Mr. Goffman, first, I want to appreciate that you're
2280 here, and I think this should be a discussion and a dialog to
2281 get where we'd like to be.

2282 How can we work together to be assured of the question I
2283 asked, a good quality environment, but recognizing that
2284 economics is very important in this country?

2285 And thank you for your work.

2286 Mr. GOFFMAN. Thank you. And in two seconds--

2287 Ms. JACKSON LEE. You might have longer, but--

2288 Mr. GOFFMAN. --as an example of how to answer that
2289 question, our written testimony includes the outline for what
2290 we call an early reduction credit proposal, which not only, I
2291 think, have practical benefits, striking the balance that
2292 you've articulated, but is, I guess, a nice little microcosm
2293 of how balancing what Ms. McGinty referred to as tough
2294 environmental goals with economic incentive-based flexibility
2295 can allow us to hit both the environmental objective while
2296 maintaining economic productivity.

2297 Ms. JACKSON LEE. Thank you, Mr. Chairman. Thank you,
2298 Mr. Goffman.

2299 Chairman SENSENBRENNER. The gentlewoman's time has
2300 really expired.

2301 [Laughter.]

2302 Ms. JACKSON LEE. Thank you.

2303 Chairman SENSENBRENNER. The gentleman from Minnesota,
2304 Mr. Luther.

2305 Mr. LUTHER. Thank you, Mr. Chair. I appreciate your
2306 having this hearing. I think it's terrific, the interest

2307 that's been shown in this particular subject, which obviously
2308 is a key issue for Congress to deal with.

2309 I'm going to be very brief. The question that I'd like
2310 just any panelist that's interested to touch on is this issue
2311 of what our real reduction in CO2 emissions would really be
2312 under this. We all understand the formal commitment to a 7
2313 percent reduction. That's the one that's been publicized
2314 widely. But we continue to get information that the real,
2315 actual reduction would be more in the area of 3 percent, for
2316 example. Well, there's obviously a big difference in terms
2317 of not only reality, but perception in terms of those
2318 numbers. And what I'd like is anyone on the panel to just
2319 discuss that, and perhaps highlight that difference and that
2320 issue.

2321 Ms. MCGINTY. Congressman, if I could take a shot at
2322 that, as you will recall, the President in October proposed
2323 that we should reduce U.S. emissions to their 1990 levels by
2324 the years 2008 to 2012. Out of Kyoto, that number is 7
2325 percent below 1990 levels, as you just referred to. Now the
2326 reason why it's actually only about 2 to 3 percent different
2327 from what the President has proposed is because of two
2328 things. One is that in our original proposal, the one the
2329 President spoke to in October, there were six gases included
2330 in that calculation. All six gases were measured at their
2331 1990 levels.

2332 In the Kyoto agreement, we won on getting all six gases
2333 into the agreement, but we also achieved some additional
2334 flexibility, if you will, because three of those six gases
2335 will now be measured at their 1995 levels, which is a higher
2336 level than 1990. That change amounted to about a 1
2337 percentage point reduction. So rather than 7 percent in real
2338 terms, according to what the President was speaking to, we're
2339 talking 6 percent. Now the other 3 percent comes from the
2340 change that was made in how sinks, forestry activities, will
2341 be treated under the treaty. The basic result of the
2342 discussions in Kyoto was that you didn't have to count
2343 anymore in the baseline year, 1990, how much CO2 was being
2344 taken out of the air by your trees, but in the target year,
2345 2008 to 2012, you could still get credit if you planted trees
2346 and brought those emissions down. That amounted to another 2
2347 to 3 percentage points in terms of real changes from what the
2348 President had articulated. You add that together: 7 is
2349 actually about 2 to 3.

2350 [Laughter.]

2351 Chairman SENSENBRENNER. Is this the new math or the old
2352 math?

2353 [Laughter.]

2354 Mr. Smith?

2355 Mr. SMITH. I was going to comment, Mr. Chairman, I've
2356 heard Ms. McGinty do this before, and I've been dazzled and

2357 I'm convinced.

2358 [Laughter.]

2359 But let me take the opportunity, Mr. Luther, to raise a
2360 question that's troubled us related to the target issue. We
2361 will end up, assuming that the President is successful, that
2362 the global community does comply, agreeing to some set of
2363 targeted reductions that could put quite serious burdens on
2364 the economy, as we've discussed. But what has struck us is
2365 missing from this conversation, in fact, is the real target
2366 that the global community ought to be aiming for, which is
2367 what level of greenhouse gases should we try to stabilize
2368 atmospheric concentrations at. Emissions contribute to that
2369 level, but they are not, in and of themselves, determinant
2370 it. And it's one of the reasons why it's so important, of
2371 course, that the entire world community participate.
2372 Reduction of our emissions to levels quite below the levels
2373 agreed to in Kyoto, in the absence of any reduction in
2374 developing country base case emissions, will result in no
2375 reduction in global concentration levels, which seems to us
2376 to fall far short of the environmental goal which we ought to
2377 set.

2378 So part of the discussion--and it's important because it
2379 does affect both the pace and the nature of the economic
2380 change, what we'll have to go through--does need to be about
2381 U.S. emissions, but at the end of the day we need a

2382 discussion about what sustainable and safe level of
2383 concentrations should we be striving for.

2384 Chairman SENSENBRENNER. The gentleman's time has
2385 expired. Now, as I indicated, there will be a second round
2386 of questions for those diehards that were not able to get
2387 their questions answered the first round, starting with the
2388 Chairman.

2389 [Laughter.]

2390 Ms. McGinty, I have been listening very attentively to
2391 all of the testimony and answers to questions today, and I
2392 commend the Administration for, No. 1, opposing a carbon tax
2393 or a Btu tax as a way of meeting our goals, and, No. 2,
2394 putting great emphasis on market forces in terms of doing
2395 this. But the devil is always in the details, and what I'd
2396 like to know is, who establishes the credits that our
2397 industry can buy? How many credits will be established for
2398 sale on the global market? And is this something that is
2399 flexible that can expand or contract? And how will these
2400 credits be priced and paid for, and then how is the money
2401 from these credits to be distributed?

2402 Ms. MCGINTY. The credit system itself, one thing that's
2403 very important is that, while there are some rules of the
2404 road that we need to work out, both on emissions trading and
2405 the clean development mechanism, Article 16 in the treaty
2406 immediately establishes the right and ability of countries

2407 and companies to begin to trade. The degree to which credits
2408 are both recognized and then divvied up between the partners
2409 will be part of the business agreement that the U.S. company
2410 and maybe a company in another country agree to among their
2411 selves.

2412 Chairman SENSENBRENNER. Well, this is different than
2413 emissions trading. The credit purchase is different than
2414 trading of emissions. They're two separate issues. You
2415 know, the trading thing, I'm not particularly concerned
2416 about, if the details can be worked out in Buenos Aires, but
2417 what I want to know is, say Wisconsin Electric wants to keep
2418 its coal-fired power plant going and needs to buy a credit.
2419 How do they go about buying credit?

2420 Ms. MCGINTY. And there will be two ways in which that
2421 could happen. One is that they could engage in a
2422 project-directed activity with either another company in the
2423 United States or another company in another country. So--

2424 Chairman SENSENBRENNER. Okay. If that's not enough,
2425 then where do they go? They already do that for acid rain
2426 credit changing. If that's not enough for what they need,
2427 then where do they go?

2428 Ms. MCGINTY. The second piece of this would be
2429 essentially a secondary market that's not project-driven;
2430 it's just a secondary market in this new commodity that is
2431 being created. The new wealth, the new commodity that is

2432 created through these initiatives is a CO2 commodity. Right
2433 now SO2 is traded on the Chicago Board of Trade. We would
2434 envision a similar kind of secondary market system to trade
2435 this new unit of wealth.

2436 Chairman SENSENBRENNER. Okay, and where does Wisconsin
2437 Electric write out the check and who creates the number of
2438 credits that are on the market? That's subject to the law of
2439 supply and demand. You know, if you run the printing press,
2440 the price goes down. If you're stingy on the printing press,
2441 then the price goes up.

2442 Ms. MCGINTY. Yes. Well, the total number of credits
2443 would come from each country, of course, has taken on, each
2444 developed country has taken on a target, and that target
2445 represents a certain volume of emissions, and those volumes
2446 of emissions would represent the volume of credits that are
2447 there and available either to be used by a particular plant
2448 or traded among plants.

2449 Chairman SENSENBRENNER. Now one of the things that I
2450 think really has not been specific is how the Third World
2451 gets its cut in this.

2452 Ms. MCGINTY. Right.

2453 Chairman SENSENBRENNER. And that includes Iran and Iraq,
2454 because they're less-developed countries, too.

2455 Ms. MCGINTY. Well, one of the things about one of the
2456 inducements to developing countries to join this treaty is

2457 | that if they do not, while they can engage on the
2458 | project-by-project kinds of approaches under the clean
2459 | development mechanism, they will not be able to participate
2460 | in ~~the~~ emissions trading; this whole secondary, much more
2461 | liquid market in this new unit of wealth.

2462 | Now in terms of the Irans and the Iraqs, this treaty, an
2463 | environmental treaty, doesn't speak to rogue nations, but
2464 | certainly any treaty that's out there, rules of the road with
2465 | regard to whether rogue nations play, that all still exists
2466 | and would be effective in this regard as well.

2467 | Chairman SENSENBRENNER. Now the treaty establishes a
2468 | bureaucracy within the United Nations relative to the
2469 | assessment of what the CO2 levels of emission are in certain
2470 | inspection procedures. How does that get paid for?

2471 | Ms. MCGINTY. Well, we've fought against, and were
2472 | successful in making sure that there would not be, any new
2473 | U.N. institution set up to oversee or monitor this at all.

2474 | Chairman SENSENBRENNER. But this is--you know, these
2475 | will be--who does the inspecting and the compliance and the
2476 | assessment of whether the nations are meeting their target or
2477 | not?

2478 | Ms. MCGINTY. Well, I assume it would be two things. I'd
2479 | imagine that there would be a body of experts that would be
2480 | put together in the United States to participate in that, but
2481 | I think, more likely, it will be driven just like the

2482 financial markets are driven now. There would be certified
2483 auditors who are recognized--

2484 Chairman SENSENBRENNER. Okay.

2485 Ms. MCGINTY. --in a new profession that can say whether
2486 the reductions are real or not real.

2487 Chairman SENSENBRENNER. Yes, but people don't work for
2488 free. Who's going to pay for the certified auditors?

2489 Ms. MCGINTY. Yes. Well, again, since this is purely a
2490 private sector, market-driven kind of initiative, just like
2491 there is a transaction fee that you pay to the SEC in your
2492 various transactions--

2493 Chairman SENSENBRENNER. Aha.

2494 Ms. MCGINTY. --with your portfolio, you do that--

2495 Chairman SENSENBRENNER. Now who does the transaction fee
2496 get paid to?

2497 Ms. MCGINTY. We have said in regard to the clean
2498 development mechanism that we want it to be a self-financing
2499 institution, no new body established. It will be a
2500 self-financing entity of the private sector, and that's how
2501 it would--

2502 Chairman SENSENBRENNER. But the bottom line is that, as
2503 we use market forces to reduce demands for types of energy
2504 that emit greenhouse gases, and the price goes up, and we
2505 reduce the demands, how does the price go up if we are not
2506 imposing a tax?

2507 Ms. MCGINTY. As you--

2508 Chairman SENSENBRENNER. The price goes up because the
2509 cost of the credits go up?

2510 Ms. MCGINTY. Well, I think, as you indicated before, the
2511 price, as the quantity, would be driven by the forces of
2512 supply and demand, just as in the SO2 example, the price has
2513 been set by the marketplace, and we've seen that price, of
2514 course, come down fairly precipitously.

2515 Chairman SENSENBRENNER. Well, you see, the concern that
2516 I have, Ms. McGinty, is that this is going to result in a
2517 redistribution of money as our businesses and industry have
2518 to buy these credits, and changes are pretty good, because
2519 we're under a reduction regime from business as usual, that
2520 this money would go offshore and would be used by the folks
2521 offshore to develop their own economies, and that's what I
2522 heard from developing nations almost uniformly over in Kyoto.
2523 Now, you know, my concern is that doing it that way, you
2524 know, is not going to provide the money to clean up the
2525 factors in the United States that cause the problem. I'm not
2526 for raising taxes, but at least if we went that route, then
2527 we would be recycling that money within the United States to
2528 do something that was socially acceptable, whereas this
2529 emissions trading business and this credit business means
2530 that we will be losing money that we could be using to clean
2531 up the problem in the United States by sending it offshore.

2532 I would hope that the Administration would answer that
2533 question because it certainly has not done so at the present
2534 time.

2535 And my time has expired. The gentleman from
2536 Pennsylvania, Mr. Doyle.

2537 Mr. DOYLE. Thank you, Mr. Chairman, and maybe I'll
2538 follow up on that a little bit.

2539 If this is so confusing to a lot of people--we're trying
2540 to understand how these sinks and this trading and clean
2541 development mechanisms will work, and once all that's in
2542 place, what the burdens will be on our industries, once we've
2543 calculated what all that equals. But I'm trying to
2544 understand this emission trading. Russia, for instance,
2545 we're saying, is going to have a lot of credits. You know,
2546 they've gone through this aggressive program of economic
2547 collapse.

2548 [Laughter.]

2549 Ms. MCGINTY. Right.

2550 Mr. DOYLE. And as a result--

2551 Ms. MCGINTY. Right.

2552 ~~Ms. MCGINTY.~~ ^{Mr. Doyle.} --they don't do anything over there
2553 anymore, so they're below their 1990 levels, and they're
2554 going to have all these credits. And then here we are in
2555 this country, we're going to be able to purchase those
2556 credits; our country can, if we're over our caps. I mean, am

2557 I understanding this correctly? So what we're going to do
2558 here, basically, is send a lot of money from this
2559 country--for Russia, it's a good deal. I mean, they're
2560 sitting there on their butts and saying, well, we're going to
2561 get some money from the United States, so that they can stay
2562 under their caps, and nothing's getting cleaned. I mean,
2563 we've not affected the global warming issue one iota. We
2564 haven't clean any emissions or CO2 emissions in this country,
2565 and we're not doing anything over in Russia. They're just
2566 sort of collecting a check from us, so that we can stay under
2567 our caps. It's a very confusing situation, if that's how
2568 this actually plays out.

2569 And I want to make one more point, too. I notice you
2570 nodded your head, Ms. McGinty, when I mentioned the clean
2571 coal technology program, and I do see here in the
2572 Administration proposal where it does mention innovative coal
2573 combustion technologies and nuclear power plant life
2574 extensions.

2575 Ms. MCGINTY. Yes.

2576 Mr. DOYLE. I would just say to you that if we're really
2577 serious about developing new technologies and addressing this
2578 program in the long term, because we're not going to affect
2579 this in the short term, \$2.7 billion is a pittance of what we
2580 should be spending in research and development. That number
2581 should be increased maybe tenfold in this year's budget, if

2582 we're really serious about aggressively pursuing these
2583 technologies, and I would imagine--I don't see the exact
2584 breakdown of what's going into coal combustion technologies
2585 or the nuclear power plant life extensions, but I would
2586 imagine it's quite small at this point, and I would encourage
2587 the Administration to show some real commitment toward this.
2588 And let's make--let's put a couple of zeroes in front of that
2589 number, if we're really serious about this.

2590 [Laughter.]

2591 Thank you, Mr. Chairman.

2592 Chairman SENSENBRENNER. Thank you. The gentleman's time
2593 has expired. The gentleman from Maryland, Mr. Bartlett, last
2594 and definitely not least.

2595 [Laughter.]

2596 Mr. BARTLETT. Thank you.

2597 Let me return to our questions which were rudely
2598 interrupted by a vote on the Floor, which was probably not as
2599 important for our country as the discussions that we're
2600 having here.

2601 If the Administration feels that CO2 production is such a
2602 menace to our society, why are not they more vigorously
2603 proposing an increase in the use of nuclear power production,
2604 since that produces zero CO2? I suspect the answer to that
2605 is that that's not politically popular, but the President is
2606 in a unique position to conduct an education program, so that

2607 Americans will support, rather than oppose, an increase in
2608 nuclear power production.

2609 I have a couple more questions, and then you may answer
2610 as you wish.

2611 I'd like some statement in the record as to why we feel
2612 that this very modest increase over a long number of years in
2613 global temperature is, in fact, moving us toward global
2614 warming rather than just a small upswing and an overall
2615 downswing. Twenty years ago, we were concerned that we were
2616 moving into another ice age. The data has not changed. Now
2617 we're concerned we're moving into global warming with
2618 absolutely disastrous effects. And I'd like to know what the
2619 evidence is that we're, in fact, moving to global warming.

2620 Then the next question is: If we're moving to global
2621 warming, a modest global warming, so what? Our earth in the
2622 past has been very much warmer than it is now, with mastodons
2623 up in the tundra, and I'm sure Russia and Canada would not be
2624 at all averse to a bit of global warming. There will be
2625 winners and losers, but in terms of the globe, so what, if
2626 we're having a bit of global warming?

2627 And the last question is: Just singling out CO2 alone,
2628 as Mrs. Holmes pointed out, it is not a pollutant. It is an
2629 absolutely essential for plants. You know, if you plant a
2630 tree, it uses CO2 only in the summertime. The oceans, as I
2631 mentioned previously, are absolutely enormous. There may be

2632 something that we could do to enhance the floral use of CO2
2633 in the oceans, since they are an enormous sink for CO2, and
2634 they do exactly what trees do, they convert CO2 into oxygen.
2635 I just feel that we have nowhere near enough--see, almost all
2636 of this discussion has gone from a premise that we've got to
2637 do something because we're facing a disaster. As a
2638 scientist, I'm not at all sure there is any evidence, any
2639 credible evidence, to move us in that direction.

2640 What I would like to see us do is move to more
2641 alternative energy use, not because it's a disaster coming
2642 from global warming or increased CO2, but simply because we
2643 will run out of the fossil fuels. They are not going to last
2644 forever, and we need to have some alternatives to that.

2645 Thank you.

2646 Chairman SENSENBRENNER. Who would like to answer that in
2647 a minute and 50 seconds?

2648 [Laughter.]

2649 Mr. BARTLETT. I really gave the questions for the
2650 record. I know that you can't answer these questions here,
2651 but I think that the answers are very important ones, and
2652 hope we will--

2653 Chairman SENSENBRENNER. Mr. Bartlett is the kindest
2654 member of the Committee in not requiring any of you to answer
2655 any of his questions.

2656 [Laughter.]

2657 [The information follows:]

2658 ***** COMMITTEE INSERT *****

2659 Chairman SENSENBRENNER. I would like to thank all of the
2660 witnesses for their patience and for their excellent
2661 testimony. I think that we've begun the national debate on
2662 the Kyoto treaty on a very good note, and that there are a
2663 lot of facts on the table. Certainly more facts and more
2664 opinions will be on the table before the Nation and the
2665 Senate and the House make up its mind, but the Science
2666 Committee started it out.

2667 So, again, thank you, witnesses, and thank you, Committee
2668 members.

2669 And the Committee is adjourned.

2670 [Whereupon, at 1:00 p.m., the Committee adjourned subject
2671 to the call of the Chair.]

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**TESTIMONY OF DR. JANET YELLEN
CHAIR, COUNCIL OF ECONOMIC ADVISERS
BEFORE THE
U.S. HOUSE OF REPRESENTATIVES
COMMERCE SUBCOMMITTEE ON ENERGY AND POWER**

TUESDAY OCTOBER 6, 1998

Thank you, Mr. Chairman. I appreciate having this opportunity to discuss with you the economics of climate change and the Administration's efforts to address this significant environmental challenge. As you know, I have testified on this topic before this Committee on two prior occasions. In my first appearance, prior to the Kyoto negotiations, I emphasized that if flexible, market-based mechanisms are effectively used, the costs of cutting greenhouse gas emissions would be significantly reduced. Elaborating on this point, I stated in March of this year that, in the Administration's view, the costs of achieving our Kyoto target would be modest if we can succeed in implementing international trading, joint implementation, and the Clean Development Mechanism in an efficient manner and we achieve meaningful developing country participation. A report released by the Administration in July, entitled "The Kyoto Protocol and the President's Policies to Address Climate Change: Administration Economic Analysis" elaborates the assumptions and analysis underlying this conclusion. In addition, the Stanford Energy Modeling Forum has been coordinating an economic modeling exercise of the Kyoto agreement, and the participating modelers, who include academic, private sector and government analysts, have made available some of their preliminary results. Today, I will provide a brief summary of the Administration's Economic Analysis and review several of the key findings of the Energy Modeling Forum effort.

The Potential Impact of Climate Change

The Intergovernmental Panel on Climate Change (IPCC) concluded in 1995 that "the balance of evidence suggests that there is a discernible human influence on global climate." Current concentrations of greenhouse gases have reached levels well above those of preindustrial times. If growth in global emissions continues unabated, the atmospheric concentration of carbon dioxide (CO₂) will likely double relative to its preindustrial level by midway through the next century and continue to rise thereafter. As a result of the increased concentration of CO₂, the IPCC estimates that global temperatures will increase by between 2 to 6 degrees Fahrenheit in the next 100 years, with a best guess of about 3.5 degrees Fahrenheit. Potential consequences associated with this shift in climate include a rise in sea levels, greater frequency of severe weather events, shifts in agricultural growing conditions from changing weather patterns, threats to human health from increased range and incidence of diseases, changes in availability of

freshwater supplies, and damage to ecosystems and biodiversity. Further discussion of the costs of climate change is contained in the Administration Economic Analysis.¹

The Kyoto Protocol and the Buenos Aires Conference of the Parties

Previously, Undersecretary Eizenstat and I appeared before this Committee to discuss the Kyoto Protocol and the Administration's efforts to address the risks of climate change. In my testimony, I described the many important flexibility mechanisms in the Kyoto Protocol and explained how they would allow countries to achieve cost-effectively the emissions targets established in this agreement. These mechanisms, which permit what we have termed "when", "what", and "where" flexibility in meeting the Kyoto emissions targets, are described in detail in the Administration Economic Analysis. Since securing international emissions trading, the Clean Development Mechanism, and joint implementation last year in Kyoto, the Administration has worked in bilateral and multilateral arenas to promote understanding of these mechanisms and to develop rules that will promote their efficient operation. This work will continue in the talks in Buenos Aires and beyond. While I will defer to the Department of State for a discussion of the upcoming international negotiations, I will reiterate that efficient implementation of these flexibility mechanisms is critical to reducing the costs of achieving the targets established in the Kyoto Protocol.

Costs of Action

In assessing the economic effects of the Kyoto Protocol, the Administration has drawn on the insights of a wide range of models and analysis. Examples include models of the energy sector and economy over the next 25 years, such as the Stanford Energy Modeling Forum, the Intergovernmental Panel on Climate Change's review of the economic and social dimensions of climate change, the work of the Organization for Economic Co-operation and Development (OECD) on the economic dimensions and policy responses to global warming, and the Administration's staff-level interagency analysis. In addition, the Administration used other tools, such as a meta-analysis, basic economic reasoning, overviews of the domestic and international energy sectors, statistics regarding energy efficiency and greenhouse gas emissions, and economic indicators from World Bank, International Energy Agency, and Energy Information Administration databases.

Assuming that effective mechanisms for international trading, joint implementation, and the Clean Development Mechanism are established, and assuming also that the United States achieves meaningful participation of key developing countries, the Administration's overall assessment is that the economic cost of attaining the targets and timetables specified in the Kyoto Protocol will be modest for the United States in aggregate and for typical households. This

¹ Please refer to the attached paper copy or <http://www.whitehouse.gov/WH/New/html/kyoto.pdf> for a PDF version of this document.

conclusion is not entirely dependent upon, but is fully consistent with, formal model results. The Administration continues to believe that there are limitations to relying on any single model to assess the economic impact of the Kyoto Protocol. However, model results can further inform and improve the understanding of the effects of climate change policy. To complement the economic analysis of the Administration's policy to address climate change, we have conducted an illustrative assessment with a modified version of the Second Generation Model (SGM). The results from the SGM substantiate the conclusion that the economic effects of an efficient, effective, and global policy to address the risks of climate change will be modest.

An assessment using the SGM model that accounts for effective trading and developing country participation yields permit price estimates ranging between \$14/ton and \$23/ton, and direct resource costs to the U.S. between \$7 billion and \$12 billion/year. The range reflects uncertainty about the extent of Annex I participation in international trading.

Under the assumptions of the Administration's analysis, permit prices in the range of \$14/ton to \$23/ton translate into energy price increases at the household level between 3 and 5%. Under these permit prices, fuel oil prices would increase about 5 to 9 percent, natural gas prices about 3 to 5 percent, gasoline prices about 3 to 4 percent (or around 4 to 6 cents per gallon), and electricity prices about 3 to 4 percent. This increase in energy prices at the household level would raise the average household's energy bill in ten years by between \$70 and \$110 per year, although such predictions may not be observable because they would be small relative to typical energy price changes, and nearly fully offset by electricity price declines from Federal electricity restructuring. By 2008-2012, the anticipated 10 percent decline in electricity prices from restructuring is projected to lead to expenditure reductions of about \$90 per year for the average household.

The illustrative modeling analysis does not account for several key components of the Kyoto Protocol and the Administration's policies to reduce greenhouse gas emissions. These include the benefits of reducing net emissions through carbon sinks, the Administration's electricity restructuring proposal, the Administration's Climate Change Technology Initiative (R&D funding and tax incentives in the FY 1999 Budget), the Administration's sectoral consultations to encourage and support voluntary efforts by U.S. industry to undertake emissions reductions, including the provision of credit for early action, and the Administration's efforts to reduce federal energy use. There are also ancillary benefits of reducing greenhouse gas emissions -- in particular, the corresponding reductions in conventional air pollutants like sulfur dioxide and fine particulate matter. These benefits alone could produce savings equal to about a quarter of the costs of meeting our Kyoto target.

Since I last testified before this Committee, the Administration has released its proposed electricity restructuring legislation and the supporting analysis of this proposal. The Administration's proposed Comprehensive Electricity Competition Act (CECA) is estimated to reduce greenhouse gas emissions by about 25 to 40 million metric tons of carbon equivalent per year by 2010. Further, the electricity restructuring proposal provides potential cost-savings in

four areas: dispatch efficiency, improved capital utilization, savings in capital additions and cost reductions in fuel procurement, non-fuel operation and maintenance expenses, and administrative and general expenses. These four categories of savings are likely to reach or exceed \$20 billion annually. The Department of Energy's CECA supporting analysis documents² contain further discussion of the Administration's electricity restructuring proposal.

Recent Research on the Economics of Climate Change

Since I last appeared before this Committee, many economists have conducted and made available their analyses of the Kyoto Protocol. I noted in both of my previous appearances that there are limitations to relying on one or a small set of models and that we were eager to see assessments of the Kyoto Protocol by other models. In March, I indicated that the Energy Modeling Forum (EMF) based at Stanford University, a long-running model comparison exercise involving many of the leading climate and energy models, would conduct full scale analyses of the Kyoto Protocol. We have now received a compilation of the preliminary analyses by the participating modeling teams.

EMF Kyoto Analyses

The Energy Modeling Forum comparison exercise of the Kyoto Protocol has included ten modeling teams from the United States, Europe, and Asia. In evaluating the Kyoto Protocol, all of the participating teams used economic models that incorporate the potential for international trading in greenhouse gas permits. By explicitly incorporating international trading, these models can evaluate the opportunities for cost-savings through trading among Annex I nations and among Annex I and developing countries were they to adopt emissions targets. Since the Kyoto Protocol enables all countries with emissions targets to trade emissions allowances among other countries with targets, these models are well-suited to assess the economic implications of the international trading component of the agreement.

While the EMF models can assess international trading, there are several other flexibility mechanisms of the Kyoto Protocol that they cannot, at present, readily assess. For example, these models did not incorporate the effects of sinks. While several modelers did assess the economic costs of achieving the Kyoto targets with "off-line" assumptions about sink activity, none incorporated an integrated energy-land use model. Further, most of the modelers did not evaluate opportunities to reduce costs by trading across greenhouse gases. These models are primarily energy models and are focused on the economics of reducing carbon emissions from fossil fuel combustion. Again, some modelers analyzed the Protocol by making some "off-line" assumptions about the potential reductions in non-carbon dioxide greenhouse gases, but none employed a model with cost curves for these gases. Finally, it should be noted that these models

² Please refer to the attached paper copy or <http://www.doe.gov/ceca/ceca.htm> for the PDF version of the supporting analysis.

did not include opportunities for emissions reduction through Administration proposals, such as electricity restructuring or the Climate Change Technology Initiative, that could lower greenhouse gas permit prices.

The EMF results provide very useful context for the Administration's economic analysis. First, the illustrative model used by the Administration, the Second Generation Model of the Pacific Northwest National Laboratory, tends to fall in the middle of the range of this set of models in terms of U.S. permit prices.³ For example, under Annex I trading SGM generates a permit price which is at the median of this set of models. Under full global trading, the SGM permit price is just below the median permit price. Second, the EMF exercise found that the reduction in permit prices as trading expands from no trading to Annex I trading to full global trading is robust. On average, the EMF models found that Annex I trading would cut the U.S. permit price by 53% relative to a no trading scenario. Of these models, one estimated a 72% reduction in the permit price under Annex I trading. In full global trading, the permit price would be, on average, 80% lower than the no trading price. Several models estimated permit price reductions of about 90%.

Analyses of Trading Constraints

In addition to the modeling of various efficient international trading scenarios, several EMF modeling teams have considered the impact of constraints on the opportunity to buy or sell emissions allowances in an international market. While the United States is unambiguously opposed to trading restrictions, several parties to the agreement have indicated support for some form of a trading constraint, for example, by setting a limit on the amount a party can purchase through the trading system. Trading restrictions would generate no benefit for the global climate while they could significantly increase the costs of achieving the Kyoto targets.

Before describing the economic costs of trading constraints, I would like to explain why such constraints yield no climate benefits. Regardless of where an emission reduction occurs, it has the same effect on total emissions and the same effect on the climate. A ton reduced in New York generates the same climate benefit as a ton reduced in Berlin. In proposing trading constraints, some have focused on countries such as Russia, that will have emissions below their Kyoto targets during the commitment period because of the decline in their economic output associated with the transition to market economies. If trading constraints are established that restrict the ability of Russia to sell permits (or restrict the opportunity for other Annex I countries to buy Russian permits), then emissions during the first commitment period would be lower than

³ Please note that the version of SGM used in EMF differs from the analysis conducted by the Administration because the EMF version does not include cost curves for non-carbon dioxide greenhouse gases used by the Administration. Since efficient trading across gases would lower costs and permit prices, the EMF version of SGM yields slightly higher permit prices than the Administration version.

in the absence of such constraints. However, Russia would simply bank its allowances and use these allowances in a subsequent commitment period when its emissions exceed its target. While a trading constraint might lower emissions during the first commitment period, the cumulative emissions over several commitment periods from Annex I countries would be the same with and without the trading constraint. Given the long residence times of greenhouse gases (on the order of a 100 or more years), the cumulative effect is what is most relevant in terms of changes in the global climate.

To provide a sense of the economic implications of trading constraints, I would like to share with you two examples from work done by EMF modeling teams. First, consider a trading constraint that mandates that at least two-thirds of the emissions reductions necessary for a country to achieve its Kyoto target must occur through domestic actions. Evaluating this trading constraint with the EPPA model based at the Massachusetts Institute of Technology, the permit price for the United States is almost four times higher with the constraint than under an unconstrained global trading system. It is important to note that the effects of this constraint are even more pronounced for the European Union and for Japan. The permit price for the EU would be more than five times higher than the unconstrained global trading permit price, and the Japanese permit price would be thirteen times higher. As these results indicate, the trading constraint would result in each country experiencing a different marginal cost of abatement, and there would be no common permit price for a ton of carbon equivalent. Since the constraint restricts opportunities for countries like the United States, Japan, and members of the EU to buy emissions allowances, the competitive price for emission allowances from countries like Russia would fall below the unconstrained level.

Second, consider a trading constraint that mandates that acquisitions of permits through international trading could not exceed 10% of a country's emissions allocation. For example, the U.S. target is approximately 1.5 billion tons of carbon equivalent on an annualized basis. Under this trading constraint, the United States, or private firms in the United States, could not purchase more than 150 million tons on an annual basis from other countries. Assessing this trading constraint with the Second Generation Model based at the Pacific Northwest National Laboratory, the permit price for the United States would more than triple relative to the unconstrained global trading permit price. For the EU, the permit price would nearly double, and for Japan, the permit price would be eleven times as high as the unconstrained global price.

While trading constraints increase greenhouse gas permit prices (and subsequently, energy prices) in the United States, the European Union, and Japan, they also reduce the gains from trade by the countries likely to be sellers of emissions allowances. For example, Russia and large developing countries that adopt emissions growth targets and participate in international trading, e.g., China and India, would sell fewer emissions allowances at lower international permit prices under such trading constraints than in an unconstrained global trading environment. Such restrictions lessen the benefits of participation by developing countries in international trading.

Developing Country Participation

While no non-Annex I country has yet adopted a binding emissions target, economic and environmental benefits would accrue if some developing countries do so. Setting a target below the business as usual emissions level for the commitment period would generate climate benefits by reducing global emissions below what they would otherwise have been. In addition, if the target is set not too far below the business as usual emissions level, the participation of the country in a global trading system would produce economic benefits or "gains from trade" for both the developing country and its trading partners. Emissions trading by developing countries would occur only if they chose to undertake emissions reductions above and beyond their commitments -- reductions that would generate trading extra income for them as long as their marginal abatement cost is below the world trading price for greenhouse gas permits. Many of the EMF models reveal that, for large developing countries, like China, such excess reductions would indeed be profitable, so that these countries would export allowances and gain from trade. Developing countries would also reap ancillary benefits of reducing conventional air pollutants, which may be substantial. Benefits from trading would also accrue to Annex I countries. Annex I countries (and private firms in these countries), who would purchase these emissions allowances in the world market, would achieve their targets at lower cost than without the participation of the developing countries. However, it should be noted that the more stringent the target for the developing country, the lower the gains from trade both for that country and for Annex I countries such as the United States. Indeed, an extremely stringent target could conceivably make the developing country a net importer of emissions allowances, and raise the international trading price for a greenhouse gas permit. Still, these models illustrate the potential to create targets that simultaneously make the environment, the developing country, and Annex I countries all better off.

Conclusion

The Administration's overall conclusion is that the economic impact of the Protocol will be modest under the conditions we have identified in our economic analysis. The purpose of this testimony has been to summarize the analysis we have presented in the Administration Economic Analysis on climate change and to provide a brief update of recent modeling efforts outside of the government.

I look forward to continuing to work with members of this Committee, as well as with other interested parties, in further analyzing the Kyoto Protocol and evaluating the net effects of reducing greenhouse gas emissions. It is my hope that economic analysis will continue to play a key role in designing policies in this area.

I welcome your questions.



American Council for an Energy-Efficient Economy

WASHINGTON, DC

Cong testimony

TESTIMONY OF HOWARD GELLER, EXECUTIVE DIRECTOR THE AMERICAN COUNCIL FOR AN ENERGY-EFFICIENT ECONOMY

BEFORE THE SCIENCE COMMITTEE U.S. HOUSE OF REPRESENTATIVES

ON IMPACTS OF THE KYOTO PROTOCOL ON U.S. ENERGY MARKETS AND ECONOMIC ACTIVITY

October 9, 1998

The American Council for an Energy-Efficient Economy (ACEEE) is a non-profit research organization dedicated to advancing energy efficiency as a means of promoting both economic prosperity and environmental protection. We conduct studies, advise policymakers, assist with energy efficiency program design and evaluation, work collaboratively with business, disseminate information, and inform consumers. I appreciate the opportunity to appear again before the Science Committee.

In my testimony today, I would like to make three points:

- 1) The Energy Information Administration's (EIA) new study "Impacts of the Kyoto Protocol on U.S. Energy Markets and Economic Activity" is seriously flawed.
- 2) Promoting greater energy efficiency can substantially reduce U.S. greenhouse gas emissions while saving consumers and businesses money.
- 3) The Federal government should provide greater support for the development, commercialization and deployment of energy efficiency and renewable technologies for a host of reasons including but not limited to global warming concerns.

The EIA study is seriously flawed.

FLAW #1. IGNORING ONGOING AND LIKELY POLICIES, PROGRAMS AND TRENDS

The EIA study (in all cases) fails to account for ongoing and/or likely policies, programs, and associated technological trends that will lead to reductions in carbon emissions. These ongoing and/or likely policies, programs, and trends include:

- A) issuing new appliance efficiency standards, including new standards where

rulemakings are underway and are deemed high priority;

B) tougher Clean Air Act standards which have been announced and are in the process of being implemented, especially new standards on particulates that will reduce the cost differential between coal and natural gas-based power plants;

C) adoption of public benefits funds and renewable energy performance standards that maintain or expand utility investment in energy efficiency and renewable technologies in additional states;

D) expansion of the Energy Star programs, regional market transformation initiatives, Motor Challenge, Steam Challenge, Combined Heat and Power Challenge, Climate Challenge and Climate Wise programs, and other voluntary programs that are helping to stimulate energy efficiency improvements;

E) growing willingness on the part of the private sector to take early action and make voluntary greenhouse emissions reductions, as witnessed by BP's recent announcement that it will voluntarily cut its GHG emissions to 10% below 1990 levels by 2010;

F) introduction of new energy-efficient vehicle technologies during the next decade, such as hybrid vehicles and fuel cell electric vehicles, which Toyota, Honda, GM, Ford, Daimler Benz, and other manufacturers have announced they will introduce;

G) rapidly advancing building-integrated solar technologies which are resulting in part from the million solar roofs initiative; and

H) strengthened building energy codes which a few states adopt every year, as well as strengthened model energy codes which serve as the basis for upgrading state codes.

Ignoring these policies, programs, and trends inflates the amount of carbon emissions reduction that must be obtained through other means, thereby raising the level of carbon tax required in a tax-based analysis such as that performed by the EIA.

FLAW #2. EMISSIONS REDUCTIONS DON'T START UNTIL 2005.

EIA assumes the country waits until 2005, just three years before the first budget period starts, to begin emissions reductions. This ignores the reality of voluntary commitments and early action, as mentioned above. It also is contrary to the Kyoto Protocol which EIA was supposed to have modeled. Article 3.2 of the Protocol states: "Each Party included in Annex I shall, by 2005, have made demonstrable progress achieving its commitments under this Protocol." But EIA assumes no demonstrable progress by 2005.

Forcing large emissions reductions in just three years results in higher costs than

would be the case if significant emissions reductions started sooner and were more gradually phased in as new buildings are constructed, vehicles and appliances manufactured and purchased, factories renovated etc. over a 10-15 year period. In short, waiting until 2005 to start reducing emissions would be dumb and would be contrary to the Protocol.

FLAW #3. POOR TECHNOLOGY CHARACTERIZATION AND EXTREMELY LIMITED TECHNOLOGICAL RESPONSE.

Outside of one "High Technology" sensitivity run, the EIA ignores or artificially limits key technologies for reducing GHG emissions in the utility, transport, buildings, and industrial sectors. About 75% of the carbon reduction in the low emissions cases comes from switching from coal-fired to natural gas-fired power plants, brought about in the EIA analysis by imposing a very large carbon fee. Once again this is a dumb approach considering that there are a wide range of available energy efficiency measures that could reduce emissions at much lower cost and in many cases with a net economic benefit, especially if they are gradually phased in.

The EIA analysis also ignores a number of key technologies that are rapidly advancing and are either emerging in the marketplace or are expected to be commercially available within two to five years. For example:

- o **Cogeneration** -- the EIA study assumes minimal expansion of industrial cogeneration of electricity and thermal energy in the low emissions cases, in spite of rapidly improving cogeneration technologies and much greater reliance on cogeneration for both economic and environmental reasons in Europe.
- o **Fuel cells for stationary applications** -- the EIA study assumes no adoption of fuel cells for power generation in any of its emissions reduction scenarios for the next 22 years, in spite of rapid advances and great optimism in all assessments of this technology. In the real world, GE Power Systems and a small fuel cell developer are starting a joint venture to produce and distribute fuel cells for cogeneration in residences and commercial buildings, while companies such as Westinghouse, United Technologies, Ballard, and Sanyo have either started production or announced plans to introduce fuel cells for stationary applications.
- o **Hybrid and fuel cell electric vehicles** -- outside of a "High Technology" sensitivity case, these technologies are ignored by EIA in its low emissions cases. Again, EIA ignores rapid developments in the real world including a hybrid vehicle that Toyota is producing in Japan and has announced will be sold in the United States in 2000, as well as announcements by other major auto companies that they will be selling hybrid vehicles by 2001 and fuel cell electric vehicles by 2003-2005.

FLAW #4. NO CONSIDERATION OF NEW POLICIES EXCEPT CARBON TAXES

The EIA study fails to include a scenario where new policies other than a carbon tax are adopted to comply with the Kyoto Protocol. There was no consideration of alternative policy instruments such as new minimum efficiency standards, tax incentives, revenue-neutral fees and rebates, federal utility restructuring legislation with provisions to encourage greater energy efficiency and renewable energy measures, etc. Some of these policies have already been proposed by the Clinton Administration. They are no more controversial and in some cases much less controversial than imposing a high carbon tax. Without consideration of alternative policies, EIA has not provided a clear picture of the potential impacts of the Kyoto Protocol.

In spite of these serious flaws, the EIA study shows that a dumb approach to implementing the Kyoto Protocol--an approach that unnecessarily delays action, ignores ongoing and likely policies, programs and trends that are reducing emissions, and ignores or assumes minimal adoption of innovative technologies--would still have a negligible impact on U.S. economic growth if the carbon tax revenue is offset by reductions in either the income or social security taxes. Given this result, policy makers should ask "What could be the impact of a smart approach?" I address this question in my comments below.

Promoting greater energy efficiency can substantially reduce greenhouse gas emissions while saving money.

A strong commitment to cut U.S. emissions of carbon dioxide and other greenhouse gases (GHGs) does not need to be a drain on the U.S. economy, as some critics of the Kyoto Protocol have claimed. For example, over 2000 economists issued a statement last year which says in part, "Economic studies have found that there are many potential policies to reduce greenhouse gas emissions for which the total benefits outweigh the total costs."¹

Promoting better technologies such as more efficient appliances, lighting, vehicles, and industrial processes as well as renewable energy sources, rather than onerous taxes or heavy-handed regulations, is the key to cutting GHG emissions without harming the economy. By taking a technology-oriented approach, the United States and other nations can create new industries and jobs, save consumers and businesses money, reduce all types of air pollution, and greatly reduce GHG emissions.

U.S. energy intensity (total energy use per unit of GDP) declined 34% during 1973-97; most of this decline was due to energy efficiency improvements. In spite of this progress, there is still enormous potential for cost-effective energy efficiency improvements in the United States. A new study by ACEEE titled **Approaching the Kyoto Targets: Five**

¹ "Economists' Statement on Climate Change", Redefining Progress, San Francisco, CA, 1997.

Key Strategies for the United States,² shows how the United States can achieve further energy efficiency improvements on a large scale.

This study, which I would like to submit for the hearing record, examines five major policy initiatives that would stimulate widespread energy efficiency improvements in all sectors of the American economy. The five policy initiatives are:

- o New Appliance and Equipment Efficiency Standards and Related Voluntary Programs
- o Public Benefit Trust Fund as Part of Electric Utility Industry Restructuring
- o Fuel Economy Standards and Market Incentives to Improve Vehicle Fuel Economy
- o Removing Barriers Inhibiting Greater Use of Combined Heat and Power Systems
- o Power Plant Efficiency Standards

The ACEEE study estimates that these five initiatives could cut U.S. carbon emissions in 2010 by 310 million tons per year--17 percent of the emissions expected in 2010 given business-as-usual trends and about 60 percent of the emissions reduction necessary to meet our Kyoto target. Furthermore, the carbon emissions reduction could nearly double by 2020 as efficiency improvements continue to be made and more appliances, buildings, vehicles, and power plants are replaced.

By increasing energy efficiency on a wide scale, these initiatives yield energy bill savings that exceed the cost of the efficiency measures. The ACEEE study estimates that these five initiatives could yield net savings for consumers and businesses of over \$160 billion during the life of efficiency improvements made during 1999-2010. This is equivalent to saving about \$1,600 per household.

The ACEEE study shows that if we are smart about the policies and measures used to reduce GHG emissions, we can achieve substantial reductions with a net economic gain, not a penalty. Another recent study, sponsored by the U.S. EPA and carried out by Lawrence Berkeley National Laboratory, reaches the same conclusion--relying on improved technologies as the centerpiece of our strategy for Kyoto Protocol compliance would yield net economic benefits as well as environmental benefits.³

² H. Geller, S. Nadel, R.N. Elliott, M. Thomas, and J. DeCicco, "Approaching the Kyoto Targets: Five Key Strategies for the United States", American Council for an Energy-Efficient Economy, Washington, DC, Aug. 1998.

³ J.G. Koomey, R.C. Richey, S. Laitner, R.J. Markel, and C. Marnay, "Technology and Greenhouse Gas Emissions: An Integrated Scenario Analysis Using the LBNL-NEMS Model", LBNL-42054 (internal review draft), Lawrence Berkeley National Laboratory, Berkeley, CA, Sept., 1998.

While the Kyoto Protocol provides the flexibility to achieve emissions reductions overseas via trading and joint implementation, it would be a mistake for the United States to emphasize this approach. If we emphasize overseas reductions, we will pay our competitors to become more efficient and miss the opportunity to make the U.S. economy more efficient and productive.

If it is possible to greatly reduce GHG emissions with net economic benefits, it is fair to ask why some studies claim that reducing GHG emissions will harm our economy. First it should be noted that many of these studies are funded by producers and major consumers of the fossil fuels that cause global warming, the parties that have a vested interest in preventing GHG emissions reductions on a large scale. Second, the studies use worst case assumptions that lead to loss of economic output, such as imposition of a carbon tax without recycling the revenue, no consideration of technological response or the cost savings from energy efficiency improvements, no economic benefits from pollution abatement, and no international joint implementation. The studies are thoroughly critiqued in a 1997 World Resources Institute report.⁴

Putting economic modeling aside, history tells us that every time we have faced an environmental challenge--from getting the lead out of gasoline, to protecting the stratospheric ozone layer, to controlling acid rain--there have been those in affected businesses that have said that it won't work and it will wreck the economy. They have never been right. In fact, once the decision was made, each time industry rose to the challenge and American ingenuity found ways to address these problems cheaper and faster than had been anticipated.

Consider one example--controlling emissions that cause acid rain. Industry predicted during the Clean Air Act debate in the late 1980s that reducing SO₂ emissions would cost as much as \$1500 per ton of SO₂ removed. EIA notes in this new report that in 1993, the EIA itself projected that SO₂ emissions allowances (a measure of the marginal pollution control cost) would be selling for over \$400 per ton in 2000. In fact SO₂ emissions allowances are now trading for about \$100 per ton--far less than the prior estimates. The reasons for this, as noted by EIA, are 1) early actions placing downward pressure on emissions allowance costs, 2) emphasis on the most cost-effective control strategies such as switching to lower sulfur coal, and 3) technological improvements in SO₂ scrubbers and other control techniques.

The exact same strategies--early action, emphasis on the most cost-effective strategies, and technological innovation--will be employed to hold down the cost of GHG emissions reductions once the United States formally accepts GHG emissions limits. It is truly ironic that the EIA acknowledges it was way off in predicting the cost of acid rain control and recognizes the reasons why it erred, yet it repeats the same mistakes in predicting the future

⁴ R. Repetto and D. Austin, "The Costs of Climate Protection: A Guide for the Perplexed", World Resources Institute, Washington, DC, 1997.

cost of GHG emissions control!

The Federal government should provide greater support for the development, commercialization and deployment of energy efficiency technologies.

As pointed out in the recent PCAST energy R&D report, "R&D investments in energy efficiency are the most cost-effective way to simultaneously reduce the risks of climate change, oil import interruption and local air pollution, and to improve the productivity of the economy."⁵ DOE, working with the private sector, is helping to develop a wide range of highly innovative, energy-efficient technologies. Here are a few examples:

- o Hybrid vehicle and fuel cell technologies** that could double or triple the fuel economy of cars and light trucks while dramatically reducing urban air pollution.
- o New housing designs** that use 30-60% less energy for heating and air conditioning compared to typical new homes while providing better comfort and improved housing affordability for the occupants.
- o New appliances, lighting products, and window technologies** that offer twice the energy efficiency and other advantages compared to typical new products sold today.
- o New industrial process technologies** for the steel, aluminum, paper and pulp, chemicals, and other heavy industries that promise greatly reduced solid wastes, air emissions, and energy use.
- o Ceramic and composite materials** that improve reliability and quality, reduce waste, and improve energy performance of engines, turbines, and other products.

On the deployment side, a variety of federal programs such as the Energy Star programs, Green Lights program, and Motor Challenge program educate consumers and businesses and facilitate implementation of state-of-the-art energy efficiency measures. These programs are saving businesses and consumers billions of dollars while cutting pollution of all types.

But current energy efficiency R&D and deployment programs are underfunded considering the potential benefits -- greater energy bill savings, lower criteria pollutant emissions, reduced oil imports, enhanced business competitiveness, and lower GHG emissions. And the private sector, confronted with increasing competitive pressures and uncertain returns from longer-term, higher risk R&D, has significantly reduced its investment

⁵ President's Committee of Advisors on Science and Technology, Panel on Energy Research and Development, "Federal Energy Research and Development for the Challenges of the Twenty-First Century," Executive Office of the President, Nov. 1997.

in energy R&D in recent years.⁶ Consequently, the PCAST panel recommended doubling funding for energy efficiency programs between FY1998 and FY2003. The panel estimated that this investment could produce a 40 to 1 return for the nation.

President Clinton has proposed expanding Federal energy efficiency and renewable energy programs as well as providing tax credits to stimulate the commercialization of advanced technologies (the so-called Climate Change Technology Initiative). I urge members of the Science Committee to support this initiative independent of opinions concerning the Kyoto Protocol. Put simply, these programs are good for innovation, good for U.S. businesses, and good for consumers. If these technology-oriented programs are a success, we won't need to adopt onerous carbon taxes in order to meet our nation's environmental goals. A technology-led strategy is the smart response to the threat posed by global warming, in contrast to the dumb response analyzed by the EIA.

Thank you for considering these views.

⁶ PCAST (ibid.); J.J. Dooley, "Unintended Consequences: Energy R&D in a Deregulated Energy Market", *Energy Policy* 26(7), pp. 547-555, 1998.

TESTIMONY OF ACTING ASSISTANT SECRETARY OF STATE FOR OCEANS
AND INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC AFFAIRS

MELINDA L. KIMBLE
BEFORE THE SUBCOMMITTEE ON ENERGY AND POWER
HOUSE COMMITTEE ON COMMERCE

October 6, 1998

Introduction

Thank you, Mr. Chairman and Members of the Subcommittee.

I am pleased to be with you today to discuss the current status of negotiations leading to the next meeting of the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC) to be held in Buenos Aires, Argentina this November. I will also highlight our ongoing, intensive diplomatic efforts in this regard. Almost one year ago, the world community took an historic step forward in its efforts to address climate change in adopting the Kyoto Protocol to the UNFCCC. I will not go into detail regarding its many substantial elements with which I'm sure you are familiar -- five-year commitment periods, the flexibility mechanisms (i.e., emissions trading, joint implementation and the Clean Development Mechanism), and inclusion of all six major greenhouse gases and sinks. Suffice to say that we believe the Protocol represents an important milestone on the path toward putting in place a credible global response to this significant environmental problem.

That said, the Protocol is a "work in progress." We still need to elaborate the Protocol's provisions for flexibility mechanisms to assure that they are cost-effective tools and are not unduly burdened with bureaucratic structure or artificial constraints, and we continue to pursue securing meaningful participation by key developing countries. The Clean Development Mechanism (CDM) will likely be pivotal to encouraging developing countries to engage in the global response to climate change. The CDM will do so by example and incentive -- by showing how actions to limit, reduce or sequester greenhouse gas emissions also bring significant benefits in promoting technology transfer, increasing the availability of financial resources and promoting sustainable development. Moreover, there is much we can do bilaterally to build capacity in developing countries to address this challenge.

We recognize that we have not yet achieved the meaningful participation by key developing countries to which the President is committed. I would like to reiterate our intention to obtain such participation prior to submitting this agreement to the Senate for its advice and consent.

U.S. Commitments under the UN Framework Convention on Climate Change

As we look to Buenos Aires, our goal is to make progress on our climate change agenda. We must not lose sight of the instrument that is in force – the 1992 UN Framework Convention on Climate Change (UNFCCC). There are commitments under this treaty that will be reviewed in Buenos Aires and subsequent Conferences of the Parties to the UNFCCC – and the more we progress on meeting these commitments, the better prepared Parties will be to address the goals of the Kyoto Protocol when it is complete and in force. Since 1992, when the United States was the fourth nation in the world and the first developed nation to ratify, 175 countries have become Parties to this Convention to combat global warming.

From the beginning, the United States spearheaded the international effort to address climate change. Ten years ago, the Reagan Administration supported the establishment of the Intergovernmental Panel on Climate Change (IPCC), which just held its fourteenth meeting and launched its Third Assessment Report on climate change. The initial work of the IPCC prompted the Bush Administration to join the international call to establish a negotiating body to deal with this issue. In 1991, the U.S. hosted the first meeting of the Intergovernmental Negotiating Committee (INC), whose hard work culminated in the adoption of the Convention in May 1992. The INC met six times over two years to craft an historic agreement. President Bush signed the Convention at Rio in June 1992 and promptly submitted it for the Senate's advice and consent. Later that year, in bipartisan fashion, the Senate gave its support to the treaty without opposition. The Convention entered into force in March 1994.

Let me briefly review the commitments that the United States undertook in becoming a Party to the Convention. The ultimate objective of the UNFCCC is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous, human interference with the climate system. To this end, the UNFCCC established implementation and technical bodies, set forth binding commitments for all Parties, and called for periodic review and updating of obligations. All Parties, including developing countries, are obligated, among other things, to:

- Prepare national inventories of greenhouse gas (GHG) sources and sinks;
- Formulate and implement national programs containing measures to mitigate climate change;
- Report information related to the implementation of obligations; and
- Promote and cooperate in education, training and public awareness related to climate change.

Furthermore, Parties listed in Annex I, including the United States, agreed to:

- A continuing obligation to adopt policies and measures and take corresponding measures to address climate change through both limitation of emissions and enhancement of sinks;
- Enhanced reporting obligations; and
- A non-binding "aim" of returning their net GHG emissions to 1990 levels by the year 2000.

U.S. Fulfillment of its UNFCCC Obligations and Aim: Climate Change Action Plan and October 1997 Initiative

All of our existing and proposed domestic climate change initiatives further the fulfillment of U.S. obligations under the Climate Convention to adopt policies and take corresponding measures to limit greenhouse gas emissions. These are in no way an attempt to implement the Kyoto Protocol before it is ratified. Rather, these actions are consistent with our existing treaty obligations. The United States is, thus, taking steps to implement existing commitments while it continues to complete work on the Protocol. Because the United States is the biggest emitter in the world, the level of our commitment to address climate change sends a clear signal to all nations. To the extent that the United States can demonstrate continued leadership through serious domestic action, the U.S. position is strengthened in the international negotiations. Without such dedication, it would be difficult to sustain U.S. leadership on the climate change issue.

Climate Change Action Plan

The Climate Change Action Plan (the Action Plan), announced by President Clinton and Vice President Gore in October 1993, is designed to promote environmentally sound economic growth in the United States into the next century – and help mitigate the threat of climate change. The Action Plan is also designed to generate sustainable emission reductions that increase over time, providing larger benefits in later years.

The Action Plan consists of over 40 programs that combine efforts of the public sector (federal, State, and local governments) and the private sector through a number of different approaches. These programs reduce emissions while stimulating greater energy efficiency, and commercializing renewable energy technologies. Through the Action Plan programs, the United States is:

- **Preserving the Environment** – The Action Plan comprehensively addresses all major greenhouse gases in all sectors of the economy. It provides additional environmental co-benefits, including preventing ozone and particulate air pollution and reducing solid and hazardous wastes.

- **Contributing to Economic Growth** -- The Action Plan contributes to improving productivity and economic growth, and generates employment opportunities by promoting the use of advanced technologies and eliminating unnecessary energy expenditures.
- **Building Partnerships** -- The Action Plan relies largely on successful voluntary approaches to engage U.S. businesses in achieving greenhouse gas reductions.
- **Involving the Public** -- Federal agencies solicited outside views when developing the Action Plan and this evaluation -- and the public contributes continually to the development and improvement of Action Plan programs.
- **Encouraging International Emission Reductions** -- Recognizing the significant potential for cost-effective emission reductions in other countries, the Action Plan established the U.S. Initiative for Joint Implementation and the U.S. Country Studies Program. Many of the Action Plan programs are assisting other countries in achieving cost-effective emission reductions.

Many Action Plan programs have been highly successful. The Action Plan has over 5,000 organizations participating from around the country. As recognized in the Action Plan, it will take most of the programs three to five years to begin to achieve substantial carbon reduction benefits based on the strong foundations and partnerships that have been built. Here are some of its many successes:

- Thousands of efficient ENERGY STAR-labeled products are widely available;
- Over 2,300 partners in the ENERGY STAR Buildings and Green Lights programs have invested over \$1 billion in energy-efficient improvements, saving over \$250 million on their energy bills in 1996 alone.
- Rebuild America is reducing the \$6.5 billion energy bill at colleges and universities across the country.
- USDA programs have led to the planting of trees on 54,000 hectares of land.
- In 1996, partners in EPA's Natural Gas STAR program reduced methane leakage from natural gas pipelines by over 1.0 million metric tons of carbon equivalent.

October 1997 Initiative

In October 1997, well before Kyoto, President Clinton outlined an environmentally and economically sound plan for reducing U.S. greenhouse gas emissions, which is fully consistent with U.S. obligations under the UNFCCC and designed to meet the voluntary "aim" and other ongoing commitments. The plan encompasses ground-breaking initiatives designed to cut emissions by increasing energy efficiency; developing and encouraging diffusion of new, cleaner energy technologies; working with industry and others to promote sensible solutions to the climate change problem; and employing market-based mechanisms to ensure cost-effective reductions. By promoting technology

development and diffusion now, we will be increasing our competitiveness and we will be making a down payment that can help us avoid potentially costly actions in the future. Specifically, the President's plan includes the Climate Change Technology Initiative – an ambitious program of tax cuts and funding for research and development aimed at improving energy efficiency and spurring the use of renewable energy sources. Included in the President's FY 1999 Budget, the package amounts to \$6.3 billion over five years, \$3.6 billion in tax cuts and \$2.7 billion in new investment. Electricity restructuring and efforts to improve energy use and procurement practices by the Federal government will also help reduce emissions. On a longer time horizon, a domestic emissions trading system will be developed and in place by 2008.

An important component involves building partnerships with key energy-intensive industries to develop sector-by-sector initiatives to cut emissions. These partnerships will identify opportunities for working together to remove barriers to the development and widespread use of energy efficient technologies and practices. One example is the Partnership for Advancing Technology in Housing (PATH) which will also play an important role in achieving the goals of the President's plan. As part of its consultations, the Administration will discuss ways to ensure credit for businesses that act early. High level Administration officials have already met with CEOs from the steel, aluminum, cement, publicly owned and investor-owned electric utilities, forest products and gas pipelines industries.

Expectations for Buenos Aires

In the context of six years since the Framework Convention on Climate Change was opened for signature and the recently negotiated Kyoto Protocol, the fourth meeting of the Conference of the Parties to the UNFCCC (COP-4) provides an opportunity to continue momentum on both of these historic agreements. Breakthrough accomplishments and headline-making events, however, are not likely, given the early stage of international understanding of how the flexibility mechanisms in the Protocol can work. We are focused on achieving "maximum progress" as we seek to advance the ultimate objective of the Convention and to elaborate upon the unfinished business of Kyoto.

We believe all countries, both developed and developing, should reiterate the need for concerted, cooperative action to address this global problem. We intend to renew our commitment to taking actions in the context of the Framework Convention, which recognizes the need for a global effort. And, we hope others will do the same.

The problem of climate change emerged over decades and solving it is a "marathon" not a "sprint." We view COP-4 as a stepping stone to future efforts on climate change, and as such, it must yield incremental, but credible progress.

Flexibility Mechanisms

Our assessment three weeks before the international community convenes in Buenos Aires is that there is a solid basis for making progress on elaborating the Kyoto Protocol's flexibility mechanisms – emissions trading, joint implementation, and the Clean Development Mechanism (CDM). Securing agreement on rules and guidelines is essential to protect U.S. interests and achieve the objectives of Kyoto. The U.S. was able to agree to the Protocol, in large part, because these mechanisms were included. Moving “the ball forward” at Buenos Aires on verification, measurement and reporting rules and guidelines would be a welcome development. Our goal is to engage in frank discussions on the areas of shared interest, to develop a consensus on next steps, and to avoid unproductive arguments on issues that cannot be resolved at COP-4.

Essentially, there is agreement on the need to strike a balance between ensuring the integrity of the international emissions trading system through strong rules, and maximizing its ability to generate emissions reductions worldwide by making it simple, credible and transparent. Trading is a complex issue and countries have different views on precisely how it should work. We are working with other nations to improve decision makers' understanding of the mechanics as well as their comprehension of our positions. Above all, we need to ensure that emissions trading, as well as the other flexibility mechanisms, are cost-effective and environmentally sound. Progress on this front with the European Union at the recent informal Ministerial in Tokyo seems to have reduced the likelihood that this issue of the flexibility mechanisms will be divisive at COP-4.

The Clean Development Mechanism, or CDM, shows real promise as a bridge between the developed and developing countries in their efforts to address the global problem of climate change. As with the other mechanisms, familiarity with the fundamentals of the CDM is moving us closer to agreement on next steps. More Parties accept that the projects to be covered by the CDM can create emissions reductions that translate into global environmental benefits, ensuring that investments in developing countries further sustainable development, while helping developed countries meet their Kyoto goals, cost-effectively, through applying project-generated credits against their targets.

One positive outcome of COP-4 would be a work plan and timetable for further elaboration of the rules, modalities and guidelines for all of the flexibility mechanisms. Such a plan would signal that we are moving forward, and that we understand the need for greater certainty among our public and private sectors about how the Kyoto mechanisms and processes will work. We have been engaging in efforts to seek input from financial experts and U.S. industry on aspects of emissions trading and other market mechanisms to inform our policy formation on such issues as allocation of risk and institutional structures, and we will continue to do so as these issues will need further refinement after Buenos Aires.

COP-4 offers an opportunity to share perspectives on how to proceed and build consensus on concrete steps that can be taken to reduce the growth in greenhouse gas

emissions without jeopardizing economic growth. We plan to share experiences gained through the "Activities Implemented Jointly" pilot phase, as well as highlight successful domestic policies and measures that may have lessons for others.

Engaging Developing Countries

We continue to make clear, at every opportunity, that developing countries must be part of the solution to the climate change problem. Meaningful participation by key developing countries is essential. In evaluating what constitutes this level of participation, it is important to keep in mind the substantial differences that exist among developing countries in terms of their emissions profiles, levels of development, capacity for effective action, and economic and political conditions. We have not established a fixed standard or set of criteria. Instead, we want to convey that key developing countries must commit to serious steps to limit their greenhouse gas emissions and help in the international effort to control global warming. This could effectively be accomplished through developing countries' taking on their own emissions targets, consistent with economic growth, which would enable them to participate in international emissions trading. At the same time, we do not believe that it makes good sense to rule out other potential ideas for accomplishing the desired result, namely that key developing countries take serious steps to limit their emissions. We also believe that active participation in the Clean Development Mechanism could be a factor in determining meaningful participation.

At COP-4, we anticipate that the issue of developing country participation will be extensively discussed. COP-4 will provide an opportunity to advance the ongoing dialogue on the need for greater developing country involvement and the meaningful participation of key nations. We also expect important discussions on the Clean Development Mechanism, as noted earlier, and on ways that non-Annex I Parties can more fully achieve their existing Climate Convention commitments.

Technical Issues

Meeting only once a year, the COP must take up a number of technical issues that often do not receive as much attention as the others I have mentioned. An example of this is land use change and forestry, more commonly referred to as "sinks." Because of the linkages to the Kyoto Protocol, the COP will seek to continue to increase understanding of the concepts found in Article 3, including those recently addressed at a joint workshop sponsored by the Intergovernmental Panel on Climate Change (IPCC) and the Subsidiary Body for Scientific and Technological Advice (SBSTA) under the Convention – afforestation, reforestation and deforestation. The outcomes of the workshop – an outline for an IPCC Special Report on land use change and forestry and suggestions for authors – were forwarded to the full IPCC Plenary which met a few days ago in Vienna and agreed on a final outline for this Special Report that should be available in early 2000. A second workshop will be held in the United States early next year to consider the additional categories of sinks in Article 3.4 of the Protocol.

A second important "technical" issue is that of reporting obligations under the UNFCCC. The Parties will consider how Annex I Parties are to begin preparing for the submission of their third national communications by addressing timing and guideline questions. Because these reports will contain emissions inventory data as well as description of policies and measures, they will be critical indicators of progress in the post-2000 period. The Parties will also agree upon the process for considering the first communications from non-Annex I Parties. Such a process will enable all Parties to determine how these Parties are fulfilling their Convention obligations, to what extent they are taking measures to mitigate climate change, and what further assistance they may need.

Bilateral and Multilateral Activities: Advancing U.S. Climate Change Diplomacy

Since Kyoto, the State Department and other U.S. government agencies have been hard at work to further U.S. objectives through a "full court" diplomatic press in a variety of multilateral and bilateral discussions. At the highest levels, President Clinton and Vice President Gore have raised climate change in their meetings with the leaders of China, Korea, and other countries in Europe, Latin America and Africa. Secretary Albright has also taken advantage of every opportunity in many of these and other countries to urge other nations to support our positions on the flexibility mechanisms and securing meaningful participation by key developing countries.

Under Secretary of State Stuart E. Eizenstat led our delegation to an informal Ministerial on Climate Change held in Tokyo on September 17-18. Among the approximately twenty countries invited to attend, there was a strong spirit of cooperation and shared commitment to continue the progress on climate change begun in Kyoto last December. The Ministerial focused on the critical COP-4 issues that I have outlined, especially emissions trading. One week later, I led the U.S. delegation to a ministerial on the Clean Development Mechanism, co-hosted by the Canadian, Brazilian and Argentine governments. The meeting sought to inform ministers and other high-level officials on technical issues of the CDM and its potential to facilitate the transfer of technology and investment opportunities in developing countries. I believe it also enhanced the cooperative spirit between developed and developing countries on this important flexibility mechanism. Both meetings, and others, provided excellent occasions to have bilateral discussions with a number of delegations including those from Argentina, Brazil, China, and Samoa.

Most recently, I was in London last Friday meeting with my G-8 counterparts to discuss our respective views on the flexibility mechanisms, developing country participation, and other issues that will arise in Buenos Aires. A great deal of effort centered on convincing our European partners of the necessity of an unfettered emissions trading system, built on a foundation of credible reporting, measurement and verification. We are awaiting developments in Luxembourg this week as the EU Environment Ministers formulate positions for COP-4.

Within the last month, I have also traveled to China, Korea, Japan and Canada to advance our climate change goals. In early September, I led an interagency delegation to China, in fulfillment of an agreement reached at the Clinton-Jiang Presidential Summit. We had very productive discussions with a number of ministries to identify areas of cooperation between our nations. We were encouraged by the positive atmosphere of the talks and their usefulness in sharing views and perspectives. In Seoul, we met with Korean government officials and explored how to advance full acceptance of the flexibility mechanisms and offered technical bilateral cooperation on energy efficiency and conservation, assessment of reduced reliance on fossil fuels, and other related environmental issues, including the identification and evaluation of ancillary health benefits. In virtually every instance, we have explored how developing countries could assume commitments consistent with their economic and environmental objectives, particularly in light of the flexibility mechanisms.

In addition to these extremely useful sessions, the "Umbrella" group (a group of countries with common views on many of the flexibility mechanisms, and including the U.S., Japan, Canada, Australia, New Zealand, Norway, Iceland, the Russian Federation, and Ukraine) held meetings in Wellington, New Zealand, September 7-8. Participants from eight of the nine Umbrella partners (Ukraine was not able to attend) met to discuss issues related to emissions trading including allocation of risk in transactions and institutional structures. In addition to agreement to continue our close, collaborative efforts, the Umbrella group reached consensus on responses to questions on the flexibility mechanisms posed by the developing countries at the June meetings of the UNFCCC Subsidiary Bodies. Ukraine's concurrence to the responses was gained through off-line conversations at the meeting of the OECD/IEA Annex I Experts Group in Paris, which immediately followed the Umbrella session. At that meeting, we had an opportunity to discuss international emissions trading at some length. We understand that papers informed by the discussion at the Paris meeting are being prepared by the OECD for COP-4. With regard to Ukraine, a State Department-led delegation is meeting with officials in Kiev this week to enhance their understanding of emissions trading through a workshop and to conduct general climate change bilaterals.

Next Steps: Three Weeks to COP-4

In the coming weeks, the Administration, the Department and other agencies will be fine-tuning our negotiating position for Buenos Aires and working to build alliances with partners on the whole suite of issues. We intend to utilize every opportunity to convey our position and seek support for our views on the flexibility mechanisms, developing countries, and the technical issues. We look forward to your participation in the Buenos Aires meeting, and to working with you as we seek to address this critical problem.

Mr. Chairman, Members of the Subcommittee, thank you for your attention. I would be pleased to respond to any questions that you might have.