

**MIT Joint Program on the
Science and Policy of Global Change**



**A Game of Climate Chicken: Can EPA
Regulate Greenhouse Gases Before the
U.S. Senate Ratifies the Kyoto Protocol?**

Véronique Bugnion and David M. Reiner

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The MIT Joint Program on the Science and Policy of Global Change is an organization for research, independent policy analysis, and public education in global environmental change. It seeks to provide leadership in understanding scientific, economic, and ecological aspects of this difficult issue, and combining them into policy assessments that serve the needs of ongoing national and international discussions. To this end, the Program brings together an interdisciplinary group from two established research centers at MIT: the Center for Global Change Science (CGCS) and the Center for Energy and Environmental Policy Research (CEEPR). These two centers bridge many key areas of the needed intellectual work, and additional essential areas are covered by other MIT departments, by collaboration with the Ecosystems Center of the Marine Biology Laboratory (MBL) at Woods Hole, and by short- and long-term visitors to the Program. The Program involves sponsorship and active participation by industry, government, and non-profit organizations.

To inform processes of policy development and implementation, climate change research needs to focus on improving the prediction of those variables that are most relevant to economic, social, and environmental effects. In turn, the greenhouse gas and atmospheric aerosol assumptions underlying climate analysis need to be related to the economic, technological, and political forces that drive emissions, and to the results of international agreements and mitigation. Further, assessments of possible societal and ecosystem impacts, and analysis of mitigation strategies, need to be based on realistic evaluation of the uncertainties of climate science.

This report is one of a series intended to communicate research results and improve public understanding of climate issues, thereby contributing to informed debate about the climate issue, the uncertainties, and the economic and social implications of policy alternatives. Titles in the Report Series to date are listed on the inside back cover.

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A Game of Climate Chicken: Can EPA Regulate Greenhouse Gases Before the U.S. Senate Ratifies the Kyoto Protocol?

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Abstract[†]

EPA's legal authority to regulate greenhouse gas emissions under the Clean Air Act is reviewed. While EPA clearly does not have the authority to implement the precise terms of the Kyoto Protocol, arguments could be put forward to support the Agency's claim that it has the authority to control such pollutants. However, the Clean Air Act's legislative history, a textual analysis of the Act, judicial precedents and political considerations all provide compelling arguments for the EPA to seek additional legislation before attempting to regulate greenhouse gases. Even a generous interpretation of existing provisions would prohibit trading in greenhouse gas emissions permits and therefore contradicts the Administration's own preferred approach to addressing climate change which favors employing market mechanisms to help reduce the costs of carrying out reductions. Moreover, the participation of developing countries in an emissions control regime, which has been stipulated by the Senate and endorsed by the Administration, would also remain unaffected since the Clean Air Act is only designed to address local and regional pollution. Concerns over backdoor implementation of the Kyoto Protocol and EPA's attempts to regulate emissions help explain the political attacks on the agency's efforts to pursue research, education, and non-regulatory solutions to the climate change problem.

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I. SETTING THE POLITICAL STAGE

Opponents of curbs on U.S. greenhouse gas emissions have expressed alarm that the Clinton Administration is attempting to devise domestic regulations and/or meet its international commitments without seeking new legislation or ratification of the recent Kyoto Protocol by the Senate.¹ Can the U.S. Environmental Protection Agency use its existing authority under the Clean Air Act to regulate pollutants that are widely believed to lead to climate change? Although the legal basis is tenuous, advocates of an aggressive position within the Administration have not disavowed the use of existing provisions of the Clean Air Act to control carbon dioxide (CO₂) and other greenhouse gases.² Even contemplating (or refusing to disavow) such a path has provoked outrage from political opponents. Pushing the limits of EPA's authority on the climate issue prompt a number of legal, political, economic and scientific questions. Moreover, even a generous interpretation of the legality of such actions would not seem to change the perception that such a course would be politically imprudent if not unwise. A number of positive steps could be taken in the near-term to reduce the long-term danger from possible anthropogenic climate change, yet all manner of stepwise beneficial action has been threatened *both* by those who wish that no action be taken and those who are not satisfied with more deliberate, incremental improvements. Administration threats to regulate absent clear legislative authority provides opponents of any action with a legitimate excuse to oppose at every turn any program that relates to climate change mitigation activities. Thus far, a shaky stalemate has emerged, but whether such a state of affairs is tenable, even over the next few years, is a matter of some debate. Two key questions arise in attempting to understand the debate: What is the legal basis for regulating greenhouse gases under the Clean Air Act, and a second, more speculative question, why has the Administration pursued such a course?

Before engaging the question of domestic law and politics, the scene must be set by reviewing the ongoing series of United-Nations-sponsored negotiations to mitigate potential human-induced climate change. At the Third Conference of the Parties (COP-3) to the United Nations Framework Convention on Climate Change (FCCC) held at Kyoto in December, 1997, nations agreed to reduce their emissions of carbon dioxide and other greenhouse gases by 5.2 percent on average below 1990 levels by 2008-2012.³ In particular, the United States agreed to a 7% reduction, while the European Union agreed to an 8 % reduction, and Japan a 6 % reduction.⁴ If the Protocol is ratified, these nations will be committed to legally-binding restrictions which would be carried out *via* domestic regulations along with provisions for international cooperation set out in the Kyoto

¹ *Infra* notes 20, 22, 26-30, 36, 176-177 and accompanying text.

² Methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆). The Framework Convention on Climate Change [hereinafter Framework Convention] originally listed only three gases—carbon dioxide, methane and nitrous oxide. 31 ILM 849. The three new gases were added at the time of the Kyoto Protocol to the United Nations Framework Convention on Climate Change [hereinafter Kyoto Protocol] Annex A, 37 ILM 41.

³ Kyoto Protocol, Article 3.1, 37 ILM 849.

⁴ *Id.*, Annex B, 37 ILM 42. Other nations agreeing to restrictions on their emissions by 2008–12 relative to 1990 include: Iceland +10%; Australia +8 %, Norway +1 %; New Zealand, Russia, Ukraine 0 %; Croatia –5 %; Poland, Canada –6 %; other nations of Eastern and Central Europe –8%.

Protocol.⁵

The road to ratification in the United States will be difficult and few are optimistic about success.⁶ Prior to COP-3, the United States Senate unanimously passed the Byrd-Hagel Resolution, S.Res. 98, expressing the sense of the Senate that:

The United States should not be a signatory to any protocol [...] which would— (A) mandate new commitments to limit or reduce greenhouse gas emissions for the Annex I Parties, unless the protocol or other agreement also mandates new specific scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties within the same compliance period, or (B) would result in serious harm to the economy of the United States.⁷

Although the Byrd-Hagel resolution was not binding nor is there agreement as to what different Senators would deem to be sufficient commitments on the part of developing countries or what constitutes “serious harm to the economy,” the resolution nevertheless reflects broad bipartisan agreement on the need for developing country commitments and keeping costs as low as possible by using economic instruments.⁸ A ratification vote, if it occurs, is unlikely until after the 2000 election, and in all likelihood, substantially thereafter.⁹

To this end, the United States has been aggressive since the beginning of the so-called Berlin Mandate negotiations, which led to the Kyoto Protocol, in arguing for new forms of commitment from developing countries and the inclusion of economic instruments, especially emissions trading.¹⁰ At Kyoto, the United States, its allies in the developed world and the Chairman of the negotiations succeeded in including emissions trading in the protocol over strong developing country opposition and tepid support from the European Union.¹¹ They failed, however, to convince developing countries to accept any binding commitment of their own.¹²

⁵ Kyoto Protocol, Articles 4, 6, 12, and 17, 37 ILM 34, 35, 38, 40. At COP-4 in Buenos Aires in November 1998, nations agreed to finalize the details of these provisions by COP-6 which is to be held in late 2000.

⁶ See for example, Peter Baker and Helen Dewar, *Long Road Ahead for Global Warming Pact*, WASHINGTON POST, Dec. 12, 1997 at A1; Bruce Clark, *Senate Rejection of Pact Predicted*, FINANCIAL TIMES, Dec. 11, 1997 at 6; James Gerstenzang, *Frosty Reception Awaits Global Warming Accord*, LOS ANGELES TIMES, Dec. 12, 1997 at A1 (White House launches energetic sales job to persuade a hostile U.S. Senate to ratify pact); *Global Warming Treaty Ratification Faces “Tough Haul” in Congress*, INSIDE EPA’S CLEAN AIR REP., Dec. 25, 1997, at 9. More recently, see David Mastio, *Battle Looms as U.S. Signs Warming Pact*, DETROIT NEWS, Nov. 15, 1998 at D1.

⁷ S.Res. 98, 105th Cong., 1st Sess. adopted at 143 Cong. Rec. 5 8138 (Daily ed. July 25, 1997).

⁸ Even ardent supporters of taking action to address the climate issue, such as Senators John Kerry of Massachusetts and Joseph Lieberman of Connecticut, do not believe that it is possible to submit the treaty for ratification without this condition being met. See, Bonner R. Cohen, *Battle over Kyoto Protocol Already Under Way*, EARTH TIMES, December 13, 1997.

⁹ John H. Cushman, Jr., *Big Problem, Big Problems: Getting to Work on Global Warming*, NEW YORK TIMES, December 8, 1998 at G4.

¹⁰ John J. Fialka, *Developing Nations Urged To Play Role In An Effort to Control Climate Changes*, WALL STREET JOURNAL, January 20, 1997 at B2.

¹¹ John J. Fialka, *Global-Warming Pact Is Threatened By Dispute Over Emissions Trading*, WALL STREET JOURNAL, December 10, 1997 at A4.

¹² The Framework Convention on Climate Change differentiates between developed nations that are listed in Annex I to the Convention and the so-called non-Annex I (or developing) nations. Annex I includes the OECD as of 1992, the nations of Eastern and Central Europe, and the European states of the Former Soviet Union. 31 ILM 849, 872. Article 4.1 of the Convention commits Non-Annex I nations “taking into account their common but

Further, the Administration has been engaged in extensive activities to recruit developing countries to assume binding obligations.¹³ Indeed, Undersecretary of State for Economic, Business, and Agricultural Affairs Stuart Eizenstat, who led the U.S. delegation at COP-3, was unequivocal in his insistence upon developing country participation when testifying before the Foreign Relations subcommittee chaired by Sen. Chuck Hagel of Nebraska.¹⁴

As the President has indicated, the United States should not assume binding obligations under the Protocol until key developing countries meaningfully participate in meeting the challenge of climate change. And more progress is clearly necessary. It obviously would be premature to submit something to the Senate when the Senate itself has asked for this kind of participation and we have not yet achieved it. This is the great obligation we have to assume over the coming months and, if necessary, years.¹⁵

It should be noted that the Administration's position on the intent of Byrd-Hagel already indicates the first point of disagreement with the Senate. The Administration began lobbying for commitments from developing countries in the wake of COP-3, nevertheless, it pledged unconditionally to sign the agreement during the one-year period the protocol was open for signature.¹⁶ By contrast, the Senate Resolution explicitly asks that the treaty not be *signed* unless the condition on developing country participation is met.¹⁷ When the U.S. did sign the Protocol on November 12, 1998, during COP-4 held in Buenos Aires,¹⁸ Senators opposed to the treaty immediately called for a quick vote on ratification.¹⁹ Nevertheless, the Administration has been

differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances" only to submit inventories of national emissions, and to engage in a number of cooperative efforts. 31 ILM 849, 855. Whereas in the Kyoto Protocol Annex B nations, which are essentially the same as those listed in Annex I to the Framework Convention, agreed to assume legally binding obligations to reduce their emissions, Article 10 of the Kyoto Protocol asserts that the obligations of non-Annex I nations are identical to those agreed to in the Framework Convention (reaffirming existing commitments under Article 4, paragraph 1, of the Convention, and continuing to advance the implementation of these commitments). The only form of (voluntary) participation in mitigation measures specified in the Kyoto Protocol is *via* a Clean Development Mechanism (or CDM) enshrined in Article 12 of the Protocol that allows Annex I investors to carry out projects in non-Annex I nations and receive credit against their overall national obligation. 37 ILM 22. 54-56.

¹³ See for example, Reuters, "US, Uruguay Presidents Discuss Trade, Climate" Washington, D.C., July 23, 1998; and The White House, Office Of The Press Secretary, "Press Briefing by National Security Advisor Sandy Berger, *et al.*," Hyatt Hotel, Santiago, Chile, April 16, 1998. As of February, 1999, Argentina and Kazakhstan were the only developing countries that had agreed to assume some sort of new commitment.

¹⁴ This commitment has been expressed repeatedly by top officials in the Clinton Administration, for example, immediately after the Kyoto conference, Vice President Gore asserted that: "we will not—let me repeat—we will not submit it to ratification, as we've said from the very beginning, until we have that participation from key developing countries." Office of the Vice President, Washington, D.C., December 12, 1997.

¹⁵ Stuart Eizenstat, Testimony before the Senate Foreign Relations Committee, "The Implications of the Kyoto Protocol," S. HRG. 105-457, February 11, 1998, at 10 [hereinafter Eizenstat Testimony].

¹⁶ See, for example, Stuart E. Eizenstat, Letters to the Editor: Global Warming Pact: Let's Clear the Air, WALL STREET JOURNAL, March 5, 1998 at A23; Cheryl Hogue, *Administration Plans to Sign Kyoto Deal, Will Hold Off Seeking Senate Ratification*, DAILY ENV'T REP. (BNA), February 12, 1998 at AA-1.

¹⁷ S. Res. 98, *supra* note 7.

¹⁸ John Herzfeld, *United States Signs Kyoto Protocol; White House Lauds Pledge by Argentina*, 28 ENV'T REP. (BNA) 1373 (Nov. 13, 1998).

¹⁹ Statement by U.S. Senator Chuck Hagel on President Clinton Signing the Kyoto Protocol, 12 November, 1998. See also Angela Antonelli and Brett D. Schaefer, *Why the Kyoto Signing Signals Disregard for Congress*, HERITAGE FOUNDATION EXECUTIVE MEMORANDUM, 23 November, 1998.

clear about its unwillingness to do so. Other opponents have tied demands to submit the Protocol for submission (and hence defeat) to other Administration priorities such as ratifying the Comprehensive Test Ban Treaty (CTBT).²⁰ Faced with overwhelming opposition to the protocol from the Republican majority and lukewarm support from the Democratic minority in the 105th (and 106th) Congress, seeking to fulfill the conditions of S.Res. 98 actually provided the Administration with a plausible rationale to delay submitting the Protocol to the Senate for ratification. In the intervening period between the signing of the Protocol and its submission to the Senate for ratification, any actions taken by the Administration, whether real or hypothetical, that are seen as implementing the Kyoto Protocol have become the source of considerable controversy. To allay these concerns, Eizenstat continued his testimony by insisting that: “We have no intention, by executive fiat, of going around the Senate’s constitutional prerogatives—absolutely none.”²¹

At the time of Eizenstat’s testimony in February 1998, the concern over “backdoor” implementation of the Kyoto Protocol was already simmering because of the seeming contradiction between the Byrd-Hagel resolution and the agreement negotiated at Kyoto.²² Controversy was heightened by reports of internal proposals within the U.S. Environmental Protection Agency (EPA) to regulate greenhouse gases either as part of an electricity industry restructuring bill or *via* a regulatory finding under the Clean Air Act (“the Act”).²³ Sen. James Jeffords (R-VT) did submit an electricity restructuring bill that included a national “cap-and-trade” program for carbon dioxide,²⁴ however, the Administration ultimately chose not to include any limits on carbon dioxide in its own version of an electricity restructuring bill.²⁵ Absent the possibility of using electricity deregulation as a vehicle for regulating greenhouse gases, media and legislative attention focused on the possibility of using one or more provisions of the Act to regulate greenhouse gas emissions. For example, a series of five hearings organized by Rep. David McIntosh (R-IN) between April and July, 1998,

²⁰ Thomas W. Lippman, *Seeking Liberation of Treaties in Limbo: Sen. Helms Wants Bipartisan Deal to Ratify or Shelve Accords that Date to 1949*, WASHINGTON POST, February 15, 1999 at A27 (committee will not consider major treaties such as the Comprehensive Test Ban Treaty until the President has submitted [amendments to] the Anti-Ballistic Missile Treaty and the Kyoto Protocol). *See also*, Greg McDonald, *DeLay Suggests a Trade on Fast Track: He Wants New Global Warming Policy*, HOUSTON CHRONICLE, January 28, 1998 at C1.

²¹ Eizenstat Testimony at 10.

²² For a review of Congressional attempts to prevent “backdoor” implementation *see* Wayne A. Morrissey, *Global Climate Change: Congressional Concern About “Back Door” Implementation of the 1997 U.N. Kyoto Protocol*, Congressional Research Service, Report 98-664, Updated February 3, 1999.

²³ *EPA Not Waiting For Senate to OK Warming Treaty*, THE WASHINGTON TIMES, March 7, 1998, p. A1, A14. *See also* William H. Lash, III, *Kyoto Climate Treaty Advocates Act to Circumvent Senate Approval*, 9 WASHINGTON LEGAL FOUNDATION LEGAL OPINION LETTER, no. 9, April 2, 1999. (In a radical power grab in furtherance of Kyoto, the EPA has already testified that it has preexisting authority to regulate CO₂ as a hazardous air pollutant, the same way it regulates sulfur dioxide, nitrogen oxide, and mercury under the Clean Air Act) n.b. sulfur dioxide and nitrogen oxide are *not* regulated as hazardous air pollutants, but rather as criteria pollutants under § 109.

²⁴ S. 687, The Electric System Public Benefits Protection Act of 1997, 105th Cong. 1st Sess., CR Pages S3909-3912. Jeffords’ bill was designed to bring the industry back to the 1990 standard, which would have required a 13 percent reduction 2005 and double that by 2015, CR Page S3907.

²⁵ Martha M. Hamilton, *Clinton to Offer Plan To Deregulate Power; Electricity Proposal Steers Middle Ground*, WASHINGTON POST, March 25, 1998 at C11.

entitled: “The Kyoto Protocol: Is the Clinton-Gore Administration Selling Out Americans?”²⁶ attempted to provide further evidence and engaged in extensive speculation regarding EPA’s plans to somehow implement the Protocol in advance of Senate ratification.²⁷

While averring any intent to sidestep the ratification process or begin implementation of the Kyoto Protocol without Congressional approval, when EPA Administrator Carol Browner was asked if EPA had the authority to regulate carbon dioxide, she asserted that: “broad authority is granted to EPA to control such pollutants.”²⁸ The Administrator repeatedly refused the opportunity to unequivocally state a willingness to refrain from using the Clean Air Act.²⁹ To support this position, EPA’s Office of General Counsel produced a memorandum that outlines the legal basis for that authority.³⁰

Not surprisingly, industries threatened by the possibility of such regulation quickly responded with their own analysis of EPA’s authority.³¹ As noted in the preface to a National Mining Association legal brief on the subject: “[t]he sweeping claims of regulatory power over such a pervasive, yet benign, substance as CO₂ presents the prospect of unparalleled bureaucratic, legal and economic burdens imposed on the entire heart of the American economy.”³² Even the former Principal

²⁶ Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs, Government Reform and Oversight Committee, U.S. House of Representatives, Press Release, “McIntosh to Monitor Clinton Regulatory ‘End-Run’ on Kyoto,” March 2, 1998. An additional hearing by McIntosh’s subcommittee in the 105th Congress on October 9, 1998 was entitled “Will the Administration Implement the Kyoto Protocol Through the Back Door?” A subcommittee staff report detailing the nine worst Clinton Administration regulations singled out the Kyoto Protocol as deserving to be on the list “perhaps more than the other eight combined.” The report, in somewhat inflammatory language, assails the Administration position on costs, science, sovereignty, and especially for its attempts to assert its regulatory authority. (“In short, the treaty will be a massive Tax on the American Dream levied by Clinton-Gore bureaucrats doing the bidding of environmental demagogues and foreign diplomats. Although the Treaty has not yet been ratified by the Senate, as required by the Constitution, the Administration has already jumped the gun on Congress through a regulatory back door approach using regulation to implement a treaty that has not been ratified, for the sake of a theory that has not been proven”) (emphasis in original) Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs, THE NOXIOUS NINE: THE WORST CLINTON REGULATIONS OF 1997, Subcommittee Staff Report, Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs, Government Reform and Oversight Committee, U.S. House of Representatives, April 1998. <<http://www.house.gov/reform/neg/press/Noxious9.html>>

²⁷ For example, one State Senator from Rhode Island testified that EPA and “other agencies have begun a concerted effort to exert pressure on state environment agencies to implement programs designed to meet Kyoto emission reduction goals.” Remarks of State Senator William Walaska before the Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs, Government Reform and Oversight Committee, Apr. 23, 1998.

²⁸ House Appropriations Committee, “Departments of Veterans Affairs and Housing and Urban Development and Independent Agencies Appropriations for 1999 - Part 7 - Environmental Protection Agency,” (1998) at 200 [hereinafter HOUSE APPROPRIATIONS COMMITTEE].

²⁹ The exchange between Rep. Tom DeLay (R-TX) and EPA Administrator Carol Browner can be found at HOUSE APPROPRIATIONS COMMITTEE at 196-200, 207-211.

³⁰ Memorandum from Jonathan Z. Cannon, General Counsel, to Carol M. Browner, Administrator, “EPA’s Authority to Regulate Pollutants Emitted by Electric Power Generation,” April 10, 1998, can be found in HOUSE APPROPRIATIONS COMMITTEE at 201-206.

³¹ *NMA Contends EPA has no Legal Power to Regulate Carbon Dioxide*, COAL WEEK, December 3, 1998, at 8.

³² Frederick D. Palmer, Chairman, Legal Affairs Committee, Preface to “CO₂: A Pollutant? The Legal Affairs Committee Report to the National Mining Association Board of Directors.” October 12, 1998. [hereinafter NMA Brief] <<http://www.greeningearthsociety.org/pollutant.htm>>

Deputy General Counsel felt compelled to weigh in to assert that EPA had no such authority.³³

In assessing the ability of EPA to regulate greenhouse gases several largely factual questions need to be explored to establish the legal basis for action:

- (1) can the Administration implement the Kyoto Protocol without Senate ratification?
- (2) does EPA currently have the authority under any specific provisions of the Clean Air Act to regulate greenhouse gases at *any* level?
- (3) what instruments would be available to carry out such regulations?
- (4) what actions can EPA take without additional legislation or promulgating new regulations?

There are important differences between these questions although they are not wholly separable. *Any* successful voluntary (or regulatory) program to reduce greenhouse gases will move the United States in the direction of meeting its yet-to-be-ratified Kyoto commitments relative to what emissions would have been in the absence of Kyoto. The Clinton Administration claims, for example, that its Climate Change Action Plan (achieved with Congressional funding) will have reduced greenhouse gas emissions in 2000 by 76 million metric tons of carbon.³⁴ If EPA made a determination that CO₂ should be regulated under the Act, there is no obvious reason why the standard it would set should correspond to anything like the timetable or restriction agreed to at Kyoto which was the product of heated international negotiations and was a compromise between the original positions of the United States, the European Union and Japan.

II. PROVISIONAL IMPLEMENTATION OF THE KYOTO PROTOCOL

While it has been argued that the prospects for ratifying the Kyoto Protocol are particularly poor, most recent attempts to ratify international agreements in the U.S. Senate have proven to be slow and contentious, even for issues that have commanded widespread bipartisan (and popular) support.³⁵ Faced with the possibility of a long delay between signature and ratification and fearing the strong interest in the subject evinced by both President Clinton and, especially, Vice-President Gore, some staunch opponents of government regulation and zealous defenders of American sovereignty in Congress, industry, and the media have voiced alarm. Typical is the claim made in an editorial in the *Investor's Business Daily*: “[President Clinton] doesn't let a little thing like the

³³ Gerald H. Yamada, *EPA Lacks Authority to Regulate Carbon Dioxide Emissions*, LEGAL OPINION LETTER (WASHINGTON LEGAL FOUNDATION), October 30, 1998.

³⁴ Office of Global Change, Bureau of Oceans and International Environmental Scientific Affairs, 1997 SUBMISSION OF THE UNITED STATES OF AMERICA UNDER THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, Department of State Publication 10496, July 1997. By comparison, the U.S. Energy Information Administration projects that the Kyoto Protocol would entail an estimated reduction of 582 million metric tons below reference emissions by 2010. The effects of continuing existing voluntary programs are included in the reference case, so the estimated reduction would be above and beyond any reduction in emissions attributable to voluntary programs. Energy Information Administration, U.S. Department of Energy, INTERNATIONAL ENERGY OUTLOOK 1999, Report #DOE/EIA-0484(99). <<http://www.eia.doe.gov/oiaf/ieo99/tbl20.html>>

³⁵ For example, the U.S. Senate ratified the Chemical Weapons Convention by a vote of 74-26 after a delay of several years and only then under pressure of a looming deadline. Senate Treaty Doc. 103-21. *See also*, David L. Marcus, *Poison Weapons Accord Passed; Senate Votes After Lott Voices Backing*, BOSTON GLOBE, April 25, 1997 at A1.

Constitution get in the way of his policy goals. He wants to put the Kyoto global warming treaty in place without Senate ratification.”³⁶ Following this logic, opponents fear the President might invoke special powers over energy supply intended for times of emergency. For example, Executive Order 12919³⁷ on national defense and international resource preparedness signed by President Clinton in 1994 or Executive Order 10997³⁸ signed by President Kennedy which allows the Secretary of the Interior to seize energy production facilities in times of emergency could be invoked under this extreme scenario.³⁹ To justify their apprehension that a “Clinton-Gore” Administration would act capriciously in regulating greenhouse gases, these voices often cite the alarmist rhetoric used by Vice President Gore in his book, *Earth in the Balance*.⁴⁰

The legal basis for attempting to explicitly carry out the commitments made at Kyoto would be an weak one. A recent report by David Ackerman of the Congressional Research Service concluded that there was no basis under international law to implement the Kyoto Protocol provisionally, *i.e.*, before the treaty is ratified and comes into force.⁴¹ According to the Vienna Convention on the Law of Treaties a treaty can be applied provisionally if: (a) the treaty itself so provides; or (b) the negotiating States have in some other manner so agreed.⁴²

In the recent past, the U.S. has agreed to the provisional application of a revised deep seabed regime under the UN Convention on the Law of the Sea (UNCLOS),⁴³ several maritime boundaries agreements,⁴⁴ the 1971 International Wheat Agreement,⁴⁵ and, arguably, the SALT II

³⁶ Editorial, *Kyoto Duplicity*, INVESTOR’S BUSINESS DAILY, May 7, 1998 at A32.

³⁷ 59 FR 29525 (June 7, 1994).

³⁸ 27 FR 1522 (February 20, 1962) which was actually revoked by XO 11490, 34 FR 17567 (October 30, 1969), which, in turn, was revoked by XO 12656, 53 FR 47491 (November 23, 1988).

³⁹ Eric Peters, Guest Editorial, *Kyoto by Decree? It Could Happen Here*, INVESTOR’S BUSINESS DAILY, May 5, 1998 at A34. A recent Executive Order issued by President Clinton does call for a cut greenhouse gas emissions from the federal government by 30 percent below 1990 levels by 2010. Executive Order 13123, 64 FR 30851 (June 8, 1999). This attempt led Sen. Cochran to include an amendment in the FY00 Interior Department Appropriations bill to block implementation of this executive order, referring to Clinton’s order as a “not well-disguised effort” to implement portions of the Kyoto Protocol. Alan Fram, *Bills Would Ease Mining Restrictions, Allow Congressional Pay Increase*, ASSOCIATED PRESS (June 24, 1999).

⁴⁰ A commonly cited passage from Gore’s book states that the cumulative impacts of the automobile pose “a mortal threat to the security of every nation that is more deadly than any military enemy we are ever likely again to confront” Al Gore, *EARTH IN THE BALANCE: ECOLOGY AND THE HUMAN SPIRIT* 325 (1992). Environmental groups, by contrast, have faulted Gore for failing to live up to the rhetoric used in his book. See Friends of the Earth, “Friends of the Earth calls on Gore: ‘Read your book Al!’,” Press Release, Kyoto, Japan, December 8, 1997.

⁴¹ David M. Ackerman, *Global Climate Change: Selected Legal Questions About the Kyoto Protocol*, American Law Division. Congressional Research Service, Report 98-349, Washington, D.C., Updated November 24, 1998. <<http://www.cnle.org/nle/clim-15.html>> [Hereinafter Ackerman]

⁴² Vienna Convention on the Law of Treaties, 81 ILM 679 (1969), Article 25. Although the United States has not ratified this Convention it is commonly considered to be customary international law.

⁴³ United Nations, GA Res. 48/263 (July 28, 1994), *see also*, Jonathan I. Charney, *U.S. Provisional Application of the 1994 Deep Seabed Agreement*, 88 AMERICAN JOURNAL OF INTERNATIONAL LAW 705-714 (1994) cited at Ackerman, note 24.

⁴⁴ *e.g.*, U.S.-Mexico and U.S.-Cuba, Exec. F and Exec. G, 96th Cong., 1st Sess. (1979). *See* S. EXEC. REP. 9649 (to accompany Execs. F, 0, and H, 96-1) (1979) cited in Ackerman, notes 18 and 19.

⁴⁵ *See* Congressional Research Service, *TREATIES AND OTHER INTERNATIONAL AGREEMENTS: THE ROLE OF THE UNITED STATES SENATE*, 103d Cong., 1st Sess. (Comm. Print 1993) at 85, cited at Ackerman, note 20.

Treaty.⁴⁶ In spite of these few cases, provisional implementation is rare. In the absence of explicit language in the treaty authorizing provisional implementation (of which there is none in the Kyoto Protocol) the only other justification would be widespread agreement among states parties to carry out provisional measures, which, for the case of the United States would require clear Congressional approval.

In contrast, Congress has not only *not* authorized any form of provisional application of the Kyoto Protocol, but the actions taken by the Senate in the form of S.Res. 98 provide clear evidence that the intent of Congress was the exact opposite.⁴⁷ Repeated denials by the Administration that it would even consider such a path further weakens any case that might eventually be brought in the absence of Senate ratification.

However, the Vienna Convention does require that signatories should “refrain from acts which would defeat the object and purpose of a treaty until that State shall have made its intention clear not to become a party to the treaty.”⁴⁸ Thus, although signature does not allow for provisional implementation of the Protocol, it does imply at least certain obligations to desist from undermining the Protocol until such time as the Senate might ratify or defeat the Protocol, after which the obligations would change.⁴⁹ Further, as Ackerman concludes, the inability to implement the Kyoto Protocol does not mean, however, that the United States is unable to adopt and carry out policies that might “parallel or support the obligations” assumed under the Kyoto Protocol.⁵⁰

III. THE CLEAN AIR ACT AND THE REGULATION OF GREENHOUSE GAS EMISSIONS

While provisional implementation of the Kyoto Protocol is unlikely, EPA might still attempt to impose legally binding restrictions on greenhouse gases at some level based on an independent assessment of the dangers of climate change. The most likely vehicle for such an effort would be the Clean Air Act.⁵¹ Based on Administration testimony and allowing for maximum possible discretion, several sections of the Act might be invoked to regulate greenhouse gas emissions. Under §108 and §109, EPA regulates criteria air pollutants by issuing criteria documents and then setting air quality standards, §112 allows EPA to add hazardous air pollutants and mandate the use of certain control technologies and §115 could be invoked to address the international nature of the problem.

⁴⁶ *Id.* The U.S. and USSR agreed to observe the provisions of the treaty as long as the other party did so, cited in Ackerman, note 21.

⁴⁷ S. Res. 98, *supra* note 7.

⁴⁸ Vienna Convention on the Law of Treaties, Article 18.

⁴⁹ American Law Institute, Restatement of the Foreign Relations Law of the United States Third, Vol. 1 (1987), §312, Comment d, at 173 cited in Ackerman, note 6.

⁵⁰ Ackerman at §4.

⁵¹ For a discussion of the potential uses of the National Environmental Policy Act of 1969 (NEPA) see Jennifer Woodward, *Turning Down the Heat: What United States Laws Can Do To Help Ease Global Warming* 39 AM. U. LAW REV. 203, 218-221 (discussing the possible use of Environmental Impact Statements (EIS) and of the “action-forcing” section of NEPA which requires agencies to consider environmental factors when making significant decisions). Recent legislative proposals in the 106th Congress have sought to amend the Energy Policy Act instead of the Clean Air Act. See S.882, The Energy and Climate Policy Act of 1999, *infra* note 185 and S. 547, Credit for Voluntary Reduction Act, *infra* note 187.

Before requiring limitations on the emissions of carbon dioxide and the other greenhouse gases, the EPA would first have to justify their classification as air pollutants. EPA's legal analysis takes the first step in that direction in citing section 302(g) which invokes a broad, even tautological, definition of "air pollutant" as virtually anything emitted into the ambient air, including precursors.⁵²

In spite of this "catch-all" definition of air pollutants, left open in EPA's legal analysis is whether the Agency would actually make a determination that there was sufficient evidence to warrant regulating greenhouse gas emissions.⁵³ Further, the scientific determination cannot be wholly separated from the regulatory decision of how (*i.e.*, under what sections of the Act) greenhouse gases might be regulated and whether the legislative history and/or a textual analysis of the Act would support regulating those gases.

A. Sections 108 and 109 — National Ambient Air Quality Standards (NAAQS)

The EPA Administrator clearly has the authority under Sections 108 and 109 to add (or remove) new substances to the list of criteria pollutants and to set the air quality standards for these substances.⁵⁴ In 1970, EPA was charged with regulating six criteria pollutants: carbon monoxide, sulfur dioxide, nitrogen dioxide, particulate matter, oxidants, and hydrocarbons. As a result of separate legal actions, EPA removed hydrocarbons from the list of criteria pollutants and added lead.⁵⁵ The rationale behind adding lead as a criteria pollutant was its pervasive nature,⁵⁶ a description that would easily seem to apply to carbon dioxide and other greenhouse gases. Hydrocarbons, by contrast, were removed because it was decided to regulate individual hydrocarbons under Section 112 on hazardous pollutants and to control hydrocarbons indirectly using the ozone standard.⁵⁷

Under Section 108 of the Act, EPA is responsible for preparing the criteria documents which must be must be issued for a substance "which in the ambient air results from numerous or diverse mobile or stationary sources."⁵⁸ These documents, which are summaries of the available scientific knowledge, in turn, inform the air quality standards set under §109. Criteria pollutants are those which "cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare,"⁵⁹ where "welfare" is defined to include effects on "soils, water, crops,

⁵² Cannon Memorandum at 202 citing U.S.C. 7602(g) (the term "air pollutant" means any air pollution agent or combination of such agents, including any physical, chemical, biological [or] radioactive [...] substance or matter which is emitted into or otherwise enters ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent that the Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollution" is used).

⁵³ *Id.* at 206 (The Administrator has made no determination to date to exercise that authority under the specific provided under any provision of the Act).

⁵⁴ U.S.C. §7408(a)(1), U.S.C. §7408(a)(1)(C), and U.S.C. §7409(d)(1).

⁵⁵ The hydrocarbon standard was repealed at 46 FR 25655 (May 8, 1981) and lead was added at 38 FR 33734 (1974).

⁵⁶ The Administrator recognized that lead exposure is not caused by air pollution alone, but believed that regulation was justified because the aggregate exposure was dangerous. 38 FR 33734. *See also*, Ethyl Corp. v. EPA, 541 F. 2d 1 at 29-30 (1976).

⁵⁷ See *supra* note 55.

⁵⁸ U.S.C. §7408(a)(1)(B).

⁵⁹ U.S.C. §7408(a)(1)(A).

vegetation, man-made materials, animals, wildlife, weather, visibility, and climate.”⁶⁰

National primary ambient air quality standards are chosen to protect the public health, while secondary standards are aimed at protecting public welfare.⁶¹ The EPA Administrator has the authority, and indeed the responsibility, to propose and promulgate national primary and secondary ambient air quality standards for any such pollutant.⁶² Nevertheless in four of the six cases secondary standards are set at the same level as those for the primary standards.⁶³

The use of “may reasonably be anticipated” in §108(a)(1)(A) indicates that Congress accepted the uncertainty inherent in the scientific findings upon which legislation is based — the Act does not require that health and welfare effects be known precisely to justify adding a pollutant to the list. In the ruling issued by the Appeals Court, D.C. Circuit in the case of *Ethyl Corp. v. EPA*,⁶⁴ which contested the lead standards imposed by the Agency, the court acknowledged that some of the questions involved in the promulgation of environmental regulations are “on the frontiers of scientific knowledge” which requires decisions based more on judgment and less on “purely factual analyses.”⁶⁵ The court asserts that “reliance on ‘facts’ as contemplated by petitioners will provide little guidance. However, sole reliance on facts was not demanded by Congress.”⁶⁶ Since current scientific findings, though uncertain, point in the direction of some degree of human interference with the climate, this ruling would support the regulation of greenhouse gases as a policy decision *if*, in turn, it could be established that “human interference” could be translated into “endangerment.”

This flexibility given to the Administrator “recognizes the special judicial interest in favor of protection of the health and welfare of people, even in areas where certainty does not exist.”⁶⁷ The court’s review process must not search for a single scientific study that fully supports the Administrator’s determination but rather, “the Administrator’s decision may be fully supportable if it is based, as it is here, on the inconclusive but suggestive results of numerous studies. By its nature, scientific evidence is often cumulative; the more supporting, albeit inconclusive, evidence available, the more likely the accuracy of the conclusion.”⁶⁸ In the case of climate change, the scientific evidence is supportive of a finding that action should be taken, but not uncontested.⁶⁹ Other scientists challenge the very basis for warming and the accuracy of the models used to predict future

⁶⁰ U.S.C. §7602(h). As noted in the Cannon Memorandum at 204, footnote 3, the references to climate and weather date back to the 1970 version of the Act.

⁶¹ U.S.C. §7409

⁶² U.S.C. §7409(a)(2).

⁶³ 40 CFR Part 50 Revised as of July 1, 1998 (Parts 50.4, 50.8, 50.9, 50.11, 50.12).

⁶⁴ United States Court of Appeals, District of Columbia Circuit, 541 F.2d 1 at 1 (1976)

⁶⁵ Industrial Union Department, AFL-CIO v. Hodgson, 162 U.S.App.D.C. 331, 338, 499, F.2d 467, 474 (1974).

⁶⁶ *Ethyl Corp. v. EPA*, 541 F.2d 1 at 20 (1976) citing also *Amoco Oil Co. v. EPA* 163 U.S. App.D.C. at 180-181 (1974).

⁶⁷ *Environmental Defense Fund, Inc. v. Ruckelshaus*, 142 U.S.App.D.C. 74, 88, 439 F.2d 584, 598 (1971).

⁶⁸ *Ethyl Corp. v. EPA*, 541 F.2d 1 at 5 (1976).

⁶⁹ The so-called “fingerprint” studies that attempt to determine whether a human influence on the climate system can already be identified are still contested, *see* Klaus Hasselmann, *Optimal Fingerprints for the Detection of Time-Dependent Climate Change*, J. CLIMATE 1957, 1957-1991 (1993). Evidence of human interference was, however, accepted in the most recent IPCC study, *see* CLIMATE CHANGE 1995: THE SCIENCE OF CLIMATE CHANGE, Chapter 8 (J.T. Houghton *et al.*, eds., 1995) [hereinafter IPCC SECOND ASSESSMENT REPORT].

warming.⁷⁰ Some groups even argue that since increased CO₂ would be beneficial to plant life, climate change would, on net, be a benefit to the planet as a whole.⁷¹ Nevertheless, the precautionary mandate of the Act has been consistently upheld and contradictory claims (many of which have not been peer-reviewed) would have little bearing on the judicial deference to agency judgment of the state of the science.⁷²

In the case of lead emissions, the bulk of the evidence before the Administrator supported the Administrator's findings, even though none was dispositive.⁷³ In the case of climate change, the combined evidence of:

- the observed trend of increasing temperatures,⁷⁴ in particular, the 1990s were the warmest decade of the millennium, and 1998 was the warmest year on record;⁷⁵
- the high correlation between the atmospheric concentration of CO₂, CH₄ and temperatures in paleoclimate records, especially ice cores;⁷⁶ and
- the numerical modeling studies which predict a warming of the atmosphere (1.8 to 6.3° F or 1 to 3.5° C by 2100);⁷⁷
- could be invoked together as many fingers pointing in the same direction.

The use of the phrase “may reasonably be anticipated” in §108 also implies an effect which has not yet happened, but is likely to occur in the future and should be prevented; this highlights the precautionary nature of the Act.⁷⁸ Danger “is not set by a fixed probability of harm, but rather is

⁷⁰ Richard S. Lindzen, *On the Scientific Basis for Global Warming Scenarios*, 83 ENVIRONMENTAL POLLUTION 125, 125-134 (1994).

⁷¹ Greening Earth Society, In Defense of Carbon Dioxide: A Comprehensive Review of Carbon Dioxide's Effects on Human Health, Welfare, and the Environment; Thomas Gale Moore, GLOBAL WARMING : A BOON TO HUMANS AND OTHER ANIMALS (1995).

⁷² In a recent appeals court panel decision by the D.C. Circuit Court, relying on Supreme Court precedents from the 1920s and 1930s, EPA is faulted for assuming too much discretion in implementing §§108 and 109. This decision, if upheld, would overturn much of the deference that courts have traditionally shown to EPA in this and other areas of regulation. *See*, American Trucking Associations, Inc. v. EPA, 1999 U.S. App. LEXIS 9064 (“EPA has construed §§108 and 109 of the Clean Air Act so loosely as to render them unconstitutional delegations of legislative power. Although the factors EPA used in determining the degree of public health concern associated with different levels of ozone and PM are reasonable, EPA appears to have articulated no “intelligible principle” to channel its application of these factors. *see* J.W. Hampton, Jr. & Co. v. United States, 276 U.S. 394, 409 (1928). The standards in question affect the whole economy, requiring a “more precise” delegation than would otherwise be the case, *see* A.L.A. Schechter Poultry Corp. v. United States, 295 U.S. 495, 553 (1935).”)

⁷³ Ethyl Corp. v. EPA, 541 F.2d 1 at 37-38. For a recent review of the evidence, *see* Valerie M. Thomas, *The Elimination of Lead in Gasoline*, 20 ANNUAL REVIEW OF ENERGY AND ENVIRONMENT 307 (1995).

⁷⁴ IPCC SECOND ASSESSMENT REPORT, Chapter 3.

⁷⁵ R.S. Mann and R.S. Bradley, *Northern Hemisphere Temperature During the Past Millennium: Inferences, Uncertainties and Limitations*, 126 GEOPHYSICAL RESEARCH LETTERS 759-762 (1999) (temperatures are the warmest of the last 1000 years); R.S. Mann, R.S. Bradley and M.K. Hughes, *Global-Scale Temperature Patterns And Climate Forcing over the Past Six Centuries*, 392 NATURE 779 (1998).

⁷⁶ T.S. Graedel and Paul J. Crutzen, ATMOSPHERIC CHANGE: AN EARTH SYSTEM PERSPECTIVE 224.

⁷⁷ IPCC SECOND ASSESSMENT REPORT, Chapter 5.

⁷⁸ The court in the *Ethyl v. EPA* case made note that: “in applying the ‘will endanger’ standard, the Administrator is authorized to assess risks of harm and, where the risk is found to be significant, to act to prevent the harm from happening. The regulatory action under this precautionary principle should thus precede, and hopefully prevent, the perceived harm.” *Ethyl Corp. v. EPA*, 541 F.2d at 5, 11-33. “Will endanger” was changed to “may

composed of reciprocal elements of risk and harm, or probability and severity.”⁷⁹ This construction should be sufficient to warrant regulation to prevent a catastrophic event, even a very-low-probability event, such as a large-scale disruption of the Earth’s climate. One such event could be the weakening or collapse of the ocean’s thermohaline circulation that is predicted to accompany changes in climate.⁸⁰ A significant weakening would dramatically reduce the supply of heat to the eastern North Atlantic Ocean, with potentially devastating consequences for the climate of Northern and Western Europe.⁸¹

While the preceding paragraphs establish the authority of the EPA Administrator to take precautionary action, there must nevertheless exist a compelling scientific basis to warrant such action. The language and history of the Clean Air Act seem to make this problematic for CO₂ and the other greenhouse gases.

The legislative history of the 1990 Amendments to the Clean Air Act specifies that primary standards are to be set by “identifying through research the lowest level at which health effects are observed and applying a margin of safety to arrive at the ambient standard.”⁸² A primary standard for carbon dioxide or methane is hardly conceivable under this definition since toxic effects from exposure to these substances occur only at levels much higher than those needed to reduce the risks of dramatic climate changes.⁸³ Moreover, the concept of a standard expressed in terms of concentration (parts-per-million) is especially problematic for the case of greenhouse gases since the U.S. is “only” responsible for, perhaps, one-quarter of the global concentration.⁸⁴ Setting a *national* standard for greenhouse gas emissions would only accomplish a fraction of the emissions

reasonably be anticipated to endanger” in the 1990 Amendments, a change which would only reinforces the precautionary nature of the Act. See 42 U.S.C. § 7408(a)(1)(A) Historical and Statutory Notes and H. R. REP. 95-294 at 43-51 (1977), reprinted in 1977 U.S. CODE CONG. & ADMIN. NEWS 1077, 1121-29.

⁷⁹ Ethyl Corp. v. EPA, 541 F.2d at 18 citing Carolina Environmental Study Group v. United States 1 U.S. App. D.C. 14, 419, 510 F. 2d 79, 799 (1975); Reserve Mining Co. v. EPA 514 F. 2d at 519-520.

⁸⁰ S. Manabe and R. Stouffer, *Multiple-Century Response of a Coupled Ocean-Atmosphere Model to an Increase of Atmospheric Carbon Dioxide*, 7 JOURNAL OF CLIMATE 5, 5-23 (1994).

⁸¹ S. Rahmsdorf, *Risk of Sea-Change in the Atlantic*, 388 NATURE, 825-826 (local sea surface cooling of 5-8 C, with an even larger cooling in the atmosphere); Wallace S. Broecker, *Thermohaline Circulation, The Achilles Heel of Our Climate System: Will Man-Made CO₂ Upset The Current Balance?* 278 SCIENCE 1582-8; Nigel Hawkes and Nick Nuttall, *Europe May Catch Cold from Global Warming*, THE TIMES (LONDON), November 28, 1997; Steve Farrar, *Europe Faces an Ice Age as World Warms*, SUNDAY TIMES (LONDON), January 17, 1999.

⁸² S. REP’T. NO. 101-228, U.S. Cong. News ‘90 Bd. Vol. 23, at 3391.

⁸³ Canadian Centre for Occupational Health and Safety (CCOHS), *Health Effects of Carbon Dioxide Gas*, <http://gala.ccohs.ca/oshanswers/chemicals/chem_profiles/carbon_dioxide/health_cd.html> CO₂ is not harmful at concentrations below 2% (or 20000 ppm). At 3.5-5.4% increased depth of breathing is observed. At 7.5% the feeling of inability to breathe is reported as well as increased pulse rate and headaches. By contrast, the current atmospheric level is ~350 ppm, and even uncontrolled, concentrations are unlikely to exceed roughly 1000 ppm in 2100. Intergovernmental Panel on Climate Change, IPCC SECOND ASSESSMENT SYNTHESIS OF SCIENTIFIC-TECHNICAL INFORMATION RELEVANT TO INTERPRETING ARTICLE 2 OF THE UN FRAMEWORK CONVENTION ON CLIMATE CHANGE (1995) [hereinafter IPCC SYNTHESIS REPORT].

⁸⁴ Carbon dioxide is a well-mixed gas in the atmosphere, *i.e.*, emissions in one part of the world are distributed fairly evenly across the entire atmosphere. Concentrations are, however, slightly higher in the Northern Hemisphere because of the far greater emissions from the industrialized nations. Intergovernmental Panel on Climate Change, CLIMATE CHANGE 1994: RADIATIVE FORCING OF CLIMATE CHANGE AND AN EVALUATION OF THE IPCC IS92 EMISSION SCENARIOS, (J.T. Houghton *et al.*, eds., 1995), ch. 15.

reductions that would be required to meet a global concentration target.⁸⁵

Most of the six criteria pollutants have both cumulative and indirect effects and it has been established that such effects also warrant action; the importance of non-acute, non-direct effects has been recognized explicitly for the cases of photochemical oxidants (ozone)⁸⁶ and lead.⁸⁷ Nonetheless, defining health effects for the case of the greenhouse gases remains elusive even if indirect effects are admitted. Whereas other standards are based on epidemiological evidence and laboratory studies involving plants, animals and humans, the indirect health effects linked to a warming of the atmosphere, such as increased deaths during heat waves or the spreading northward of tropical diseases, are only speculative. Furthermore, these effects cannot be easily disentangled from the underlying variation in climatic conditions and could even be offset by positive effects such as fewer deaths during cold spells or increasing agricultural productivity.⁸⁸

Secondary standards are established to protect the “public welfare,”⁸⁹ and are set at the same or a more stringent level than primary standards although they allow a longer time period to achieve compliance. Although the current estimates of the impacts of global warming, in particular those on mid-latitude countries such as the United States, contain large uncertainties, most direct effects would be on agriculture, coastal regions and ecosystems.⁹⁰ These anticipated impacts may however be sufficient to invoke the precautionary principle and establish secondary standards for the greenhouse gases. Any attempt at limiting emissions based on impacts is undermined by the fact that regional climate modeling is not yet recognized as providing reliable forecasts in the view of most in the scientific community.⁹¹ Most studies of the impacts of climate change are based on global simulations which do not preclude the possibility that certain regions will benefit from the change in climate, for example by improving the conditions for agriculture.⁹²

⁸⁵ Although the U.S. is by far the largest emitter of greenhouse gases of any nations, its fraction of global carbon emissions is only approximately 25 percent of world totals, although somewhat remarkably, this percentage is projected to increase between 1990 and 2015. Table A10, Energy Information Administration, International Energy Outlook 1999, DOE/EIA-0484(99) <<http://www.eia.doe.gov/oiaf/ieo99/tbla9-16.html>>. The US share of global emissions has generally dropped since the immediate post-World War II period when the US share was at its apex. American emissions in 1945 amounted to 54 percent of global emissions, declining to 42 % by 1950 and 31 % by 1960. G. Marland, R. J. Andres, T. A. Boden, C. Johnston, and A. Brenkert, *Global, Regional, and National CO₂ Emission Estimates from Fossil Fuel Burning, Cement Production, and Gas Flaring: 1751-1996* (March 1999) <http://cdiac.esd.ornl.gov/trends/emis/em_cont.htm>

⁸⁶ SEN. REP. NO. 101-228 at 3392 (“potentially more troubling and less well-understood are the effects of long-term chronic exposure to summertime ozone concentrations”).

⁸⁷ *Ethyl v. EPA* 176 U.S.App.D.C. at 29-31

⁸⁸ Recent reviews of research into the effects of potential change in climate on human health can be found in WORLD HEALTH ORGANIZATION, CLIMATE CHANGE AND HUMAN HEALTH (A.J. McMichael, *et al.*, eds., 1996) [hereinafter WHO]; J. Patz *et al.*, *Global Climate Change and Emerging Infectious Diseases*, 275 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION 218 (1996) [hereinafter JAMA]. A general discussion of impacts can be found in Intergovernmental Panel on Climate Change, IMPACTS, ADAPTATIONS AND MITIGATION OF CLIMATE CHANGE: SCIENTIFIC-TECHNICAL ANALYSIS 438-445 (1995).

⁸⁹ 42 U.S.C § 7409(b)(2).

⁹⁰ IPCC SECOND ASSESSMENT REPORT, Chapters 9-10.

⁹¹ F. Giorgi and L.O. Mearns, *Approaches to the Simulation of Regional Climate Change: A Review* 29 REVIEWS OF GEOPHYSICS 191-216 (1991); IPCC SECOND ASSESSMENT REPORT, ch. 6.

⁹² Intergovernmental Panel on Climate Change, IMPACTS, ADAPTATIONS AND MITIGATION OF CLIMATE CHANGE: SCIENTIFIC-TECHNICAL ANALYSIS 438-445 (1995).

The reference to “cause or *contribute* to air pollution”⁹³ in Section 108 covers the indirect effects of greenhouse gas emissions on existing air pollution problems due to chemical transformations occurring in the atmosphere; the latter being however difficult to assess quantitatively. Ozone chemistry would be affected in a variety of ways. Increased carbon dioxide concentrations would produce a cooling of the stratosphere that in turn would increase the production of stratospheric ozone. One estimate predicts an increase of about 9 percent for a doubling of atmospheric CO₂ content.⁹⁴ Because nitrous oxide (N₂O) reacts very slowly in the lower atmosphere, it penetrates into the stratosphere where it contributes to the destruction of ozone. Studies have shown that a doubling of N₂O concentrations would lead to a global ozone depletion of between 9 and 16 percent that would more than offset the potential gain associated with CO₂ emissions.⁹⁵ Since the objective of Title VI of the Clean Air Act is to prevent ozone depletion, there would be a solid basis for regulating nitrous oxide under that title.⁹⁶

For the other greenhouse gases, EPA would be obliged to issue a secondary NAAQS with the objective of limiting the emissions of the gases and their deleterious effects on the environment and a primary standard devoid of much significance or no primary standard at all—which would be contrary to the motivation and experience with the other criteria pollutants where emphasis was placed on human health effects. Further, while primary air quality standards are to be met “as expeditiously as practicable,”⁹⁷ within the deadlines specified in the Act, secondary standards are to be attained in a “reasonable” period of time.⁹⁸ The prospect of a rapid implementation of standards for CO₂, CH₄ or N₂O through Title I thus seems unlikely.⁹⁹

B. Section 112 — Hazardous Air Pollutants

It is possible that instead of seeking a listing as a criteria pollutant, EPA could seek to list carbon dioxide and/or other greenhouse gases as a hazardous air pollutant under Section 112 of the Act.¹⁰⁰ This idea had been floated in 1994 at the time of the Clinton Administration’s original Climate Change Action Plan which was designed to return U.S. emissions to 1990 levels by 2000.¹⁰¹ As part of a set of 39 EPA-generated proposals that were meant to bolster the Action

⁹³ 42 U.S.C § 7408(a)(1)(A), emphasis added.

⁹⁴ R. P. WAYNE, CHEMISTRY OF ATMOSPHERES 175 (1991).

⁹⁵ *Id.* at 172.

⁹⁶ The Administrator may add chemicals to the list of substances regulated under Title VI if it is “known or may reasonably be anticipated to cause or contribute to harmful effects on the stratospheric ozone layer” 42 U.S.C §7671a(c)

⁹⁷ SENATE REPORT NO. 101-228 at 3392.

⁹⁸ *Id.* at 3391.

⁹⁹ This discussion in no way precludes states from issuing their own ambient air quality standards, even though individual states would be far less capable of affecting atmospheric concentrations of greenhouse gases. Several states currently use ambient air quality standards to regulate air pollutants other than the six criteria pollutants. For example, Pennsylvania sets air quality standards for settled particulates, sulfates, fluorides, and hydrogen sulfide. 25 PA Code 131.3. California also sets standards for hydrogen fluoride, hydrogen sulfide, and ethylene. CCR § 30690.

¹⁰⁰ 42 U.S.C. § 7412.

¹⁰¹ The White House, U.S. CLIMATE CHANGE ACTION PLAN (1994). <<http://www.gcric.org/USCCAP/toc.html>>

Plan was a proposal to “Establish Hazardous Air Pollutant Standards for Greenhouse Gases as a Backstop for the Action Plan” which was deemed one of the most favorable of the assembled proposals.¹⁰² As a hazardous air pollutant, EPA could issue standards, and require that “major sources” employ Maximum Achievable Control Technology (MACT).

Although the Clean Air Act Amendments already provides a list of 189 hazardous air pollutants¹⁰³ new information could be used to justify adding (or removing) pollutants.¹⁰⁴ The Administrator may add pollutants if she finds a threat of adverse effects, whether to human health or to the environment.¹⁰⁵ Unlike the description of welfare effects found in Section 108 and 109,¹⁰⁶ however, there is no mention of “weather” or “climate” in the description of the “environmental effects” but the focus is, instead, primarily on the impacts on biota.¹⁰⁷

No bright line exists to separate criteria pollutants from hazardous pollutants; nevertheless, the latter generally refer to effects that are more localized and source-specific than those pollutants regulated using ambient standards. Further, although there are nominally close to 200 hazardous air pollutants listed, EPA has promulgated NESHAPs (national emissions standards for hazardous air pollutants) for only a handful of pollutants.¹⁰⁸ Other parts of §112 make it even clearer that regulating carbon dioxide would not be in keeping with the intent of Congress when the category of “hazardous air pollutants” was conceived. The concept of “exposure,” for example, which is essential to §112’s definition of public health effects would be meaningless in the context of carbon dioxide.¹⁰⁹

“Hazardous” is meant to convey that a substance is dangerous at relatively low concentrations. A “major source” of hazardous air pollutants is defined as one which emits 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous

¹⁰² Memorandum from Michael Shelby, Office of Policy, Planning and Evaluation, USEPA to Karl Hausker, David Doniger, and Dick Morgenstern, USEPA, “Subject: ‘More Tons’ One Pagers,” May 31, 1994. [hereinafter Shelby Memorandum] Although the memorandum lists many possibilities, the possibility of regulating carbon dioxide under §112 was one of the few proposals that received a rating of 10 on a scale of 1-10.

¹⁰³ 42 U.S.C. §7412(b)(1).

¹⁰⁴ For example, the list actually contains 188 compounds, as a result of EPA’s decision to remove caprolactam from the list. *See* 61 FR 30816 (June 18, 1996) codified at 40 CFR 63.60.

¹⁰⁵ Human health effects may present themselves through “inhalation or other routes of exposure” while environmental effects may be manifest “through ambient concentrations, bioaccumulation, deposition or otherwise.” 42 U.S.C. §7412(b)(3)(B).

¹⁰⁶ *supra* note 60.

¹⁰⁷ Adverse environmental effect” is defined under §7412(a)(7) as: “any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas.”

¹⁰⁸ NESHAPs have been issued for 40 CFR 61 Asbestos (36 FR 5931; Mar. 31, 1971); Benzene (42 FR 29332; June 8, 1977); Beryllium (36 FR 5931; Mar. 31, 1971); Coke Oven Emissions (49 FR 36560; Sept. 18, 1984); Inorganic Arsenic (45 FR 37886; June 5, 1980); Mercury (36 FR 5931; Mar. 31, 1971); Radionuclides (44 FR 76738; Dec. 27, 1979); Vinyl Chloride (40 FR 59532; Dec. 24, 1975). 40 CFR 61 lists an additional 25 NESHAPs for which FR notices have been issued. 42 U.S.C. § 7412(c)(6) also requires that NESHAPs be issued for: alkylated lead compounds, polycyclic organic matter, hexachlorobenzene, mercury, polychlorinated biphenyls, 2,3,7,8-tetrachlorodibenzofurans and 2,3,7,8-tetrachlorodibenzo-p-dioxin, by November 15, 2000.

¹⁰⁹ As noted above, *supra* note 83, the direct effects of carbon dioxide is not harmful to humans, plants or animals. In fact, the direct exposure to elevated CO₂ levels leads to the so-called CO₂ fertilization effect. IPCC SECOND ASSESSMENT REPORT, ch. 9, p. 454 (a short-term increase in CO₂ concentration causes an increase in photosynthesis at the level of individual leaves).

air pollutants.¹¹⁰ The concept of aggregating emissions of different hazardous air pollutant to arrive at an annual limit of 25 tons per year implies that the hazardous air pollutants are, in some sense, commensurate, whereas carbon dioxide quite clearly is not. Since carbon dioxide is produced by every single combustion process involving carbon-based fossil fuels, the quantities produced dwarf that of any other gas emitted into the ambient air.¹¹¹ The United States emits over 5 billion tons of CO₂ annually, which is equivalent to approximately 20 tons per person.¹¹² Thus, virtually every “source” would qualify as a major source of carbon dioxide under this definition, including a single-family home with an oil or gas furnace.¹¹³ Note that the Administrator is allowed to establish *lower* quantities, but no provision is made for *larger* quantities.¹¹⁴

In spite of the fact that these difficulties were not recognized and the proposal to list greenhouse gases under Section 112 was deemed one of the most favorable options, the internal EPA memorandum did caution that: “such aggressive use of Clean Air Act authority may create a backlash in Congress.”¹¹⁵

C. Section 115 — Transboundary Air Pollution

Section 115 of the Clean Air Act addresses the endangerment of public health or welfare in foreign countries from pollution originating in the United States.¹¹⁶ Evidence of inflicting such damages would provide a basis by which State Implementation Plans (SIPs)¹¹⁷ could be changed if the United States is treated with reciprocity, *i.e.*, if the affected foreign country provides “essentially the same rights”¹¹⁸ to the United States. Since the Kyoto Protocol could come into force if it is ratified by all other industrialized (or Annex I) nations except the United States, it would be possible to argue that those actions should require reciprocal treatment.¹¹⁹ One should

¹¹⁰ 42 U.S.C. § 7412(a)(1).

¹¹¹ In 1997, total of emissions of all criteria pollutants amounted to less than 200 million tons or roughly 4 percent of CO₂ emissions. EPA, “Appendix A: Data Tables,” National Air Quality And Emissions Trends Report, 1997. <<http://www.epa.gov/oar/aqtrnd97/appenda.pdf>> (15 April, 1999)

¹¹² Per capita emissions in 1995 were 20.5 metric tons of CO₂ per capita. World Resources Institute, etc., *WORLD RESOURCES 1998-99* 345 (1998).

¹¹³ Sample calculations for a typical home can be found at Lawrence Berkeley National Laboratory’s Home Energy Savings Page. <<http://hes.lbl.gov/>>

¹¹⁴ “The Administrator may establish a lesser quantity, or in the case of radionuclides different criteria, for a major source than that specified in the previous sentence, on the basis of the potency of the air pollutant, persistence, potential for bioaccumulation, other characteristics of the air pollutant, or other relevant factors.” 42 U.S.C. §7412(a)(1).

¹¹⁵ Shelby Memorandum at 4. As Woodward notes, “Administrative agencies may be reluctant to act in areas of controversy.” Jennifer Woodward, *Turning Down the Heat: What United States Laws Can Do To Help Ease Global Warming* 39 AM. U. LAW REV. 203, 238. citing Wood, *Acid Rain and the Clean Air Act: Agency Inaction and the Need for Legislated Reform*, 6 VA J. NAT. RESOURCES LAW 213 (1986).

¹¹⁶ 42 U.S.C. § 7415.

¹¹⁷ 42 U.S.C. § 7410.

¹¹⁸ 42 U.S.C. § 7415(c). *See also*, T.W. Merrill, *Golden Rules for Transboundary Pollution*, 46 DUKE L.J. 931 (1997).

¹¹⁹ The Protocol comes into force when ratified by 55 nations comprising at least 55% of greenhouse gas emissions by industrialized countries in 1990. Article 24.1, Kyoto Protocol. U.S. emissions in 1990 amounted to approximately 36% of Annex I emissions. FCCC/CP/1996/12/Add.2. Whether other nations would actually take action without US ratification would seem extremely unlikely. For example, when the European Union was

note, however, that Canada never managed to obtain relief through §115 for the acid rain problem exacerbated by U.S. emissions.¹²⁰ Moreover, §115 is ambiguous in that it allows for a revision of State implementation plans, but does not necessarily imply that the Administrator would be allowed to revise the list of criteria pollutants itself.¹²¹

The NMA brief contends that “Section 115 does not apply to carbon dioxide emissions because the provision is self-evidently designed to apply only to situations where wind borne pollution from the United States is being deposited in a near-by country.”¹²² Whether Section 115 is in fact self-evident on this point is less obvious than the simple observation of the converse, namely that since climate change is a global problem, setting an effective standard is contingent upon successful international cooperation.

D. Reconciling the Legislative History

Aside from the details of the provisions that might be used to regulate greenhouse gases, the legislative history of the Clean Air Act Amendments of 1990 provides ample indication that Congress considered but then explicitly decided not to regulate greenhouse gases at different junctures. A number of Supreme Court decisions have affirmed that “few principles of statutory construction are more compelling than the proposition that Congress does not intend *sub silentio* to enact statutory language that it has earlier discarded.”¹²³ Similarly, in *Russello v. U.S.*, the Court concluded that: “Congressional rejection of a statute strongly militates against a judgment that Congress intended a result that it expressly declined to enact.”¹²⁴ In §202, which regulates mobile sources, the Senate Report had originally included a provision to limit the emissions of carbon dioxide from light-duty vehicles.¹²⁵ The motivation for this provision was that initial steps needed to be taken to mitigate climate change even though more scientific information would become available, and since motor vehicles produce one-quarter of U.S. carbon dioxide emissions, it was a logical place to start.¹²⁶ The intent of the bill was not to reduce the emissions of carbon dioxide¹²⁷ but simply to stabilize them, and did not leave the Administrator any discretion to change the standards.¹²⁸ The provision was, however, suppressed in the conference committee.¹²⁹

debating imposing an EU-wide carbon tax in 1992 it made the tax contingent upon comparable actions in the United States and Japan, see John Palmer, *EC Plans Carbon Fuel Tax*, THE GUARDIAN, May 14, 1992 at 1.

¹²⁰ Merrill, *Golden Rules for Transboundary Pollution*, 46 DUKE L.J. 931 (1997) *supra* note 118.

¹²¹ 42 U.S.C. § 7415(b). *See also* 912 F. 2d 1525 (D.C. Cir. 1980).

¹²² NMA Brief at *II.E*.

¹²³ *INS v. Cardozo-Fonseca*, 480 U.S. 421, 442-443 (1987). *See also* *Gulf Oil Corp. v. Copp Paving Co.*, 419 U.S. 186, 200 (U.S. 1974).

¹²⁴ *Russello v. United States*, 464 U.S. at 23-24 (1983). *See also* *Ethyl Corp. v. EPA*, 541 F.2d 1 at 23 citing *Amoco Oil v. EPA* U.S.App.D.C. at 173, 501 F. 2d at 733 (The court insisted that the conference committee’s decision “was a deliberate one and was meant to have significance”).

¹²⁵ S. REP. NO. 101-228, U.S. Cong. News ‘90 Bd. Vol. 23 at 3484-3485.

¹²⁶ S. REP. NO. 101-228 at 3384.

¹²⁷ S. REP. NO. 101-228 at 3484 (the standards are unlikely to ever hold emissions at current levels over the next two decades).

¹²⁸ S. REP. NO. 101-228 at 3485 (226 g CO₂/mile for model year 96–99 or roughly 33 miles per gallon, 220 g CO₂/mile for model year 96–99 or roughly 40 miles per gallon).

An additional example of a deliberate decision *not* to regulate greenhouse gases can be found in the history of Title VI of the Clean Air Act which regulates the chemicals responsible for stratospheric ozone depletion. The original title of Subchapter VI in the Senate report was “The Stratospheric Ozone and Climate Protection Act” and its objective was to “maintain and restore the chemical and physical integrity of the Earth’s atmosphere, to protect human health and the global environment.”¹³⁰ The goal of the climate protection portion of the proposed act, §603, was to “reduce methane emissions in the U.S. and other countries; stimulate international agencies to fund projects in developing countries that will reduce methane emissions; and provide data in support of international efforts to reduce methane emissions.”¹³¹ This section was later reduced to the level of a free-standing provision of the 1990 Amendments.¹³²

The Senate’s motivation for assessing the possibility of reducing methane emissions along with CFCs was that: “two distinct but closely related global environmental crises are (1) destruction of the stratospheric ozone layer, Earth’s main shield against the sun’s harmful ultraviolet radiation, and (2) massive, uncontrolled global climate change associated with the intensification of the greenhouse effect.”¹³³ Although the Senate report correctly noted that carbon dioxide accounts for over half of the intensification of the greenhouse effect, the high global warming potentials¹³⁴ of CFCs and CH₄ justified the regulation of these gases as an early and “effective step that can be taken to lessen the threat of human-induced global climate change.”¹³⁵ The report conceded that there was no scientific consensus about the precise timing or magnitude of the predicted changes, but asserted that there was “a remarkable degree of scientific consensus concerning the threat of massive, uncontrolled global climate change.”¹³⁶ In such circumstances, waiting for scientific proof was not tenable since “failure to act on the greenhouse effect on the basis of current scientific understanding would replicate the mistake made in the early 1980s with respect to destruction of the ozone layer.”¹³⁷

It is particularly detrimental to any future effort at regulating these gases that the Senate report explicitly addressed the major issues pertaining to stratospheric ozone depletion but then suppressed the portion of the bill explicitly addressing global warming in the conference committee. As in the case of CO₂ limitations on automotive emissions, deliberately removing any regulatory mandate to control greenhouse gases could be interpreted as a clear sign that Congress did not intend to pass legislation restricting greenhouse gases.¹³⁸

¹²⁹ H. CONF. REP. NO. 101-952, U.S. Cong. News ‘90 Bd. Vol. 23 at 3868-3869.

¹³⁰ S. REP. NO. 101-228 at 3770 (1990).

¹³¹ *Id.* at 3784.

¹³² § 603(e) Methane Studies, *see* H. CONF. REP. NO. 101-952 at 387 and P.L. 101-549, 104 STAT. 2670-2671.

¹³³ *Id.* at 3761.

¹³⁴ Because of their lifetime and chemical characteristics, each molecule of certain CFCs contributes approximately 20,000 times more to global warming than a molecule of CO₂ and each methane molecule contributes 25 times more. The ratio of warming per molecule of a given substance to the warming produced by a molecule of CO₂ is known as the global warming potential. IPCC, SECOND ASSESSMENT REPORT 21.

¹³⁵ *Id.* at 3761.

¹³⁶ *Id.* at 3762.

¹³⁷ *Id.* at 3763.

¹³⁸ Indeed, the only reference to global warming left in Subchapter VI is: “One year after enactment of the Clean Air

In spite of the legislative history, EPA could invoke §108 and §109 or even §112 which precede the amendments of 1990 and argue that the latest scientific knowledge could be invoked to restrict the emissions of greenhouse gases by issuing both primary and secondary standards.¹³⁹ Important new information that was not available at the time of the Congressional deliberations in 1990 include the conclusions of the Second Assessment Report by the Intergovernmental Panel on Climate Change (IPCC)¹⁴⁰ in 1995 that “the balance of evidence, from changes in global mean surface air temperature and from changes in geographical, seasonal and vertical patterns of atmospheric temperature, suggests a discernible human influence on global climate.”¹⁴¹ From the preceding discussion it is clear that addressing climate does not fit easily into any existing section of the Act.

Implicit in the concepts of “ambient” air pollution in §§108 and 109 and “exposure” to hazardous pollutants in §112 is the notion that the action taken by the EPA Administrator and the States (since the air quality standards set in §§108 and 109 are implemented by the States through State Implementation Plans) will have an effect on the health and environmental problems caused by air pollution originating in the immediate geographic area. Serious opposition from the States would be expected if they were forced to address problems which originated out of their jurisdiction. Because CO₂ and the other greenhouse gases are well-mixed constituents of the atmosphere, alleviating anticipated local negative impacts of climate change requires a global reduction in concentrations, something which cannot be achieved by a local reduction in emissions. This local and regional focus of the criteria air pollutant and hazardous air pollutant provisions seems to create an almost insuperable obstacle to the implementation of restrictions on the emissions of greenhouse gases through Titles I and II of the Clean Air Act.

The scientific results, if deemed sufficient by Congress, should warrant new amendments that lay out the case for regulating greenhouse gases in keeping with the goals of the Clean Air Act and specify the measures that will be taken to reduce emissions. To draw a parallel from an earlier debate, at the time of the 1990 Amendments, former EPA Administrator William Ruckelshaus testified before the Senate that EPA’s authority under the Clean Air Act needed to be extended explicitly in order to reduce SO₂ and NO₂ emissions:

EPA may be in a much less defensible position where those reductions are sought

Act Amendments of 1990 [...] and after notice and opportunity for public comment, the Administrator shall publish the global warming potential of each listed substance. The preceding sentence shall not be construed to be the basis of any additional regulation under this chapter.” 42 U.S.C. §4802(e). This construction provides further evidence that it was not the intent of Congress to use the current legislation to impose limitations on greenhouse gases.

¹³⁹ In addition to the WHO and JAMA studies cited above, *supra* note 88, other reports on the potential adverse health effects of climatic change *see also* CONFERENCE ON HUMAN HEALTH AND GLOBAL CLIMATE CHANGE: SUMMARY OF THE PROCEEDINGS (Valerie Setlow and Andrew Pope, eds., 1996); S. Lindsay and M. Birley, *Climate Change and Malaria Transmission*, 90 ANNALS OF TROPICAL MEDICINE AND PARASITOLOGY 580 (1996); Working Group on Public Health and Fossil Fuel Combustion, *Short-term Improvements in Public Health from Global-Climate Policies on Fossil Fuel Combustion: An Interim Report*, 350 THE LANCET 1341-1348 (1997).

¹⁴⁰ The IPCC was established by the United Nations Environment Program and the World Meteorological Organization in 1988 and brings together over 2,500 government-appointed scientists to produce assessments of the science, policy and effects of climate change.

¹⁴¹ IPCC SYNTHESIS REPORT (1995) at 4-5.

through creative use of existing authority, than where Congress clearly mandates reductions beyond those required to meet local ambient air quality concerns.¹⁴²

Because climate change is a global problem, it is hard to see how the agency could justify using the existing Titles I and II of the Clean Air Act to address it, when the rationale for adding new titles to address the acid deposition and stratospheric ozone problems suggested that they were inadequate for other regional and global problems.¹⁴³

E. Vulnerabilities to Legal Challenges

If the EPA decided to issue standards for the greenhouse gases, in view of the preceding discussion, it seems unlikely that this decision would remain unchallenged. The Chevron doctrine, which has become the standard, is a two-step analysis for the courts to apply when reviewing an agency's construction of a statute it administers.¹⁴⁴ Under the first step, the court must determine whether Congress has directly addressed the precise question at issue. If the intent of Congress is clear, the review ends because the court must give effect to the unambiguously expressed intent of Congress. If the court determines that the statute is silent or ambiguous with respect to the issue, the second step is to determine whether the agency's construction is a permissible one.¹⁴⁵ If Congress has made an express delegation of authority to the agency to fill by regulation, the court must give such regulation "controlling weight unless they are arbitrary, capricious, or manifestly contrary to the statute."¹⁴⁶ If the delegation of authority is implicit, the court "may not substitute its own construction of a statutory provision for a reasonable interpretation" made by the agency unless "it appears from the statutes or its legislative history that the accommodation is not one that Congress would have sanctioned."¹⁴⁷ Section 108 of the Clean Air Act and its legislative history indicate that Congress has unambiguously given the authority to the Administrator of the EPA to maintain and update the list of criteria pollutants and thus explicitly left a gap for the Agency to fill.¹⁴⁸ What remains an issue is whether the decision to add greenhouse gases to the criteria pollutant list would be deemed capricious by a reviewing court.

¹⁴² S. REP. NO. 101-228 at 3673.

¹⁴³ Denise A. Hartman, *Acid Precipitation: Limits of the Clean Air Act*, 34 SYR. LAW REV. 619-656 (1983) (Only sulfur and nitrogen oxides can be controlled by the law, not the sulfates and nitrates that produce acid rain since they are formed in the upper atmosphere, NAAQS only apply to air close to ground level where the regulated pollutants could contribute to adverse effects on human health).

¹⁴⁴ Of the many articles on the Chevron doctrine, *see, for example*, Theodore L. Carrett, *Judicial Review After Chevron: The Courts Reassert Their Role*, 10 NATURAL RESOURCES & ENVIRONMENT 59 (1995); Damien J. Marshall, *Note - The Application of Chevron Deference in Regulatory Preemption Cases*, 87 GEORGETOWN LAW J. 263 (1998); David M. Gossett, *Chevron, Take Two: Deference to Revised Agency Interpretations of Statutes*, 64 U. CHICAGO LAW REVIEW 681 (1997); O. S. Kerr, *Shedding Light on Chevron: An Empirical Study of the Chevron Doctrine in the U.S. Courts of Appeals*, 15 YALE J. ON REGULATION 1 (1998).

¹⁴⁵ *Chevron U.S.A., Inc. v. NRDC* 467 U.S. 837, 843-844.

¹⁴⁶ *Id.* at 843-844. *But see* the D.C. Court's *American Trucking Association v. EPA* decision, *supra* note 72, which calls into question this traditional deference to the Agency.

¹⁴⁷ *Id.* at 842-845.

¹⁴⁸ S. REP. NO. 101-228 at 3392 (1990).

IV. USING TRADING MECHANISMS TO IMPLEMENT THE KYOTO PROTOCOL

In announcing the U.S. strategy to reduce its emissions, President Clinton described the American approach to meeting binding targets: “After we have accumulated a decade of experience, a decade of data, a decade of technological innovation, we will launch a broad emissions trading initiative to ensure that we hit our binding targets.”¹⁴⁹ In the negotiations at Kyoto, the US actually changed the target itself from the original negotiating position, nevertheless, the U.S. approach has been restated at many junctures since Kyoto. Both Secretary Eizenstat and Administrator Browner have affirmed that pursuing a market-based approach was the *preferred* option.¹⁵⁰

The *American Petroleum Institute v. EPA* decision¹⁵¹ establishes the scope of the agency’s statutory authority in devising new compliance mechanisms such as a trading scheme. In *American Petroleum*, the D.C. Circuit court refused to presume a delegation of power to the agency based on the absence of an explicit withholding of the claimed power by Congress: “the authority to set a standard under the CAA does not authorize the EPA to mandate the manner of compliance or the precise formula for compliance without additional explicit authority.”¹⁵²

Even EPA’s Office of General Counsel has admitted that the Agency does not have the authority to *require* states to use emissions trading under Title I.¹⁵³ While EPA may have the authority to add new substances to the criteria pollutant list, it may only mandate a particular approach if an existing State Implementation Plan (SIP) issued under Section 110 of the Clean Air Act was deemed a failure. So long as a SIP is adequate to carry out the required standard a state may carry out that SIP in any manner it desires.¹⁵⁴ Accordingly, EPA cannot devise new compliance mechanisms such as emissions trading programs whether or not greenhouse gases are deemed to be criteria pollutants.

At the same time, the Administration’s analysis of the costs of Kyoto quite optimistically assumes not only a fully operational domestic trading system, but indeed, full global trading.¹⁵⁵ Most economic models estimate that an efficient global trading system would reduce costs on the order of a factor of ten.¹⁵⁶ This would assume a cap on emissions in all developing countries and extending emissions trading to all nations. While the “principles, modalities, rules, and guidelines”

¹⁴⁹ The White House. “Remarks by the President on Global Climate Change,” National Geographic Society, Washington, D.C., 22 October, 1997.

¹⁵⁰ For example, Administrator Browner noted “the Clean Air Act does not provide the Agency with the authority to address certain pollutants using market mechanisms which we all agree have been tremendously successful.” HOUSE APPROPRIATIONS COMMITTEE at 207.

¹⁵¹ 52 F.3d 1

¹⁵² *American Petroleum Institute v. EPA*, 52 F.3d at 1121.

¹⁵³ Cannon memorandum at 205, citing *Commonwealth of Virginia v. EPA* 108 F. 3d 1397 (D.C. Cir 1997).

¹⁵⁴ 42 U.S.C. 7410(a)(2). EPA cannot reject a SIP because of its views on “the wisdom of a State’s choices of emissions limitations,” *Train v. NRDC*, 421 U.S. 60, 79 (1995) or because of any perceived technical infeasibility of the SIP, *see Union Electric Co. v. EPA*, 427 U.S. 246, 265 (1976).

¹⁵⁵ Council of Economic Advisors, The White House, “The Kyoto Protocol and the President’s Policies to Address Climate Change: Administration Economic Analysis,” July 1998; Raymond J. Kopp and J.W. Anderson, *Estimating the Costs of Kyoto: How Plausible Are the Clinton Administration’s Figures?* RFF WEATHERVANE, March 12, 1998. <<http://www.weathervane.rff.org/features/feature034.html>>

¹⁵⁶ *See for example*, A.D. Ellerman and A. Decaux, “Analysis of Post-Kyoto CO₂ Emissions Trading Using Marginal Abatement Curves,” MIT Joint Program on the Science and Policy of Global Change Report No. 40, Oct. 1998.

for trading has not yet been agreed upon, vehement non-Annex I opposition is likely to restrict non-Annex I participation to the Clean Development Mechanism.¹⁵⁷ Thus, the two pegs of the Administration economic analysis, global emissions caps and a full-scale emissions trading, are well in keeping with the spirit of the Byrd-Hagel Resolution. Unfortunately, both the Senate's demands and the analytical assumptions of the President's Council of Economic Advisors would require new domestic legislation *and* amendments to the Kyoto Protocol.¹⁵⁸ Prior to a ratification vote, however, even pilot projects that would allow countries and firms to gain experience with emissions trading have been labeled as further evidence of backdoor implementation.¹⁵⁹

V. FUNDING OF RESEARCH AND VOLUNTARY PROGRAMS

One area that seems to have escaped much Congressional criticism is research into the causes and potential impacts of climate change, in part because it is seen as a means of taking "action" without imposing any regulatory costs. Even the most ardent Congressional opponents of the Kyoto Protocol have acknowledged that research, education, and cooperative activities should be funded at some level and that the United States has obligations under the 1992 Climate Change Convention that must be met.¹⁶⁰ Congress has a long history of allowing or requiring EPA to carry out research programs and cooperative, voluntary efforts with industry to reduce pollution.¹⁶¹ In fact, Section 103(g) explicitly authorizes EPA to conduct research and develop "improvements in non-regulatory strategies and technologies for preventing or reducing multiple air pollutants including [...] carbon dioxide."¹⁶² EPA's Climate Change Action Plan, which included such government-industry initiatives as Green Lights and Energy Star Buildings along with the

¹⁵⁷ Kyoto Protocol, Article 17, 37 ILM 40. For evidence of non-Annex I hostility see *supra* note 11 and

¹⁵⁸ Wiener provides an explanation of why both advocates and opponents of action on climate change would oppose trading — Advocates of aggressive climate protection may "fear that trading is so complex or open to abuse that it will not result in effective emissions limits, or simply [believe] that their support can be used as a bargaining chip to extract concessions from advocates of trading." Meanwhile, skeptics "fear that the cost-saving claims of trading will entice countries to blithely adopt overly stringent quantity-based emissions caps which are then resistant to relaxation even as costs escalate." Jonathan Baert Wiener, "On the Political Economy of Global Environmental Regulation," 87 *Geo. L.J.* 749 (February, 1999) 749, 777.

¹⁵⁹ Sen. Hagel denounced a proposed US-Russian emissions trading pilot project: "Any emissions trading system is directly tied to implementing or preparing to implement the Kyoto Protocol... This proposed "pilot" emissions trading system is a partial, advance implementation of the Kyoto Protocol. Let me say this in a different way. An emissions trading system can have no value under the Framework Convention for Climate Change, because that is a voluntary treaty." Prepared Statement of U.S. Senator Chuck Hagel before the Senate Committee on Foreign Relations, Subject - Second Confirmation Hearing for David B. Sandalow to be Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs, FEDERAL NEWS SERVICE, June 23, 1999.

¹⁶⁰ *See for example*, the colloquy between the two leading opponents of the Kyoto Protocol in the House, Rep. McIntosh (R-IN) and Rep. Knollenberg (R-MI) on CR Page H6574, 105th Cong. 2nd Sess. which affirms the U.S. obligations under the Framework Convention. But *see also infra* notes 176-177 and accompanying text.

¹⁶¹ Justification provided by EPA for its voluntary programs includes: Clean Air Act, 42 U.S.C 7401 *et seq.*, Section 102, "Cooperative activities"; Section 103 "Research, Investigation, Training and other activities" (a), (b) and (g); Section 104, "Research related to fuels and vehicles"; Section 108(f); Pollution Prevention Act of 1990 42 U.S.C 13101 *et seq.* Sections 6602-6605; Global Climate Protection Act of 1987, 15 U.S.C 2901, Section 1103; and Federal Technology Transfer Act, 15 U.S.C 3710a. *See also* FCCC Art. 4(1)(g).

¹⁶² U.S.C. 7403(g).

ClimateWise program for electric utilities and the Partnership for a New Generation of Vehicles (PNGV), has been supported fairly unambiguously by both industry and Congress, although never at the levels requested by the Administration. Nevertheless, educational outreach at EPA and the use of voluntary programs have recently come been criticized by the most vocal opponents of “backdoor implementation” although any attempts to impose restrictions on voluntary programs or educational outreach have failed.¹⁶³

VI. CONCLUSION

This debate over regulating CO₂ and other greenhouse gases is, at its heart, not only a legal question but a political one. Many in the Administration and Congressional Republicans appear at times to be in favor of the same goals: energy efficiency, economic incentives, the need for active developing country participation in a control regime, and a clear mandate from the Senate before undertaking binding regulation. At the same Senate hearing where Secretary Eizenstat gave unambiguous assurances to the Senate subcommittee on seeking developing country participation as a condition before the Protocol would be submitted to the Senate for its advice and consent, he also insisted:¹⁶⁴

We have no intention, through the back door or anything else, without Senate confirmation, of trying to impose or take any steps to impose what would be binding restrictions on our companies, on our industry, on our business, on our agriculture, on our commerce, on our country, until and unless the Senate of the United States says so.

When Secretary Eizenstat disavows “taking any steps” to implement Kyoto left open is what would be considered a “step” to implement the Kyoto Protocol. Those most vehemently opposed to the Administration’s position would prefer at best a continuation of existing activities at historical levels of support. Others would allow for increased (even dramatically increased funding) of ongoing activities for which EPA has clear statutory authority. The most liberal interpretation would encompass a regulatory determination to regulate carbon dioxide under the Clean Air Act that was somehow conducted independent of any consideration of meeting the Kyoto Protocol. It is those conservative Republicans who question the validity of the science and who wish to use “backdoor implementation” as the basis for doing nothing to address the climate problem that appear to be on a collision course with those in the Clinton Administration who wish to pursue an aggressive course on Kyoto that has little legal basis and which, moreover, is counterproductive precisely because it provides a legitimate pretense for opposing any action no matter how reasonable.

Whether EPA has the authority to address the climate problem to any extent under the Clean Air Act is a separate question that should not be confused with implementation of the terms of the Kyoto Protocol. While EPA’s authority to regulate CO₂, and especially other greenhouse gases, is not as unambiguous as opponents have asserted, the case for regulating CO₂ under the existing

¹⁶³ *infra* notes 175-177.

¹⁶⁴ Eizenstat Testimony at 13-14.

statutory authority of the Clean Air Act appears tenuous at best. Both Sections 108 and 112 do call on the Administrator to make determinations to add new pollutants when warranted by the scientific evidence.¹⁶⁵ There is a clear precautionary mandate given to EPA under the Act and scientific evidence has begun to establish a link between greenhouse gas emissions and rising global surface temperatures.¹⁶⁶ Evidence is neither conclusive nor universally accepted, but it need not be for EPA to take action.¹⁶⁷

Examining the specific terms of Section 112 indicates that a pollutant such as CO₂ is ill-suited to be labeled as hazardous because of its diffuse nature and the absence of a direct threat to human health implicit in the concept of “exposure”.¹⁶⁸ Nevertheless, the basis for issuing a secondary standard under Section 108 based on concerns for “welfare” which is specifically defined as including both “weather” and “climate” would seem to be compelling.¹⁶⁹ The problem is that, aside from global mean surface temperature, results from climate models are often ambiguous and results at the regional level (even for regions as large as the continental United States) are exceedingly poor.¹⁷⁰ Indeed, for some climate variables, even the sign of the effect at the regional level is unknown.¹⁷¹ Evidence of impacts on either public health or other living things which would justify establishing either a primary NAAQS standard or a hazardous air pollutant standard is weak and primarily speculative.¹⁷² Substantial improvements in the modeling of regional variations in climate change would reduce these uncertainties, but such advances are not likely on the time horizon of the Kyoto commitments.¹⁷³

An even more compelling reason for seeking additional Congressional authority in the form of a new amendment(s) is the fact that the Clean Air Act Amendments of 1990 specifically included separate titles to address the two atmospheric pollution problems most similar to global warming—acid deposition (Title IV) and ozone depletion (Title VI).¹⁷⁴ This decision provides a clear indication that Congress felt the need to address regional and global pollution concerns in a different manner than that established in Titles I and II which are directed at local air pollution.

EPA does have the legal authority, Congressional authorization and precedent, and scientific justification under both the CAA and the Framework Convention on Climate Change to carry out

¹⁶⁵ *supra* notes 59-59, 82, 103-105.

¹⁶⁶ *supra* notes 74-78.

¹⁶⁷ *supra* notes 65-68

¹⁶⁸ *supra* note 109.

¹⁶⁹ *supra* notes 60, 90.

¹⁷⁰ *supra* note 91.

¹⁷¹ IPCC SECOND ASSESSMENT REPORT, Chapter 6.

¹⁷² *supra* note 83-88.

¹⁷³ Climate Research Committee, National Research Council, CAPACITY OF U.S. CLIMATE MODELING (1998) (Simulation of certain atmospheric features such as mesoscale convective complexes and hurricanes, even in a rudimentary fashion, requires a model spatial resolution of 10 km or less, which, in turn, requires computational throughput more than three orders of magnitude greater than is presently available to U.S. climate modelers. This is at the upper range of the 40 teraflop capability proposed by the Advanced Climate Prediction Initiative which not be available for analysis before 2003).

¹⁷⁴ *See supra* notes 142-143 and accompanying text.

programs of research and education and to develop and engage in voluntary programs to reduce emissions of greenhouse gases.¹⁷⁵ Congress could, of course, discontinue or severely reduce funding for such programs but any such actions taken by EPA could not and should not be construed as attempting to fulfill the Kyoto Protocol, which calls for legally binding restrictions.

For EPA, the critical issue is whether it wishes to pursue the limits of its statutory authority. Retaining the prerogative of regulating carbon dioxide is an important point of leverage in its negotiations with industry, Congress, and even within the executive branch. EPA may feel that it can extract concessions from its adversaries in return for explicitly relinquishing the possibility of command-and-control regulation of greenhouse gases. At the same time it may be counterproductive for EPA to push too strongly even in contemplation of regulating greenhouse gases under the existing statutory authority since the danger of a Congressional backlash should not be underestimated.

Congressional hostility to any perceived attempt to implement the Kyoto Protocol can be seen in the FY99 Independent Agencies budget resolution that authorizes EPA's budget provided that none of the appropriated funds be used to "propose or issue rules, regulations, decrees, or orders for the purpose of implementation, or in preparation for implementation, of the Kyoto Protocol."¹⁷⁶ Indeed, an effort to eliminate educational outreach and information seminars conducted by EPA was narrowly defeated in the House of Representatives amidst concern that EPA would use these educational opportunities for advocacy purposes.¹⁷⁷ In the end, the budget impasse between Congress and the White House led to a pre-election Omnibus Appropriations bill in which most of the explicit language on the Kyoto Protocol was removed; although the so-called Knollenberg Amendment, which prevents EPA from taking regulatory action, remains, it has little practical effect.¹⁷⁸ Nevertheless, the forces who are opposed to any form of compulsory reductions in greenhouse gases can continue to use the legitimate concern over EPA's perceived "back-door" implementation as an excuse to investigate all manner of programs aimed at achieving greenhouse gas reductions, no matter how benign.

In part, Congress' agitation at the Clinton Administration's activities is a function of timing. For example, the 5-year, \$6.3 billion climate initiative proposed by President Clinton during his

¹⁷⁵ See *supra* Section V and *supra* notes 158-160 and accompanying text.

¹⁷⁶ H. REPT. 105-769 at CR Page H9368, Conference Report, "Making Appropriations for the Department of Veterans Affairs and Housing and Urban Development, and for Sundry Independent Agencies, Boards, Commissions, Corporations, and Offices for the Fiscal Year Ending September 30, 1999, and For Other Purposes," Oct. 5, 1998.

¹⁷⁷ Joby Warrick, *House Backs Global Warming Education*, WASHINGTON POST, July 24, 1998, at A10.

¹⁷⁸ H. REP. 105-769 at CR Page H9429 ("The conferees have also adopted new language prohibiting the use of funds to take certain actions for the purpose of implementing or preparing to implement the Kyoto Protocol, instead of language proposed by the House. The conferees note that this restriction on the use of funds shall not apply to the conduct of education activities and seminars by the Agency... The bill language is intended to prohibit funds provided in this bill from being used to implement actions called for solely under the Kyoto Protocol, prior to its ratification"). For a discussion of the legality of EPA's actions see Statement of Peter F. Guerrero, Director, Environmental Protection Issues, Resources, Community, and Economic Development Division, General Accounting Office, CLIMATE CHANGE: OBSERVATIONS ON THE APRIL 1999 REPORT ON CLIMATE CHANGE PROGRAMS, Appendix I, Report GAO/T-RCED-99-199, May 20, 1999 ("we believe that act does not limit the agency's ability to undertake activities that are otherwise authorized by law").

1998 State of the Union address was presented one month *after* the Kyoto conference.¹⁷⁹ Although mentioned in President Clinton's policy address that outlined the U.S. negotiating position heading into Kyoto in October, 1997,¹⁸⁰ opponents have still been able to portray the policy initiative with an attempt to implement the terms of the Kyoto Protocol.¹⁸¹ Instead, the combination of injudicious remarks by certain Administration officials,¹⁸² a proposed significant increase in activities related to climate change, and antipathy towards any attempt to reduce emissions among certain members of Congress has led to heightened tension over the goal and tenor of even existing EPA programs.¹⁸³

Although technically distinct from an effort to meet the Kyoto Protocol and easily justified based on the Framework Convention on Climate Change and existing authority under the Clean Air Act, there is a danger that the failure to ratify the Kyoto Protocol will vitiate Congressional support for ongoing domestic activities that are independent of the Kyoto target.¹⁸⁴ Alternatively, failure may actually bolster support for such programs and free the path for separate legislation to control greenhouse gas emissions under new Amendments to the Clean Air Act,¹⁸⁵ Energy Policy Act,¹⁸⁶ or *via* separate legislation such as that found in the Jeffords electricity restructuring bill.¹⁸⁷ Under

¹⁷⁹ John J. Fialka, *Clinton Plan Aims To Curb the Effects Of Global Warming*, WALL STREET JOURNAL, January 26, 1999 at B2.

¹⁸⁰ Brian McGrory, *Clinton Emission Plan Takes a Middle Path*, BOSTON GLOBE, October 23, 1997 at A1.

¹⁸¹ See, for example, Joel Bucher, *The Cost of Kyoto*, JOURNAL OF COMMERCE, February 5, 1998 at 6A. (The State of the Union speech is evidence that Mr. Clinton intends to thwart Senate approval and Congressional intent by immediately implementing the Protocol).

¹⁸² *e.g.*, Leyla Boulton, *Senate May Block Funds for Climate Control*, FINANCIAL TIMES, April 22, 1998 (Joe Romm, a senior official at the Department of Energy, said the \$6.3 billion package would be the most cost-effective way for the US to cut its greenhouse-gas emissions, as called for under the Kyoto Protocol).

¹⁸³ See *supra* notes 176-177 and accompanying text.

¹⁸⁴ In recent hearings, Prof. William Lash III of George Mason University argues that "in light of the fact that EPA chooses to interpret the Knollenberg Amendment as a practical nullity, Congress should seriously consider strengthening the Amendment to give it more teeth." Joint Hearings of the Subcommittee on National Economic Growth, Natural Resources, and Regulatory Affairs, Government Reform and Oversight Committee, U.S. House of Representatives and the Subcommittee on Energy Research, Development, Production and Regulation, Committee on Energy and Natural Resources, U.S. Senate, May 20, 1999. <<http://www.house.gov/reform/neg/hearings/testimony/lash.htm>> The Byrd-Hagel Resolution was recently reaffirmed by S. Con. Res. 20 (S. REPT. No. 106-27, March 19, 1999) which expressed the Sense of Congress that "funds should not be provided to put into effect the Kyoto Protocol prior to its ratification in compliance with the requirements of the Byrd-Hagel Resolution and consistent with previous Administration assurances to Congress."

¹⁸⁵ S.2617, Credit for Voluntary Early Action Act, 105th Cong., 2nd sess., Daily Digest, October 10, 1998, CR page S12309.

¹⁸⁶ S.882, The Energy and Climate Policy Act of 1999, 106th Cong., 1st sess., CR pages S4266-S4267.

¹⁸⁷ See *supra* note 24. The 106th Congress has seen movement in this direction by even the most strident opponents of regulatory action. Most notably a bill introduced by Sens. Murkowski and Hagel and a number of other opponents of Kyoto provided for a number of constructive, long-run proposals to address climate change. In his remarks introducing S.882, The Energy and Climate Policy Act of 1999, *supra* note 185, Sen. Murkowski spoke of his bill as a "first step" and of the need to: (1) ensure that the U.S. Global Climate Change Research Program is conducting high quality, merit-based, peer-reviewed science; (2) remove regulatory obstacles that stand in the way of voluntary greenhouse gas emissions reductions; (3) promote voluntary agricultural and forest management practices; (4) promote U.S. exports of clean technologies to developing nations; (5) pursue possible changes to the tax code to promote certain activities or practices designed to reduce, sequester or avoid greenhouse gas emissions. 106th Cong., 1st sess., CR pages S4266-S4267. Nevertheless, the opposing sentiment can be found in the words of one of Sen. Murkowski's co-sponsors, Sen. Larry Craig (R-WY) who, in his remarks introducing S. 882, expressed concern over "the Administration's strong desire to drastically cut carbon and its

pressure from Congress, the Administration did not propose legally binding limits to control the emissions of carbon dioxide since it did not believe it could secure a *majority* in either the House or Senate for such a measure.

Securing a two-thirds majority in the Senate to ratify the Kyoto Protocol would appear to be an insurmountable task under even the most favorable circumstances and attempts to carry out a regulatory finding while refusing to submit the Kyoto Protocol for ratification would be problematic from a legal perspective and counterproductive from a political perspective. Amending the Clean Air Act or otherwise including emissions controls in other pieces of legislation, would seem the most direct path to reduce emissions with or without ratification of the Kyoto Protocol, but this is a path that the Administration appears reluctant to contemplate absent Senate ratification. Thus, the Administration (as was done in the international negotiations themselves) appears willing to sacrifice real reductions early for the possibility of more substantial reductions at a later date.¹⁸⁸ Absent a ratification vote, every pilot project or new initiative that could provide real reductions in greenhouse gases or act as an experimental testbed for future regulation of greenhouse gases (whatever form it may assume) will be questioned or assailed as yet another attempt at “backdoor implementation of Kyoto.” This game of “chicken” with a Republican-dominated Congress may provide unambiguous benefits politically by allowing the Administration to portray itself as a staunch advocate on behalf of the environment without ever having to propose concrete regulatory measures or new legislation, but the actual benefits to the environment of this strategy remain questionable.

seeming willingness to do so by whatever regulatory measure available. Demonstrative evidence of the Administration’s thinking on this issue is contained in the April 10, 1998, EPA General Counsel memo to Carol Browner, describing EPA’s authority to regulate carbon dioxide under the Clean Air Act. This memo, in my opinion, clearly overstates EPA’s authority to regulate pollutants under the Clean Air Act. Moreover, this memo is indicative of the Administration’s penchant for finding regulatory fixes for problems. Its allies in this campaign are those in the international community who are either indifferent to, or against our economic interests. we all know, or should know, that at this moment in history, when you cap carbon you cap economic growth.” 106th Cong., 1st sess., CR pages S4271 (April 27, 1999).

¹⁸⁸ In fact, the legislative initiative for early action comes not from the White House, but from Sen. John Chafee (R-RI), the Chairman of the Senate Environment and Public Works Committee, and a bipartisan group of Senators who have sponsored legislation that would award credit for near-term reduction in greenhouse gas emissions. First proposed in the 105th Congress, *supra* note 184; in the 106th Congress, a slightly modified version of this bill was introduced as S. 547, Credit for Voluntary Reduction Act, 106th Cong., 1st sess., CR pages S2324-2326 (March 4, 1999).