Brooklyn Journal of International Law

Volume 28 | Issue 1 Article 6

2002

The Kyoto Protocol: Will it Sneak Up on the U.S.?

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THE KYOTO PROTOCOL: WILL IT SNEAK UP ON THE U.S.?

I. INTRODUCTION

GREENHOUSE GAS ("GHG") emissions from human activities have been increasing exponentially since the beginning of the industrial revolution. Scientists believe that human industries like energy production, transport, mining, rice cultivation, and other activities that emit GHGs are fundamentally changing the way energy from the sun interacts with and escapes from our planet's atmosphere.[1] The result is increasing average temperatures on the earth's surface and shifts in worldwide weather patterns, collectively known as global warming.[2] How these climatic changes will affect our way of life is not entirely clear.[3] Some scientists have posited that altering wind and rainfall patterns could lead to widespread food shortages, and rising sea levels may threaten islands and low-lying coastal areas.[4] Although the impact is not entirely understood, it is fairly clear that large volumes of GHGs are being poured into the earth's atmosphere at an alarming rate and that there will most certainly be repercussions.[5]

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1. *See* Conference of Parties 5 ("COP 5"), Understanding Climate Change: A Beginner's Guide to the U.N. Framework Convention and its Kyoto Protocol *at* http://cop5.unfccc.de/convkp/begconkp.html (last visited Sept. 9, 2001) [hereinafter COP5 Website].

2. *Id.*

3. Residents of some areas of Central Europe might take sharp exception to this statement. In the summer of 2002, Central Europe saw torrential rains and flooding of a historic scale that caused several deaths and massive damage to areas surrounding rivers such as the Danube and the Elbe — all of which were arguably the result of global warming. *See Many Germans Believe Bush to Blame for European Floods*, DEUTSCHE PRESSE-AGENTUR, Aug. 14, 2002, LEXIS, News & Business, News, By Individual Publication, D, Deutsche Presse-Agentur, *available at* http://www.climateark.org/articles/reader.asp?linkid=14352.

4. COP5 Website, *supra* note 1.

5. *See* Miguel Llanos, *A Consensus Emerges Around Global Warming*, MSNBC, *at* http://www.msnbc.com/news/106332.asp (Jan. 10, 1999).

In response to this reality, the United Nations ("U.N.") created the *United Nations Framework Convention on Climate Change* ("Convention") in 1992, whose goal is the "stabilization of [GHG] concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[6] In attempting to realize this goal, the Convention drafted the Kyoto Protocol ("Protocol") in 1997, which sets international limitations on GHG emissions and establishes a global marketplace for the trading of GHGs including carbon dioxide ("CO_2"), methane ("CH_4"), nitrous oxide ("N_2O"), hydrofluorocarbons ("HFCs"), perfluorocarbons ("PFCs"), and sulphur hexafluoride ("SF_6").[7] The Protocol limits the amount of GHGs that states party to the Protocol ("Contracting Parties") may produce, based on a percentage of their 1990 GHG production levels. The result is that the Contracting Parties, under the Protocol, own the rights to produce a certain number of units[8] of GHGs.[9] In turn, each state may allocate or auction its units to the GHG producing sectors of its economy according to the goals of the Protocol.[10] If the Contracting Parties desire to produce more pollution than they are allocated, they have several options such as purchasing additional units from other states[11] or creating units by funding "sinks," which are projects, like reforestation projects, that remove greenhouse gases from the at-

6. U.N. Framework Convention on Climate Change, March 21, 1994, art. II, S. TREATY DOC. NO. 102–38, 31 I.L.M. 849 [hereinafter UNFCCC].

7. *Kyoto Protocol to the U.N. Framework Convention on Climate Change*, Dec. 10, 1997, Annex A, U.N. Doc. FCCC/CP/1997/L.7/Add.1, 37 I.L.M. 22 [hereinafter Kyoto Protocol].

8. The term "unit" is being used here somewhat carelessly. Under the Marrakesh Accords (explained further below), there are several types of "units" whose nomenclature is based on the function the measure is being used to quantify. Specifically, in this context the appropriate term is "assigned amount unit" or "AAU," which is equal to one metric ton of CO_2 or CO_2 equivalent. However, since each type of unit is equal to one metric ton of CO_2 equivalent, the term "unit" is used to refer to one metric ton of CO_2 equivalent. Report of the Conference of the Parties on Its Seventh Session, Held at Marrakesh, 29 October to 10 November 2001, Seventh Conference of Parties, Part Two, Vol. II, Decision 19/CP.7, Draft decision -/CMP.1, Annex I.A., ¶ 3, at 57, U.N. Doc. FCCC/CP/2001/13/Add.2 (2002) [hereinafter Marrakesh Accords – Vol. II].

9. Kyoto Protocol, *supra* note 7, at art. 3.

10. *Id.* at art. 2.

11. *Id.* at art. 3 ¶¶ 10–13 (providing for the transferability of GHG units).

mosphere.[12] In essence, the Protocol turns certain polluting gases into commodities, like pork bellies or gold. In turn this allows market forces to operate on GHG emissions and allocate its production according to best use, while at the same time rewarding those states and entities that employ clean technology and best reduce GHG production.[13]

Despite its earlier endorsement, the United States ("U.S."), under the Bush Administration, declined to ratify the Protocol.[14] Although the U.S. has withdrawn its support, large American, multinational, GHG-producing corporations may still feel the effects of the Protocol.[15] This Note will argue that widespread implementation of the Protocol outside the U.S. will nonetheless lead to a reduction in domestic U.S. GHG production — due to factors such as the forces of globalization, the recognition by U.S. lawmakers of their country's role in combating GHG production, the increased presence of American affiliates abroad, the increasing international pressure on the U.S., and the global nature of GHGs. Part II outlines the structure and assumptions behind the Protocol and the accords that will be used to implement it. This Part provides the foundational background required to analyze the U.S. refusal to ratify the Protocol and demonstrates that the Protocol contains mechanisms that will have the effect of reducing domestic U.S. GHG production. Part III lays out the underlying rationale for and against U.S. implementation of the Protocol and demonstrates that despite President Bush's stance on the Protocol, both the international community and U.S. lawmakers are dedicated to combating global warming. It then posits that because of this

12. *Id.* at art. 3, ¶ 3 (allowing states to use afforestation and reforestation projects to meet GHG commitments).

13. *See* Rana Foroohar, *The New Green Game: Tradable allowances for greenhouse gases may one day become the world's biggest commodities market*, NEWSWEEK, Aug. 27, 2001, at 62, *available at* http://www.climateark.org/articles/2001/3rd/newgrgam.htm.

14. *See* Letter to Members of the Senate on the Kyoto Protocol on Climate Change, 37 WEEKLY COMP. PRES. DOC. 444 (Mar. 19, 2001), *available at* http://www.whitehouse.gov/news/releases/2001/03/20010314.html (Letter of March 13, 2001 detailing President Bush's reasons for rejecting the Protocol) [hereinafter Letter from the President].

15. It appears that the Protocol will become effective without U.S. Participation. *Agreement reached on climate talks*, MSNBC, *at* http://www.msnbc.com/news/649465.asp?0cb=21337412 (last visited Nov. 10, 2001) [hereinafter *Climate Talks*].

multilateral commitment, the U.S. will not take measures to prevent any positive impact international implementation of the Protocol may have on the U.S. Part IV analyzes the phenomenon of globalization and the expansion of U.S. industry abroad. It demonstrates that due to these global forces and the nature of GHGs, the Protocol will have a positive effect on domestic production of GHGs despite the refusal of the U.S. to ratify. Part V concludes by noting that although the international community may be able to reduce domestic emissions in the U.S. without direct U.S. participation in the Protocol, there is still hope to bring the U.S. into international schemes to reduce GHGs.

II. STRUCTURE AND GOALS OF THE PROTOCOL

The underlying logic of the Protocol is based on two main assumptions. First, global warming is a global problem that is most effectively combated through a solution of equally global scale. Second, market mechanisms are the best and most cost effective means of allocating and reducing GHG production. These assumptions form the basis of the Protocol and thus permeate the mechanisms and structure of the Protocol itself.

A. Global Warming is a Global Problem

Global warming is not an issue that can be handled unilaterally by any single state, regardless of its size or might. "The undeniable fact is that climate change is a global problem that requires a global solution."[16] This truth has been reiterated multiple times even by those who oppose implementation of the Protocol. In the U.S. Senate, debate over the Protocol has led both to impassioned pleas and a quiet resolve that eventually the U.S. must work with the international community to develop solutions to the GHG problem — especially in light of the fact that the U.S. produces approximately 25% of the world's GHG emissions.[17] There seems to be some general consensus

16. Frank E. Loy, Under Secretary of State for Global Affairs, Remarks at the Earth Technologies Forum for the International Climate Change Partnership (Oct. 30, 2000), *at* http://usinfo.state.gov/topical/global/climate/00110203.htm, *reprinted in* Frank E. Loy, *The United States Policy on the Kyoto Protocol and Climate Change*, 15 NAT. RESOURCES & ENV'T 152 (2001).

17. 147 CONG. REC. S8894 (daily ed. Aug. 3, 2001) (statement of Sen. McCain). See *infra* Part III for further information on the U.S. perspective.

among U.S. lawmakers that the largest contributor to global warming must take responsibility for its share of the problem.[18] The debate has continued even after U.S. refusal to commit to the Protocol. For example, Senator Lieberman has expressed that he is "extremely troubled by the failure of our government to engage on this crucial issue [in Kyoto]…I believe this failure abdicates the United States' position as a leader in environmental affairs and places U.S. industry at risk."[19] Ironically, despite his public opposition to the Protocol, even President Bush has tacitly echoed Senator Lieberman's sentiments. "Even with the best science, even with the best technology, we all know the United States cannot solve this global problem alone."[20] These recognitions are indicative of the enormity of the problem and the global reach required by any solution proposed to solve it.

Further evidence of the broad support for a global solution is presented by the sheer number of states that are signatories to the Protocol that was once described as "the most complex, broad ranging and ambitious environmental agreement ever negotiated by the international community."[21] As of September 25, 2002, eighty-four states, including the U.S., had signed the Protocol, demonstrating a willingness to organize a global re-

See also Loy, *supra* note 16. The 25% figure used by Senator McCain is slightly inflated. According to the revised estimates in the Marrakesh Accords, the U.S. produces about 21% of the world's total GHG emissions. Report of the Conference of the Parties on Its Seventh Session, Held at Marrakesh, 29 October to 10 November 2001, Seventh Conference of Parties, Part Two, Vol. IV, Decision 38/CP.7, Annex, at 33–37, U.N. Doc. FCCC/CP/2001/13/Add.4 (2002) (Indicative scales of contribution 2002–2003) [hereinafter Marrakesh Accords – Vol. IV].

18. Sen. James Jeffords, *Carbon dioxide output rose in 2000*, MSNBC, *available at* http://www.msnbc.com/news/655467.asp (last visited Nov. 9, 2001) [hereinafter *CO2 Output Rose*].

19. 147 CONG. REC. S8894–95 (daily ed. Aug. 3, 2001) (statement of Sen. Lieberman).

20. Remarks on Global Climate Change, 37 WEEKLY COMP. PRES. DOC. 876–879 (June 18, 2001), *available at* http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html (President's speech in the Rose Garden on June 11, 2001) [hereinafter President Bush Discusses Global Climate Change].

21. Loy, *supra* note 16.

sponse to GHG emissions.[22] In addition, ninety-five states have actually ratified or acceded to the Protocol, signifying the international consensus on the need for a global response.[23]

B. Solution: Global Market Mechanisms

The Protocol is designed to create a global answer to the global warming problem, and is endowed with the necessary provisions for the establishment of an international GHG trading system.[24] However, before one can analyze the Protocol itself, it is important to discuss further the foundational premises of the Protocol. The first premise, as discussed above, is the notion that a global problem demands a global solution.[25] The second premise is that a market system is the most cost effective means of reducing overall GHG emissions, especially in comparison to traditional command-and-control methods.[26] It is this second premise that this section addresses.

1. An Argument for Market Mechanisms

The traditional command-and-control model, in the environmental sense, refers to regulations that require entities to adopt certain procedures and technologies in order to meet their reduction standards set by the government.[27] These regulations generally do not distinguish between industry participants. These regulations generally dictate both performance and technology standards, which has the distinct advantage of facilitating monitoring and enforcement.[28] However, its strength in creating bright line rules also produces its greatest weakness in

22. UNFCCC Website, The Convention and Kyoto Protocol, *at* http://unfccc.int/resource/convkp.html (last visited Oct. 5, 2002). Note that the U.S. is a signatory to the Protocol but has not ratified it.

23. *Id.*

24. *See* Press Release, United Nations, Governments Adopt Bonn Agreement on Kyoto Protocol Rules, ENV/DEV/594 (July 23, 2001), *available at* http://www.un.org/News/Press/docs/2001/envdev594.doc.htm.

25. *See supra* Part II.A.

26. Jennifer Yelin-Kefer, *Warming up to an International Greenhouse Gas Market: Lessons from the U.S. Acid Rain Experience*, 20 STAN. ENVTL. L.J. 221, 224 (2001).

27. David M. Driesen, *Is Emissions Trading an Economic Incentive Program?: Replacing the Command and Control/Economic Incentive Dichotomy*, 55 WASH. & LEE L. REV. 289, 296 (1998).

28. Yelin-Kefer, *supra* note 26, at 221, 226.

not allowing industry the flexibility required to find more optimal solutions.[29]

Command-and-control regulations do not take into account the nuances between individual players and industries.[30] For example, suppose *Company A* and *Company B* are subject to command-and control regulation that requires both companies to reduce their emission levels of pollutant *X* to 100 units or less per year. This regulation has the obvious advantage of creating a bright line rule.[31] If *A* or *B*'s emissions levels are over 100 units, then they are in violation of the law. However, suppose that *A* has the ability to develop new technology that would allow it to operate at the same output level while only producing 90 units of *X* per year. Suppose further that if *A* does not develop the cleaner technology, its *X* production would remain at 100 units per year. *B*, on the other hand, is not able to develop technology or meet its goal, and it produces 110 units. In order to remain within the confines of the regulation, *B* must cut its output levels by a sufficient amount to reduce its *X* production levels to 100 units. If *X* production directly correlates with output then *B* would have to reduce output by 10 units in order to comply with the command-and-control regulation. In this case, *A* had no financial incentive to invest in the development of new, cleaner technology as it was already within the limits of the regulation and would not have received a return on its investment in the development of these technologies, whereas *B* was forced to cut output in order to be within the confines of the law.[32] Here, the economic costs of the environmental regulations are prohibitive and cause an undue burden on *B*.

In comparison, market mechanisms, by merely setting an overall limit and creating economic incentives, would alleviate the problem described above.[33] First, the parties would not be

29. *Id*.

30. *See* Driesen, *supra* note 27, at 289; David M. Driesen, *Free Lunch or Cheap Fix?: The Emissions Trading Idea and the Climate Change Convention*, 26 B.C. ENVTL. AFF. L. REV. 1 (1998).

31. *Id*.

32. Yelin-Kefer, *supra* note 26, at 226. *B* does have incentive to develop cleaner technologies but may not be in a position to commit to research and development because of capital requirements, return on investments, etc.

33. *Id*. Sale of cleaner technology is an option in the command-and-control context, but without incentives for development of these technologies, the option has less impact.

forced to remain within the individual confines of a command regulation. The companies would be free to trade units, and sell and license clean technology in order to both make a profit and lower the overall levels of polluting units produced.[34] Second, market regulation would allow parties to make a more accurate cost-benefit analysis of its activities.[35] Market mechanisms turn the regulated polluting unit into commodities that can be priced exactly by the market.[36] This has the dual benefit of allowing parties to more accurately assess the importance of its polluting activities and in turn leads parties to develop technology that is cleaner and cuts costs.[37] Moreover, some parties may be able to actually create a source of revenue by selling its excess units on the open market.[38] Finally, the government will also benefit by using market mechanisms to create new revenue streams.[39] The government could allocate units of pollutants through an auction system, much like the Federal Communication Commission ("FCC") auctions, whereby entities would pay to pollute. In this way, regulators enable the market to find the most cost effective means of implementing its law without going through the costly and time-consuming process of legislative determination.[40] In addition, it placates industry, especially in the U.S., which has repeatedly said that if Government sets the rules, they will take them from there and make a GHG trading system work.[41]

Returning to the above example, assume that the regulators chose a system that implemented market mechanisms where polluting units are transferable and the government has set the overall level of *X* emissions at 200 units, and Companies *A* and *B* receive 100 units each through public auction. In this case, *A* has a financial incentive to invest in the development of clean technologies because for every unit *A* is under the 100 unit mark, it creates a commodity that can be then sold on the market to another producer like *B* who requires the additional

34. *Id.*
35. *Id.*
36. Foroohar, *supra* note 13.
37. *Id.*
38. Yelin-Kefer, *supra* note 26, at 226.
39. *Id.*
40. *Id.*
41. 147 CONG. REC. S8894 (daily ed. Aug. 3, 2001) (statement of Sen. McCain).

units.[42] Thus, by developing and implementing cleaner technologies, *A* has created for itself a surplus of 10 additional units, which it can then sell or trade to *B*. In this way, overall output remains the same and yet production of *X* has been reduced.

Under a system of regulation using market mechanisms, like the system proposed by the Protocol, the parties in this hypothetical would have additional options. One option is that *A* could sell or license its clean technology to *B*, which would allow *A* to keep the additional units of *X* saved as well as generate a stream of income from licensing its technology. Another option is that *B* could try to reduce its *X* production by reducing units of *X* produced in other areas. For example, *B* could fund a project that reduces *X* production in another sector or area of the world. If this project reduces *X* production by 10 units, then *B* is within its allotment. This would be an especially attractive option for *B* if the costs of funding the project were significantly less than purchasing units from *A* or licensing *A*'s technology.

Regardless of which option *A* and *B* ultimately opt for, the point is that these entities have not been forced to reduce their production of *X* in any particular way. They have been given the flexibility to analyze for themselves, relative to their own individual circumstances, the best and most cost effective means for reducing production of *X*. Thus, the market mechanism scheme creates a greater equilibrium and allows for the best use of the pollutant, while reducing the overall level of pollutant emitted.[43]

2. Market Mechanism as a Means of Oppression

Despite these pro-market mechanisms arguments, they are not without their critics, especially as applied to the Protocol.[44] These objections generally come in the form of equity arguments. One argument begins with the premise that the industrialized world has a long history of economic expansion at the expense of underdeveloped nations – exploiting their peoples

42. In addition, this commodity would be renewable and once established, creates a relatively cost-free stream of revenue.

43. For a more thorough discussion of the pros and cons of market mechanisms see generally Driesen, *supra* note 27.

44. *See, e.g.*, Yelin-Kefer, *supra* note 26, at 231–233 (summarizing arguments against the mechanisms used in the Protocol).

and natural resources. Implementing a trading system that relies on market mechanisms would simply allow industrialized states to continue their disproportionate growth at the expense of underdeveloped nations by financially coercing them into forgoing development in exchange for payments for pollution credits.[45] Allowing financial powerhouses to simply purchase credits would, in effect, perpetuate these states' supremacy and permit them to sidestep their responsibility to reduce domestic emissions.[46]

Similarly, some argue that market mechanism systems that allow wealthy nations to gain pollution credits by supporting developing countries' clean air projects and development of carbon "sinks" serve as a disincentive to industrialized countries to develop new technologies and promote reductions in domestic emissions.[47] This theory is based on the idea that less developed states are "low hanging fruit" or "free lunch" for industrial nations since it is easier to fund a reforestation project or power plant conversion than make the risky, and possibly "fruitless," investment in technological development.[48] In this manner, "sinks" become a vessel for technological stagnancy and inhibit progress.[49]

Although these arguments examine some of the inequities that may arise in the relationship between market mechanisms and environmental regulation, they do not attack the basic assumption that market mechanisms are a cost effective means of reducing overall levels of pollutants. However, these arguments do present serious questions as to the social responsibility of implementing such mechanisms. For this reason, the framers of the Protocol had precisely these concerns in mind when drafting the document. The Protocol attempts to limit the negative repercussions, as discussed above.[50] For example, it does not place limits on developing states, only industrialized nations, thereby relieving developing states of the burden of

45. *Id.*

46. Yelin-Kefer, *supra* note 26, at 232.

47. Driesen, *supra* note 30, at 18–35. "Sinks" are things that sequester carbon from the atmosphere. *See infra* Part II.C.1.

48. *Id.*

49. *Id.*

50. The terms of the Protocol and discussion of particular issues regarding the Protocol will be discussed more thoroughly. *See infra* Part III.C.

deciding whether to forgo long-term growth in exchange for temporary gain.[51] The Protocol also puts limits on the number of units that may be acquired through the funding and development of clean air projects and sinks internationally.[52] This encourages the initiation of projects within the boarders of foreign states, probably undeveloped states not party to the Protocol, but yet limits the impact of the "low hanging fruit" problem. Suffice it to say, market mechanisms, although not perfect, are a desirable means of reaching the ultimate goal of worldwide GHG emission reductions.

C. The Nuts and Bolts of the Kyoto Protocol

The Protocol of 1997 merely set up a framework within which the work of the Convention was to be accomplished in subsequent conferences. As usual, the devil was in the details and it took the Contracting Parties several conferences to come to an agreement as to the specifics with which this new system is to function. At the sixth meeting of the Convention of Parties ("COP 6"),[53] held in Bonn, Germany, the 180 states involved struck an Eleventh hour political compromise that saved the Protocol.[54] The next conference, COP 7, held in Marrakesh, Morocco, was not a negotiating session, but rather a codification of the political agreement reached in Bonn. The accords that resulted from COP 7 in Marrakesh ("Accords")[55] represent the labors of the Bonn conference and provide a detailed rulebook for the implementation of the Protocol.

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51. Kyoto Protocol, *supra* note 7, at Annex B (listing the Contracting states). This topic was a major point of contention at the Protocol Convention and was ultimately one of the issues that led to the U.S. decision not to ratify the Protocol. *See infra* Part III.B.1.

52. *See infra* Part II.C.2.

53. Individual conventions of the Conference of Parties are referred to as "COP," followed by a number designating which convention in the chronology is being referred (for example "COP 3" is the third conference). These conferences are designed for the purpose of creating mechanisms to implement the provisions of the Protocol.

54. *Climate talks resume*, CNN, *at* http://www.cnn.com/2001/WORLD/europe/10/28/morocco.climate/index.html (Oct. 29, 2001).

55. *Id.*

1. Allocation

Each Contracting Party is allocated a specific number of assigned amount units ("AAUs").[56] The number of AAUs allocated to a state represents the number of metric tons of CO_2 equivalent that the state may produce for a given period. The final tally of AAUs allocated is derived from a reduced percentage[57] of each state's 1990 aggregate anthropogenic carbon dioxide equivalent emissions of GHGs, multiplied by five.[58] In addition, the Protocol provides that additional units may be earned based on land-use change and forestry, which remove GHGs from the atmosphere.[59]

Each Contracting Party is required to facilitate the calculation of its assignment amount, by submitting a two-part report.[60] The first part requires the Contracting Parties to submit a complete inventory of GHG emissions and removals from the base year of 1990 to the most current date available, concluding with a calculation of its assigned amount on the basis of this inventory.[61] The second part requires the states to calculate its "commitment period reserve," which includes identification of its "election activities," and their associated land areas, as well as a description of the national registry and recording systems – aiding in the allocation calculations and verifying national monitoring systems.[62] In this manner, the Protocol and the Accords attempt to set up a system of disclosure designed to fairly allocate AAUs.

2. Emission Reduction Unit Mechanisms

The Protocol and the Accords allow the Contracting Parties to reduce GHG emission requirements based on the state's use of

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56. Each AAU is equal to one metric ton of carbon dioxide or its equivalent. Marrakesh Accords – Vol. II, *supra* note 8, at 57.

57. Kyoto Protocol, *supra* note 7, at Annex B (indicating percentage reductions for each Contracting Party).

58. Kyoto Protocol, *supra* note 7, art. 3 ¶ 7.

59. *Id.* This notion will be discussed more thoroughly in the next section. *See infra* Part II.C.2.

60. Marrakesh Accords – Vol. II (Decision 19/CP.7, Draft decision -/CMP.1, Annex I.B., ¶ 6), *supra* note 8, at 58.

61. *Id.* ¶ 7, at 58.

62. *Id.* ¶ 8, at 58–59.

"sinks,"[63] clean development mechanisms ("CDMs")[64], and through the trading of emission units.[65] These activities[66] create emission reduction units ("ERUs"), which, once verified by supervisory committees,[67] may be used toward fulfilling a Contracting Party's GHG emissions reduction commitments.[68] Thus, if a state funds a reforestation project[69] that removes ten units of GHG emissions from the atmosphere, then that state would receive an additional ten ERUs, giving the state the right to produce ten units of GHGs. All CDM project activity occurring as of the year 2000 is eligible for validation so long as it is submitted to the commission for registration before December 31, 2005.[70] A state's eligibility to participate in these mechanisms is contingent on its compliance with methodological and reporting requirements,[71] providing an incentive for the Contracting Parties to comply with the Protocol's compliance procedures.

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63. Sinks are defined as removals of GHGs resulting from "direct human-induced land-use change and forestry activities." Kyoto Protocol, *supra* note 7, at art. 3, ¶ 3.

64. CDMs are projects conducted by Annex I, participating, industrialized states, occurring in states that are not included under Annex I. Kyoto Protocol, *supra* note 7, at art. 12. The theory is that global warming is an international problem, and it makes no difference where the emissions occur. Under this line of reasoning, a reduction in emissions in another state is equally as beneficial as a reduction within the boarders of the Contracting Party, and should count toward the Contracting Party's overall reduction requirement.

65. Kyoto Protocol, *supra* note 7, at art. 17; Marrakesh Accords – Vol. II (Decision 18/CP.7), *supra* note 8, at 50–54.

66. This is excluding the trading of units, which does not create new units but rather transfers ownership of previously existing units.

67. Supervisory committees are set up under the Accords to verify ERUs that come from each of the mechanisms allowed for under Articles 6, 12, and 17 of the Protocol. *See e.g.*, Marrakesh Accords – Vol. II (Decision 16/CP.7, Draft decision -/CMP.1, ¶ 3), *supra* note 8, at 6 (Article 6 committee).

68. Marrakesh Accords – Vol. II (Decision 15/CP.7, Draft decision -/CMP.1, ¶ 6), *supra* note 8, at 4.

69. This could mean that these projects are funded by either state governments or through private entities.

70. Marrakesh Accords – Vol. II (Decision 17/CP.7, ¶ 13), *supra* note 8, at 23.

71. Marrakesh Accords – Vol. II (Decision 15/CP.7, Draft decision -/CMP.1, ¶ 5), *supra* note 8, at 4; *see* Kyoto Protocol, *supra* note 7, arts. 5, 7 (detailing requirements for measurement methodologies, and information communication).

The enforcement branch of the Compliance Committee is responsible for oversight of ERU/CDM mechanisms,[72] which are scheduled to be reviewed no later than one year after the end of the first commitment period.[73] The review will be based on the recommendations of the Articles 6, 12, and 17 supervisory committees and by the Subsidiary Body for Implementation, drawing on technical advice from the Subsidiary Body for Scientific and Technological Advice.[74] These supervisory bodies ensure that both the reporting and scientific underpinnings of unit allocation and ERU credits are and continue to be consistent with reality. These bodies will act not only as auditors but also as policy makers and review the impact of policy choices made in the framing of the Protocol and subsequent accords. For example, under the Accords, the Conference made the policy decision that Article 12 afforestation and reforestation project activities ("sinks") may only account for a maximum of 1% of base year emissions times five that a Party may use towards its first commitment period goals.[75] The supervisory bodies will analyze whether provisions like this are serving their intended functions. In this manner the Protocol and its accords provide for a continuing review of the effectiveness of both its scientific and political assumptions.

3. Monitoring

Monitoring will be conducted through both national and international monitoring groups, which will not only monitor emissions but also monitor the impact of GHGs on the climate. These groups will accomplish their goals by collecting data such as climate and hydroclimate studies, geographical information

72. Marrakesh Accords – Vol. II (Decision 15/CP.7, Draft decision -/CMP.1, ¶ 5), *supra* note 8, at 4.

73. The first commitment period lasts from 2008–2012. Kyoto Protocol, *supra* note 7, at art. 3 ¶ 1.

74. Marrakesh Accords – Vol. II (Decision 16/CP.7, Draft decision -/CMP.1, ¶ 8), *supra* note 8, at 6–7 (Article 6); Marrakesh Accords – Vol. II (Decision 17/CP.7, Draft decision -/CMP.1, ¶ 4), *supra* note 8, at 24 (Article 12); Marrakesh Accords – Vol. II (Decision 18/CP.7, ¶ 2), *supra* note 8, at 50 (Article 17).

75. Marrakesh Accords – Vol. II (Decision 17/CP.7, ¶ 7(b)), *supra* note 8, at 22. This provision addresses the concern that states will be able to shirk their responsibility to reduce domestic emissions by simply going after the "low hanging fruit." *See infra* Part II.B.

systems, sea-level rise, fire hazards, and land degradation statistics.[76] The Protocol requires that each state have in place, no later than one year prior to the start of the first commitment period a national system for the estimation of anthropogenic emissions by sources and removals by sinks of all GHGs.[77] The national monitoring systems are required to send information regarding their GHG registries to the secretariat in "a standard electronic format," that will account for the total numbers of ERUs, CERs, AAUs, and RMUs.[78] "Expert review teams" will then sort through the information and ascertain whether the state's national system has complied with the reporting guidelines and cross-check the information on transfers and acquisitions of units.[79] The committee will also conduct "in-country review" of national registries to ensure compliance with the provisions of the Accords.[80]

4. Enforcement

The Compliance Committee will function as a plenary of two branches – the facilitative branch and the enforcement branch.[81] The enforcement branch, as the name would indicate, determines whether a Contracting Party included in Annex I is not in compliance with any of the requirements of the Protocol or the Accords, and determines the consequences for non-

76. Report of the Conference of the Parties on Its Seventh Session, Held at Marrakesh, 29 October to 10 November 2001, Seventh Conference of Parties, Part Two, Vol. I, Decision 5/CP.7, ¶ 7, at 34, U.N. Doc. FCCC/CP/2001/13/Add.1 (2002).

77. Kyoto Protocol, *supra* note 7, at art. 5 ¶ 1.

78. Emission Reduction Unit ("ERU"), Certified Emission Reduction ("CER"), Assigned Amount Unit ("AAU"), Removal Unit ("RMU"). Marrakesh Accords – Vol. II (Decision 19/CP.7, Draft decision -/CMP.1, Annex III.A., ¶ 49), *supra* note 8, at 68.

79. Report of the Conference of the Parties on Its Seventh Session, Held at Marrakesh, 29 October to 10 November 2001, Seventh Conference of Parties, Part Two, Vol. III, Decision 23/CP.7, Appendix 1, ¶ 5, at 32–33, U.N. Doc. FCCC/CP/2001/13/Add.3 (2002) [hereinafter Marrakesh Accords – Vol. III].

80. Marrakesh Accords – Vol. III (Decision 23/CP.7, Appendix 1, ¶ 10), *supra* note 79, at 34.

81. Marrakesh Accords – Vol. III (Decision 24/CP.7, Annex II., ¶ 2), *supra* note 79, at 65. The "plenary" aspect of the Compliance Committee is a bureau made up of members of the two branches, which, among other things, reports the activities of the Compliance Committee at COPs. *See*, Marrakesh Accords – Vol. III (Decision 24/CP.7, Annex III.), *supra* note 79, at 66–67.

compliance.[82] The consequences are either to adjust the non-complying Party's inventories under Article 5 of the Protocol, or make a correction to the compilation and accounting database for the accounting of AAVs under Article 7.[83] In either event, the rebuke of a non-complying Party is based on punitively altering their target goals. In addition, the provisions of the Protocol will also be enforced through controlling access to GHG trading. An Annex I Party[84] is eligible to transfer and/or acquire (trade) ERUs, CERs, AAUs, or RMUs[85] if it is a Party to the Protocol, has followed the prescribed monitoring procedures, has a national system for the estimation of anthropogenic emissions, and has made the prescribed transfer of information according to the Protocol and the Accords.[86] Thus, if a Contracting Party is not in compliance with the Protocol, then the enforcement and/or facilitative branch may prevent the state from participating in the trading scheme under the Protocol.

D. The Protocol — Ready for Action

The Protocol will not take affect until at least fifty-five Contracting Parties, representing at least 55% of the world's GHG emissions, have ratified the Protocol.[87] Since the U.S. has already made clear that it will not support the Protocol and seeing that the U.S. produces 21% of the world's GHGs, for the Protocol to take affect, there must be virtual unanimity among all remaining industrialized nations.[88] However, it appears that

82. Marrakesh Accords – Vol. III (Decision 24/CP.7, Annex V.), *supra* note 79, at 68–69.

83. *Id.*

84. Annex I refers to industrialized states that have signed the Protocol and have been allocated a commitment level under Annex B of the Protocol. Kyoto Protocol, *supra* note 7, Annex B.

85. Marrakesh Accords – Vol. II (Decision 19/CP.7, Draft decision -/CMP.1, Annex I.A.), *supra* note 8, at 57.

86. Marrakesh Accords – Vol. II (Decision 18/CP.7, Draft decision -/CMP.1, Annex, ¶ 2), *supra* note 8, at 52–53. Lists of eligible trading parties are to be publicly accessible and maintained by the secretariat. Marrakesh Accords – Vol. II (Decision 18/CP.7, Draft decision -/CMP.1, Annex, ¶ 4), *supra* note 8, at 53.

87. Kyoto Protocol, *supra* note 7, at art. 25 ¶ 1.

88. The Marrakesh Accords list 187 states and their estimated respective contributions to the world's production of GHGs — totaling 100%. Of the 187 states listed, the top 30 producing states produce approximately 90% of the world's GHG emissions with the top 4 producers emitting about 55%. This

the requisite consensus has formed around the Protocol. As of October 16, 2002, ninety-six Contracting Parties have ratified the Protocol, representing 37.4% of the world's GHG emissions.[89] With the numerical requirement for effectiveness already fulfilled, the Protocol will become effective if states representing an additional 17.6% of the world's GHG emissions commit to ratification. Many commentators believe this will in fact occur within the next year.[90] In any event, it is clear that the Protocol will most likely come into effect, and that this surprising unanimity of purpose is the result of dedicated negotiation and compromise.

Umbrella states[91] like Russia, Japan, and Canada were at first reluctant to ratify the Protocol without U.S. involvement. However, last minute concessions by the states in the European Union ("EU") have opened the way to widespread ratification by governments.[92] The Japanese government has recently ratified the Protocol, which at the time brought the total number of ratifying nations to seventy-three, representing 36% of the world's total GHGs emissions.[93] Although Japan had previously stated

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means that if the top 4 producers — U.S., Japan, Germany, and France — were to ratify the Protocol, the percentage requirement for effectiveness would be met. However, without U.S. support, the Protocol would require ratification from the top 11 producers of GHGs. If Japan, which produces 19% of the world's GHG emissions, were to take back its ratification, the Protocol would require ratification from more than 40 of the next top producers. Marrakesh Accords – Vol. IV, *supra* note 17.

89. COP 8 Website, Kyoto Protocol Thermometer *at* http://unfccc.int/resource/kpthermo_if.html (last visited Oct. 28, 2002) (providing chart showing ratification progress).

90. *See Russia close to Kyoto signing*, CNN, *at* http://www.cnn.com/2002/WORLD/africa/09/03/kyoto.russia.glb/index.html (Sept. 3, 2002).

91. At the COP meetings, a partnership of states called the "Umbrella Group," including Australia, Canada, Japan, Norway, Russia, and the United States, had a foundation of similar views relating to the Protocol. Press Release, Union of Concerned Scientists, Flexibility and Credibility: The Keys to the Kyoto Protocol, *at* http://www.ucsusa.org/releases/flex.html (last visited Oct. 5, 2002).

92. Press Release, U.N. FCCC, Governments ready to ratify Kyoto Protocol (Nov. 10, 2001), *available at* http://unfccc.int/press/prel2001/pressrel101101.pdf.

93. Section 1.01 Department for Environment Food and Rural Affairs (DEFRA), United Kingdom, Kyoto Protocol: Japan ratifies, Australia rejects, at http://www.defra.gov.uk/news/latest/2002/japanoz.htm (last visited Oct. 5, 2002) (Japan ratified the Protocol on June 5, 2002).

that the main hurdle to ratification was participation by the U.S., as a result of intense lobbying and compromise by the EU, Japan has agreed to the terms of the Protocol.[94] In addition, the Russian delegation has made explicit overtures that the Protocol will be ratified by the Russian Federation.[95] Even though the Accords did not resolve every issue, in the words of one commentator, "I prefer an imperfect agreement that is living to a perfect agreement that doesn't exist."[96]

III. THE PROTOCOL: THE U.S. PERSPECTIVE

The U.S. and supporters of the Protocol are in agreement as to the best means of combating global warming — in principle. Both recognize the urgency of the problem, the need to take action on a global scale, and the benefits of using market mechanisms to accomplish real GHG reductions. Despite this seeming harmony of opinion, U.S. concerns over issues like the exclusion of developing countries and the economic impact of drastic GHG reductions have guided U.S. policy and led to President Bush's declaration that the U.S. would not ratify the Protocol. For its part, the Bush administration has countered with its own voluntary GHG emissions reduction program. Although this program falls far short of the Protocol's guidelines, it demonstrates that the U.S. has not completely turned a blind eye to the need to reduce GHG emissions, and provides support for the belief that the U.S. still has an important role to play in reducing GHGs.

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94. *Japan may act on Pact without U.S.*, CNN, *at* http://www.cnn.com/2001/WORLD/asiapcf/east/08/09/japan.environment/index.htm (Aug. 9, 2001).

95. *Climate treaty set to be ratified*, CNN, *at* http://www.cnn.com/2001/TECH/science/11/10/climate.talks/index.html (Nov. 10, 2001) (quoting Alexander Bedritsky, head of the Russian delegation at COP 7); Alastair Macdonald and Ed Stoddard, *Russia, China say back Kyoto global warming pact*, REUTERS, *available at* http://www.enn.com/news/wire-stories/2002/09/09042002/reu_48333.asp (Sept. 4, 2002).

96. *Work starts on Kyoto Deal details*, CNN, *at* http://www.cnn.com/2001/WORLD/europe/ 07/23/kyoto.talks/index.html (July 23, 2001) (quoting Oliver Deleuze, chief European Union negotiator at COP 7).

A. U.S. Commitment to Reducing GHGs

Despite its refusal to participate in the Protocol, the U.S. has repeatedly attempted to reduce the impact of global warming. During the 1990s, the Clinton Administration made strong commitments toward both international and unilateral solutions to solving the global warming problem. Under Clinton's leadership, the U.S. signed the Protocol,[97] secured more than $1 billion in funding for domestic renewable energy and programs to reduce emissions, and campaigned for further funding of clean energy research and development.[98] In addition, then President William J. Clinton issued an Executive Order directing the federal government — the world's largest energy consumer — to reduce gasoline use by 20% by 2005, and reduce GHG emissions from federal buildings by 30% by 2010.[99] These efforts appear to have at least retarded the growth of U.S. emissions, as evidenced by a decoupling of emissions growth from economic growth.[100] In the 1990s, CO_2 emissions grew by 12% while the U.S. economy as a whole grew by 33%.[101] This retardation and concerted government effort demonstrates the U.S. recognition of the GHG problem and its willingness to exert its power to be proactive in facilitating emission reductions.

President George W. Bush has also taken some strides, be they small, toward curbing GHG emissions in the U.S. On February 14, 2002, the White House announced its "Clear Skies & Global Climate Change Initiatives."[102] The President's plan calls for reduction in GHG "intensity"[103] by 18% over the next

97. President Clinton signed the Protocol but it was never ratified by the Senate. *See* S. Res. 98, 105th Cong. (1997).

98. Loy, *supra* note 16.

99. Exec. Order No. 13,123, 64 Fed. Reg. 30,851 (June 3, 1999). These reduction figures represent percentages of 1990 levels of GHG emissions — the exact same year the Protocol uses as its basis.

100. Loy, *supra* note 16. Meaning that growth in the economy does not entail a corollary growth in GHG emissions.

101. *Id.*

102. *See* Remarks Announcing the Clear Skies and Global Climate Change Initiatives in Silver Spring, Maryland, 36 WEEKLY COMP. PRES. DOC. 232–236 (Feb. 18, 2002), *available at* http://www.whitehouse.gov/news/releases/2002/02/20020214–5.html (President Bush's speech to National Oceanic and Atmospheric Administration (NOAA) on February 14, 2002) [hereinafter Clear Skies Initiative].

103. The plan defines "intensity" as the ratio of GHG emissions to economic output or, more specifically, number of metric tons of GHG emissions per mil-

ten years, which Bush declares is "comparable to the average progress that nations participating in the Kyoto Protocol are required to achieve."[104] Despite any challenges to the validity of this claim, it is important to note that the President is using the Protocol as the benchmark with which he is comparing his domestic GHG reduction plan. In other words, President Bush is aspiring to meet the goals of the Protocol, even though he refuses to use its mechanisms.

In addition to his own affirmative actions to curb GHG production in the U.S., President Bush has also publicly declared that "[t]he United States will not interfere with the plans of any nation that chooses to ratify the Kyoto protocol."[105] The President's statement underscores the fact that he is not adverse to the goals of the Protocol, and by implication would probably not attempt to thwart any positive impact the Protocol might have on domestic U.S. GHG emissions.

Other American lawmakers have also demonstrated that they are not adverse to GHG regulation, even regulation on an international scale.[106] On the contrary, despite having opted out of the Protocol, the U.S. government on the whole appears to be amenable and arguably proactive in reducing the emission of climate warming gases. Several bills have been circulating in

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lion dollars of gross domestic product ("GDP"). Press Release, Office of the Press Secretary, The White House, Fact Sheet: President Announces Clear Skies & Global Climate Change Initiatives (Feb. 14, 2002), *available at* http://www.whitehouse.gov/news/releases/2002/02/20020214.html [hereinafter Clear Skies Fact Sheet].

104. *Id.* This claim is very misleading. By defining GHG emissions reductions in terms of "intensity," the U.S. is only reducing its growth in emissions by 18% as opposed to the Protocol's scheme, which requires a percentage reduction from 1990 levels. Thus, if the U.S. GDP grows by 30% over the next 10 years, the President's 18% reduction will only be a reduction on that increase. This may slow the worsening of global warming, but will certainly allow the overall number of metric tons of GHGs emitted in the U.S. to increase as fast as the economy can grow. Obviously, this is far less reaching than the Protocol envisions.

105. Clear Skies Initiative, *supra* note 102.

106. A recent bill proposed in the Senate recognizes this proposition stating, "a new long-term, technology-based, cost-effective, flexible, and global strategy to ensure long-term energy security and manage the risk of climate change is needed, and should be promoted by the United States in its domestic and international activities in this regard." Climate Change Risk Management Act of 2001, S. 1294, 107th Cong. § 2 (11) (2001) (bill was referred to the Senate Committee on Energy and Natural Resources).

both houses of the U.S. Congress, accompanied by much debate, proposing various systems to reduce GHG emissions.[107] Such bills have entailed the establishment of a mandatory GHG reporting system,[108] and voluntary GHG trading system.[109] Senators Chuck Hagel, Frank Murkowski, and Larry Craig have proposed to spend $2 billion over ten years on new technology to reduce GHG emissions, and other incentives to sell the technology to developing nations like China and India.[110] In addition to the proposed alternatives to the Protocol, many politicians, both Democrats and Republicans, have rebuked President Bush from withdrawing from the Protocol. For example, the Senate Foreign Relations Committee called on the White House to participate in international global warming negotiations and to bring an alternative proposal to future COP meetings.[111]

In addition to national efforts to curb GHG emissions, state and regional cooperation in the U.S. has led to valuable strides toward domestic reductions. For example, the New England Governors and Eastern Canadian Premiers have adopted resolutions to help reduce GHG emissions within their own spheres of influence.[112] The non-binding agreements, which are strikingly similar to the terms of the Protocol, sends a "strong mes-

107. *See* Chris Baltimore, *Republican Senators offer Kyoto treaty alternative*, REUTERS, *at* http://www.greenhousenet.org/news/august-2001/senatorsoffer .html (Aug. 2, 2001). At minimum, these bipartisan proposals are a strong acknowledgment from both American parties that global warming is a problem that must be addressed.

108. National Greenhouse Gas Emissions Inventory Act of 2002, H.R. 4611, 107th Cong. (2002).

109. Fuel Economy and Security Act of 2002, S. 1923, 107th Cong. (2002). *See* Loy, *supra* note 16. Many of these recommendations found their way into President Bush's Clear Sky Initiatives. *See e.g.*, Clear Skies Fact Sheet, *supra* note 103 (noting the President's commitment to improve the U.S. GHG registry "taking into account emerging domestic and international approaches").

110. *See* International Energy Technology Deployment Program, S. 1294, 107th Cong., § 6 (2001); *see also* Baltimore, *supra* note 107.

111. S. 1401, 107th Cong. § 778(b)(3) (2001).

112. *See*, *e.g.*, New England Governors and Eastern Canadian Premiers, Res. 25-9 (July 18, 2000) (resolution concerning global warming and its impacts on the environment). This conference represents a bipartisan group that involves both American and Canadian officials, who discuss regional issues. Michael Schaeffer, *N.E. governors to turn up heat in fight against global warming*, MSNBC, *available at* http://www.msnbc.com/local/fddber /m84359.asp (Aug. 26, 2001).

sage about the importance of reducing emissions and using energy more efficiently."[113]

Individual U.S. states are also providing a means to combat GHG emissions. California, for example, recently passed comprehensive legislation providing a mandate for the reduction of GHGs by empowering state administrative agencies to pass rules and regulations governing GHG production.[114] The legislation, among other things, continues a state GHG registry for monitoring of emissions, which coincidentally is required under the Protocol.[115] In addition, it increases the number of miles per gallon required of vehicles sold in California.[116] These types of measures demonstrate that despite President Bush's refusal to officially support the Protocol, there is a willingness to act on the issue of global warming and accomplish the goals of the Protocol through means other than *dejure* federal compliance.

The U.S. has also signaled its willingness to reduce GHG emissions and participate in a global solution through its membership in certain international organizations. For example, the G8[117] countries have made clear their intention to work both domestically and internationally in order to combat GHG emissions.[118] The G8 have formally recognized that GHG emissions

113. Schaeffer, *supra* note 112 (quoting Pamela Walsh, spokeswoman for New Hamshire Governor Jeanne Shaheen).

114. 2002 Cal. Legis. Serv. Ch. 200 (A.B. 1493) (West), Vehicular emissions; Greenhouse gases. California is a particularly important state to be leading this charge given its importance as a legislative forerunner and considering it is the 5th largest economy in the world. *See id*. § 1(b).

115. *Id*. § 2. Note the text of this legislation is an amendment to the California Health and Safety Code, relating to air quality.

116. *See* Press Release, Union of Concerned Scientists, California Sets New Standard in Drive to Curb Global Warming (July 2, 2002), *at* http://www.ucsusa.org/releases/07-02-02.html.

117. The G8 consists of Canada, France, Germany, Italy, Japan, Russia, the U.K. and the U.S., with the European Union participating with "observed status." The G8 was originally formed to deal with essentially macroeconomic issues but has since expanded its scope to include issues such as terrorism, drugs, and the environment. *See* G8 Summit Website, G8 Background, *at* http://www.g8.gc.ca/aboutbackgrnd-e.asp (last visited Oct. 28, 2002); G8 Summit Website, How the G8 Works, *at* http://www.g8.gc.ca/abouthow-e.asp (last visited Oct. 28, 2002).

118. Although the G8 has made such declarations, they were unable to reach any specific agreement on the Protocol. *See* G8 Environment Ministers Communiqué, Trieste, Italy, March 2–4, 2001, *available at*

are altering the atmosphere in ways that are expected to affect the climate.[119] In addition, the G8 have recommitted themselves to take the lead in combating climate change and recognize that "a firm consensus for action on climate change is needed."[120] Although the G8, and the U.S. by implication, have fallen short of recommending the Protocol for ratification, the tenor of the organization's statements demonstrates a willingness to support the goals of the Protocol and act in a global manner to bring about such change.

Judging from the myriad of proposals and overall interest in the subject of global warming, it is apparent that although the U.S. will not ratify the Protocol in its current form, the U.S. has recognized its international obligation to curb its GHG emissions and its responsibility to work toward an international solution. The import of this finding is that it signifies that the U.S. is not opposed to the goals of the Protocol, and arguably will not attempt to inhibit any positive impact the Protocol may have on the U.S.

B. No to Kyoto

Two camps emerged at the COP meetings: the EU, and a partnership of states called the "Umbrella Group."[121] Although these two groups had the same primary objective — to create a climate protection regime — they came to a crossroads over the issue of implementation. Their differences included squabbles over allocation levels for certain states, enforcement procedures, and level playing field arguments on the effects of the Protocol on trade.[122] While all of these issues were sticking points in the negotiations, the most important, and ultimately decisive factors were their positions on whether developing countries should be included in the Protocol and its impact on the economy.

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http://www.esteri.it/g8/documentazione/docum02e.htm (last visited Oct. 28, 2002).

119. *Id.*

120. *Id.*

121. *See supra* note 91.

122. *Id.*

1. The Developing Country Exception

As currently drafted, the Protocol does not include emissions standards for developing countries. The U.S., together with other members of the Umbrella Group, came to a loggerhead with the EU over this issue. The EU, keeping to one of the tenants of the Protocol, argued that the largest share of historical and current emissions originate in developed (industrialized) countries, and therefore these countries should take the lead in combating climate change and its adverse effects.[123] It would be fundamentally unfair to stunt the economic progress of industrializing nations by enforcing GHG emission requirements, simply because those states where unable to industrialize before the Protocol.

The Umbrella Group, with the U.S. taking the lead, had a much different perspective with respect to the inclusion of developing countries in the Protocol. They argued that emerging markets like China, India, Mexico, South Korea, as well as another 130 nations not bound by the Protocol, are growing at an explosive rate, such that the increase in emissions from these states would quickly overshadow any reductions made by the participating parties.[124] For example, developing countries already produce 44% of global fossil fuel emissions and, owing largely to geographic and economic conditions, are responsible for a disproportionate share of deforestation and other land use practices that have raised carbon concentrations.[125] In addition, it is estimated that 80% of new electric power generation projects will occur in these non-participating countries, creating new sources of GHG that will not be subject to the restrictions of the Protocol.[126] As such, the Umbrella Group argued that providing this large exception swallows the rule and severely

123. *See* Wolfgang Steinborn, *Global Climate Change and GIS, at* http://www.geoplace.com/ge/2001/0111/0111ltr.asp (last visited Oct. 28, 2002); COP 5 Website, Kyoto Protocol History, *at* http://cop5.unfccc.de/convkp/begconkp.html (last visited Aug 4, 2001).

124. Sen. Frank H. Murkowski (R-Alaska), *The Kyoto Protocol is not the Answer to Climate Change*, 37 HARV. J. ON LEGIS. 345 (2000).

125. *See* Loy, *supra* note 16.

126. *See id.* Although such projects would not be directly subject to the Protocol, they represent opportunities for the Contracting Parties to earn additional units by financing the use of cleaner technology.

limits the effectiveness of the Protocol so as to render it ineffective.[127]

The U.S. Senate has hammered this point home with the passage of the Byrd-Hagel Resolution ("Byrd-Hagel"), laying out its position with regard to the developing country exception —

> Whereas the exemption for Developing Country Parties is inconsistent with the need for global action on climate change and is environmentally flawed; Whereas the Senate strongly believes that the proposals under negotiation, because of the disparity of treatment between Annex I Parties [Industrialized Countries] and Developing Countries and the level of required emission reductions, could result in serious harm to the United States economy, including significant job loss, trade disadvantages, increased energy and consumer costs, or any combination thereof . . . .[128]

Byrd-Hagel made it explicit that the U.S. would not become a party to any treaty that did not apply to developing countries. This sentiment was given a resounding exclamation point with the Senate passage of the resolution 95–0.[129] President Bush has reiterated the sentiments of the Senate but has been careful not to completely alienate the U.S. from the international community. "America's unwillingness to embrace a flawed treaty should not be read by our friends and allies as any abdication of responsibility. To the contrary, [the] administration is committed to a leadership role on the issue of climate change."[130] Despite President Bush's desire to play a "leadership role," it is clear that the U.S. government will not ratify the Protocol in its existing form with the inclusion of the developing country exception.

2. Economic Impact and the Effect of the California Power Crisis

U.S. opposition to the Protocol, based largely on the developing country exception, has been further solidified by domestic power shortages and increases in the cost of power. The power crisis that gripped California in 2001 again put energy on the

127. *Id.*

128. S. Res. 98, 105th Cong. (1997).

129. *See* 144 CONG. REC. S3240 (1998) (debate in the U.S. Senate one year after the Bryd-Hagel Resolution).

130. President Bush Discusses Global Climate Change, *supra* note 20.

national agenda.[131] The rolling brown-outs and rapidly increasing energy prices created a sense of urgency in the energy sector and led to the release of oil from the national reserves and debate over opening up the Arctic National Wildlife Refuge in Alaska for oil exploration.[132] It is against this backdrop that the narrowly elected Bush Administration rejected the Protocol.[133] The crisis had politicized power prices, which made the Protocol, and its possibly significant impact on energy prices, a politically dangerous subject.

Opponents of the Protocol argued that in light of the power crisis, the considerable costs of implementing the Protocol simply could not be justified.[134] As with any major piece of comprehensive regulation, quantifying the implementation costs has been varied and difficult to assess. Some claim that the Protocol would require the U.S. to reduce its energy use to 40% below the levels expected in 2010, the mid-range year of the first compliance period under the Protocol.[135] In addition to reduced energy use, implementation of the Protocol could cause gasoline prices to rise by 53% and electricity prices by 86% over the next decade.[136] The thought of such dizzying increases in the cost of energy provides strong rhetoric against the Protocol when coupled with the political realities and repercussions of the 2001 California energy crisis.

3. Other Points of Contention

Besides the two main U.S. issues, there were several other points of contention between the EU and the other Umbrella

131. Yahoo! provides an excellent compilation of articles and websites regarding the California energy crisis and energy deregulation. *See* Yahoo! New Coverage, Utility Industry, Deregulation *at* http://story.news.yahoo.com/fc?cid34&tmpl=fc&in=Business&cat=Utility_Industry_Deregulation (last visited Oct. 4, 2002).

132. *See* Sierra Club Website, Artic National Wildlife Refuge *at* http://www.sierraclub.org/wildlands/arctic/ (last visited Sept. 30, 2002).

133. *See* Tony Eufinger, *Hostile Environment: Europe Turns Up Heat on Bush Over Global Warming*, ABCNEWS.COM, *at* http://abcnews.go.com/sections/politics/DailyNews/Kyoto010612.html (last visited Oct. 3, 2002)

134. *See generally* Murkowski, *supra* note 124.

135. *Id*. at 346.

136. *Id*. (citing Energy Information Admin., U.S. Dep't of Energy, *Impacts of the Kyoto Protocol on U.S. Energy Markets and Economic Activity* (1998)).

countries.[137] Japan, for example, was against making penalties for countries that fail to meet their Protocol targets legally binding.[138] The EU, in a move that clearly demonstrates the importance of Japan's participation in the Protocol,[139] gave ground by dropping the word "legally" from descriptions of the binding force on countries that did not meet their Protocol targets.[140] However, EU officials insisted that the targets would still be "binding" on non-complying states.[141]

Another point of contention arose between the EU and nations with great areas of national forests like Canada and Russia. The Protocol provides that a state may obtain credits towards its GHG targets through the development and preservation of sinks that naturally take GHGs out of the atmosphere.[142] There was much debate as to how these sinks should be quantified and the upper limits to which states could fulfill their Protocol obligations through such sources.[143] In another demonstration of the Contracting Parties' willingness to compromise and save the Protocol, the EU made concessions and eliminated its quest for lower caps on credits for forest and agricultural land to which such sinks may be used to offset GHG emissions targets.[144]

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137. Although these issues have largely been resolved through compromises made at COP 6 and 7. *Main points of Bonn deal*, CNN, *at* http://www.cnn.com/2001/WORLD/europe/07/23/kyoto.points/ index.html (July 24, 2001) [hereinafter *Main points of Bonn*].

138. *Main points of Bonn*, *supra* note 137.

139. Japan is a crucial party for the Protocol to be ratified. Japan represents a large percentage of the world's GHG emissions, and without U.S. sponsorship, any arithmetic that does not include Japan will almost certainly not add up to the 55% percent required for the Protocol to come into effect. *See supra* note 88.

140. *Main points of Bonn*, *supra* note 137.

141. *Id.*

142. Kyoto Protocol, *supra* note 7, at art. 6.

143. The science of carbon sinks is not entirely clear and some evidence tends to show that mature forests may not soak up the same levels of GHGs as sinks created by reforestation, change in land use, or other improvements in land management. Conflicting scientific evidence provides good fodder for disagreement. *See Can carbon sinks save our climate?*, MSNBC, *available at* http://stacks.msnbc.com/news/ 654274.asp (Nov. 7, 2001).

144. *Main points of Bonn*, *supra* note 137; *see also Kyoto climate wrangling continues*, CNN, *at* http://www.cnn.com/2001/WORLD/europe/07/22/bonn. kyoto/index.html (July 22, 2001); *see also* Marrakesh Accords – Vol. III (Decision 12/CP.7), *supra* note 79, at 64. (this provision in the Accord is the result

Despite these other issues, it now appears likely that the majority of industrialized nations, excluding the U.S., will ratify the Protocol, as detailed by the Accords.[145] The extent to which the Contracting Parties went in order to reach an agreement signifies their commitment to the Protocol and their willingness to work with the international community, even without U.S. support. It is also important to note at this juncture that most opponents of the Protocol, with some notable exceptions, did not challenge the notion that some action should be taken to reduce GHG emissions. This means that in theory the U.S. is not against reduction schemes and could possibly be swayed into action by the proven success of the Protocol or at least not attempt to thwart its success.

C. Will the U.S. Have a Change of Heart?

British Environment Minister Michael Meacher exclaimed, "We have an agreement," after emerging from the COP 7 in Morocco.[146] It appears that, after a great deal of compromise, the Conference has come to an agreement that will be ratified by enough industrialized states, excluding the U.S., to come into force.[147] "The big question is how we bring the United States into the biggest international effort against the greenhouse effect."[148] Despite the success of the parties at COP 7, this statement reflects the feeling that the U.S. still has a role to play in the Protocol. It also signifies that the Contracting Parties are still willing to negotiate with the U.S., should it reconsider its stance on the scheme.

This interest to get the U.S. involved in international cooperation is not one sided. The U.S. has also made numerous indications that it has an international role to play in reducing GHG emissions.[149] The U.S. is not actively seeking to obstruct the goals or implementation of the Protocol by any other

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of the EC compromise and allows Russia to claim up to 33 megatons of carbon per year, times five for forest management projects).

145. C*limate Talks*, *supra* note 15.

146. *Id.*

147. *Id.*

148. *Id.* (Olivier Deleuze, the head of the European delegation at COP 7, raised this question)

149. *See supra* Part III.A.

state.[150] In fact, although the U.S. has stated that it will not ratify the Protocol, it nevertheless sent a delegation to Marrakesh, which "weighed in heavily."[151] The U.S. Undersecretary of State Paula Dobriansky, who led the U.S. delegation in Bonn, stated that, "even in light of our position, this [attendance at COP 7] demonstrates our commitment to dealing with global climate change."[152] These explicit and implicit declarations show that both the U.S. and the international community have recognized the role the U.S. must play to be successful in reducing GHG emissions.

In the coming years, international pressure on the U.S. may begin to intensify as opposition mounts to its continuing failure to curb its GHG emissions. Despite its rhetorical adherence to the principles of the Protocol, the U.S. has not been successful in curbing its production of GHG emissions. In fact, according to the U.S. Department of Energy, GHG emissions in the U.S. have actually increased 3.1% from 1999 to 2000.[153] As a signatory to the Protocol, the U.S. has an international obligation to not purposefully defeat the intention of the Protocol.[154] Judging from these figures, the U.S. does not appear to be fulfilling its duties, and without question, the world is taking notice.

Increasing pressure from abroad, U.S. willingness to engage in GHG emission reduction schemes, and international recognition of the U.S. role in reducing GHG emissions are all factors that may prove enough to eventually bring the U.S. itself into the Protocol or have the Contracting Parties establish some sort of a substantive relationship with the U.S. directly in combating GHG emissions. However, any official relationship would be in addition to the *de facto* relationship that may arise as a result of widespread ratification of the Protocol.[155] At minimum, these factors set the stage where the U.S. is in agreement in princi-

150. *CO2 Output Rose*, *supra* note 18 (quoting Environmental Protection Agency Administrator Christie Whitman). *See also Work Starts on Kyoto Deal details*, CNN, *at* http://www.cnn.com/2001/WORLD/europe/07/23/kyoto.talks/index.html (July 23, 2001) [hereinafter *Work Starts on Kyoto*].

151. C*limate Talks*, *supra* note 15.

152. *Work Starts on Kyoto*, *supra* note 150.

153. *CO2 Output Rose*, *supra* note 18.

154. Vienna Convention on Treaties, May 23, 1969, art. 18, 1155 U.N.T.S. 331, 8 I.L.M. 679.

155. This "*de facto*" relationship is the subject of *infra* Part IV.

ple, and probably will not take any affirmative action to hinder the success of the Protocol — even if it results in decreasing GHG emissions within the boarders of the U.S.

IV. GETTING THE U.S. IN THROUGH THE BACK DOOR

Thus far this Note has discussed the history and functionality of the Protocol and the U.S.'s criticism of it. It has attempted to demonstrate that the U.S. is not per se against international efforts to reduce overall emissions of GHGs and will not actively seek to counter the positive effects of the Protocol. Part IV analyzes the mechanics of how an international treaty, though not ratified by the U.S., may nonetheless have an effect on American citizens. The answer lies in a combination of the phenomenon of globalization, the expansion of U.S. industry abroad, and the specific nature of GHGs.

A. Globalization

Globalization, infused by technology, has brought people, places, and information together on a scale unprecedented in size or scope. The era of globalization began in 1989 with the destruction of the Berlin Wall and the reunification of Germany.[156] The spy-counter-spy climate of the Cold War inhibited international cooperation and stifled economic interdependence. However, the relative safety that followed signaled an opportunity for greater international cooperation and trust, fueled by peace and new technology.

Thomas Friedman described this period as a series of four interdependent revolutions or democratizations in four areas — the democratization of technology, finance, information, and decision-making.[157] The democratization of technology was heralded by the advent of personal computers, cellular phones, and especially the Internet.[158] These advancements allowed people to communicate across international boundaries and extraordinary distances, providing the informational backbone for fur-

156. *See* THOMAS L. FRIEDMAN, THE LEXUS AND THE OLIVE TREE: UNDERSTANDING GLOBALIZATION (2000).

157. The following discussion is based on the summary of Friedman's arguments in Daniel Gordon, *Rosa Parks, The Lexus, The Olive Tree: Omitting American Constitutionalism from a Theory of Globalization*, 10 INT'L LEGAL PERSP. 345, 350 (1998).

158. *Id.*

ther developments in international interdependence. The democratization of finance, resulting from the combined pressure of improved access to information and increased state regulation favorable to personal/individual and international investing, remade the financial industry.[159] No longer was ownership of bonds, common shares, IPOs, and derivative products limited to large corporations, nor were these holdings limited to domestic markets. In this manner, private individuals and corporations, through their investments, gained a larger place on the international stage.[160] The democratization of information was both an integral part and a natural result of the progression of the other "revolutions."[161] The development of technology allowed wide swaths of the world population access to information formerly unavailable to private individuals.[162] State regulation was altered in such a way as to require investment entities to use these technological developments to publish detailed information via the new methods.[163] As a result, pertinent information on all conceivable topics, including investment information, became available quickly and internationally.

Finally, the democratization of decision-making refers to the decentralization of power and information.[164] With the increased complexities of their citizenry,[165] governments have responded by decentralizing authority and delegating power to the likes of administrative agencies, committees, and other specialized bodies. This furthered globalization by allowing for greater flexibility and fluidity in the decision-making process.[166] Friedman argued that these four revolutions "crumbled walls and controls between societies and economies throughout the world creating a wide-open economic and social plain that extended around the world."[167]

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159. *Id.* at 351.
160. *Id.*
161. *Id.*
162. *Id.* at 351.
163. Gordon, *supra* note 157, at 351.
164. *Id.* at 351–52.
165. The phrase "complexity of citizenry" means that through the democratizations already discussed, private individuals and corporations have become both more informed and complex, and require additional functions from their governments. *See id.* at 352.
166. *Id.* at 352.
167. *Id.*

These advances in technology, finance, information, and decision-making have created an international environment where economies have become intertwined and interdependent:

> The globalisation of economic activity [democratization of finance] has led to massive increases in both trade flows and cross-border investments. Lower tariffs and the reduction of other barriers to trade [democratization of decision-making], combined with the pursuit of new customers and limited growth prospects in home markets, has provided a powerful impetus for international expansion in many industries . . . [and an] urgent need for scale and scope efficiencies.[168]

As the quote above implies, cross-boarder deals and overall increase in trade between states has placed new international actors in global competition across distances and boarders. The simple fact that these entities are increasingly interacting in foreign jurisdictions necessarily entails that they are more and more being subject to the laws and regulations of these jurisdictions. This has created an entire body of international law called competition law, whereby jurisdictions are "competing" to create workable and attractive legal frameworks for transacting international business, but at the same time maintaining their state's sovereignty and right to regulate those businesses operating within its territory.[169] Suffice it to say, globalization[170] has increased the level of interdependency of states and significantly increased the amount of contact entities transacting business have with foreign regulation.

B. U.S. Corporations Abroad

U.S. based corporations, reacting to the phenomenon of globalization, have become increasingly multinational and more dependent on foreign markets not only as a source of sales, but

168. J. WILLIAM ROWLEY & A. NEIL CAMPBELL, INT'L BAR ASS'N, POLICY DIRECTIONS FOR GLOBAL MERGER REVIEW 9 (London 1999).

169. Katharina Pistor, *The Standardization of Law and Its Effect on Developing Economies*, 50 AM. J. COMP. L. 97, 103–04 (2002).

170. This Note will hereinafter use the term "globalization" to refer to the increased interdependence of states, brought about largely as a result of the evidence put forth by Friedman. *See supra* note 156.

for production,[171] giving rise to large multinational corporations.[172] These multinationals create affiliates in foreign jurisdictions[173] that allow (in this case) the American parent to bring together, in closer temporal proximity, the means of production and the markets that are being served.[174] In this way, American companies' significant capital expenditures have enabled them to extend their reach into numerous states and in the process, made themselves subject to the jurisdiction of these foreign states.

The inroads made into foreign states by U.S. multinational corporations are particularly prevalent in the largest GHG producing sector — manufacturing. Manufacturing represents a substantial percentage of the total investment by U.S. entities in foreign jurisdictions. In the year 2000, the total cash outflow from the U.S. for manufacturing was about $44 billion, which represents almost 31% of the total cash outflow for all industries.[175] The priority that American capital is placing on manufacturing in foreign markets demonstrates that American entities are financing GHG production abroad.

This slant towards the internationalization of American manufacturing can be seen in the numerous examples of large American companies operating in foreign jurisdictions. For example, Dow Chemical Inc. serves many local markets by replicating its U.S. production facilities in other countries.[176] Similarly, Ford Motor Co. and General Motors Inc. have production

171. *See* Gordon H. Hanson et al., *Expansion Strategies of U.S. Multinational Firms*, National Bureau of Economic Research ("NBER") (Apr. 2001), *available at* http://www.bea.doc.gov/bea/papers/hms1.pdf.

172. A firm becomes multinational when it establishes in two or more countries business enterprises in which it exercises some minimum level of ownership control. Hanson, *supra* note 171. For purposes of this section, this Note defines terms according to their use in the Hanson article.

173. A foreign affiliate is a foreign business enterprise in which there is U.S. direct investment. The U.S. legal entity (e.g. business or individual) must have at least a 10% equity stake. A majority-owned affiliate is a foreign business enterprise in which the U.S. entity has at least a 51% equity stake. *Id.* at 2.

174. *Id.*

175. U.S. Dep't of Commerce, Bureau of Economic Analysis, *U.S. Direct Investment Abroad: Detail for Historical-Cost Position and Related Capital and Income Flows 2000*, Table 17, SCB (Sept. 2001), *available at* http://www.bea.doc.gov/bea/ARTICLES/2001/09september/0901USDIA2K.pdf.

176. Hanson, *supra* note 171, at 1.

facilities in Brazil and Thailand where they not only build vehicles for local markets but for the broader regional markets of South America and Southeast Asia.[177] Intel Corp. does not reproduce its U.S. plant model but nonetheless produces its global semiconductor product abroad through a fragmented system with its wafer-fabrication plants in Ireland and Israel, and microchip-assembly plants in Costa Rica and the Philippines.[178]

These multinationals are no longer the exception but the rule. The number of American affiliated companies in foreign jurisdictions has remained high over the last decade. In 1998, for example, American parent companies had 533 manufacturing affiliates in the United Kingdom alone, with an additional 323 in Germany.[179] Canada also had an overwhelming 533 American manufacturing affiliates within its borders.[180] The crucial element is that all of these countries either have or will probably ratify the Protocol over the next year and will be responsible for lowering GHG emissions in their domestic jurisdictions, which apply to both domestic corporations and foreign affiliates alike. Therefore, a large number of American affiliates[181] may be dramatically affected by the Protocol's implementation. In this small sampling of three states, the Protocol will have an impact on almost 1,400 U.S. manufacturing affiliates physically located in Protocol-supporting states. These companies and

177. *Id.*
178. *Id.*
179. Hanson, *supra* note 171, at 47.
180. *Id.*
181. Presumably this theory will also work in the reverse with foreign multinationals with affiliates and investments in the U.S. American multinationals are not the only entities that have significant investments in foreign jurisdictions. In 1999, more than half of the $330 billion in foreign investment in U.S. manufacturing came from the environmental friendly continent of Europe. These multinationals will already be under pressure from their domestic governments as a result of the Protocol, and similar to the American companies, will try to reduce emissions wherever it is most cost effect, whether it be in the U.S. or otherwise. *See* U.S. Dep't of Commerce, Bureau of Economic Analysis, Direct Investment Positions for 1999: Country and Industry Detail, Table 4.1, SCB (July 2000), *available at* http://www.bea.doc.gov/bea/articles/internat/fdinvest/2000/0700dip.pdf (note that the figures are based on a historical-cost basis).

their U.S. parents will be forced to confront the global warming issue and deal with it on a mandated international scale.[182]

C. GHGs Without Borders

The preceding sections have established that through the forces of globalization, a number of large, multinational, U.S. firms with foreign affiliates have developed. It is clear that these affiliates will be subject to jurisdictions that have or will ratify the Protocol, however, it remains to be seen how precisely this will affect the U.S. parent corporation domestically. The answer lies in the nature of GHGs and GHG trading systems.

One of the basic premises of the Protocol is that with regard to GHG emissions, there is no difference between reducing emissions in one part of the world or another.[183] This means that a unit that is reduced in the U.S. is equally equivalent to a unit reduced in Europe. Therefore, the market will naturally eliminate the most wasteful productions of GHG emissions, wherever they exist in the world.[184] If an American affiliate is required to substantially reduce its GHG emissions in a foreign jurisdiction, it will either be forced to purchase additional units, fund projects to acquire ERUs, decrease its own production, or increase its own allotment by reducing emissions elsewhere in the parent corporation — including the parent's state of domicile, in this case the U.S. "Whether or not the United States signs Kyoto [the Protocol], multinationals know they'll eventually have to deal with emissions caps in at least some of their territories."[185]

Therefore, these U.S. multinationals have already begun to position themselves to gain valuable experience in carbon trading and store up units while they are still relatively cheap.[186]

182. The mechanism for how affiliate liability for GHG emissions will affect the American parent corporation will be discussed more fully in the following section. *See infra* Part IV.C.

183. This is the reason that the Protocol allows for trading in GHG units and provides for credits for carbon sequestration activities like aforestation and reforestation within the boarders of other states. *See* Kyoto Protocol, *supra* note 7, at arts. 6, 12, and 17.

184. *See* discussion on market mechanisms *supra* Part II.B.

185. Foroohar, *supra* note 13 (quoting Economist Richard Sandor, who currently brokers GHG trades through his company, Environmental Financial Products).

186. Foroohar, *supra* note 13.

The global energy broker Natsource estimates that already 55 million tons of GHGs have been traded since 1996 and that the market could expand to $200 billion within the next few years.[187] These factors have led multinationals to take preemptive measures such as investing in carbon sinks, and engaging in GHG trading, all of which could translate to domestic U.S. reductions[188] of GHG emissions or American financing of reductions abroad.[189]

For example, in May 2001, U.S. environmental nonprofit organization called the Nature Conservancy persuaded General Motors Inc. ("GM") to give $10 million for rebuilding a Brazilian rain forest devastated by water buffalo ranching.[190] GM's money went toward replanting trees and preserving what remains of the forest.[191] Under the Protocol, the corporation could eventually receive credits for the carbon dioxide that the new forest will absorb over the next 40 years.[192] GM might then be able to use those credits to offset some of its own emissions, allowing it to meet targets for reducing GHG emission not just in the U.S., but also in any of its foreign affiliates directly impacted by the Protocol.[193]

Another attempt at preemptive action in the U.S. involves Native American tribal forestlands in Montana. In the spring of 2001, a London company called Sustainable Forestry Management gave the Salish and Kootenai tribes of Montana, $50,000 to reforest 250 acres devastated by fire.[194] In exchange, the company received the rights to an estimated 47,972 tons of carbon dioxide that the trees would absorb over the course of 80 years.[195] If their estimates are correct, a ton of GHG emissions may someday be worth $70 or more, meaning that the tribes' deal could earn the corporation more than $3 million.[196]

187. *Id.*
188. The term "reduction" is being used to include carbon sequestration projects that remove carbon from the air and count towards Protocol goals.
189. Foroohar, *supra* note 13.
190. *Id.*
191. *Id.*
192. *Id.*
193. *Id.*
194. Foroohar, *supra* note 13.
195. *Id.*
196. *Id.*

In addition to these external investments in carbon sinks, U.S. multinationals are already beginning to take part in trading schemes. For example, there are plans to launch an American GHG trading platform called the Chicago Climate Exchange.[197] Multinationals like British Petroleum ("BP"), Du Pont and Ford are participating in the design phase.[198] BP has been particularly forward looking.[199] It has already implemented an internal system that sets company wide limits, and have divisions trade units between themselves.[200] So far, the system has traded 5 million tons of emissions among its own divisions and helped the company meet its own emissions-reduction targets while maintaining growth.[201] One recent trade involved a petroleum division in the Gulf of Mexico, which needed more emissions credits to keep up with demand. It bought them from a slower-growing U.S. chemical division, which then used that money to purchase a new, more energy-efficient furnace.[202] In effect, the transaction reduced emissions on both sides of the deal and increased overall productivity.

The main point is that the impact of the Protocol can already be felt in the U.S, and the Protocol has not even taken effect. Whether it is in the form of Montana carbon sequestration projects or international carbon trading, the world has become a smaller place and the U.S. can and will be impacted by widespread adoption of the Protocol, even though they choose not to legally participate.

V. CONCLUSION

The refusal of the U.S. to ratify the Protocol does not prohibit it from having a significant impact on domestic GHG emissions. Globalization, market mechanisms of the Protocol, and increased interdependence of the world's markets prevent the

197. *Id.*
198. *Id.*
199. Although BP is not a U.S. multinational, its American colleagues are also well prepared for dealing with these issues. This is especially true because many American multinationals already participate in a successful pollution trading scheme for acid rain producing gases. Therefore, these companies possess many of the competencies that will be required. *See* Yelin-Kefer, *supra* note 26, at 221.
200. Foroohar, *supra* note 13.
201. *Id.*
202. *Id.*

unilateral acts of the U.S. from thwarting the intentions of the Protocol. Nonetheless, the U.S. is demonstrably progressive in its efforts to curb its emissions, and appears to have already contemplated its role in international GHG reducing schemes such as the Protocol, as noted by Senator John McCain:

> Given the developing international market, it also makes sense to ensure that what we do domestically can be integrated and recognized on the international level. Ultimately, we need to make sure that the emissions reductions our companies, our farmers, and our foresters produce are fully recognized and fully tradable in the emerging global greenhouse gas marketplace.[203]

Hopefully, as indicated by the Senator's quote, the U.S. is preparing for the role it must play in reducing GHG emissions. However, by implementing the Protocol, the international community is demonstrating its resolve to act without U.S. participation and its willingness to take the lead in creating the mechanisms within which global warming will be combated in the future.

John F. Temple[*]

203. 147 CONG. REC. S8894 (daily ed. Aug. 3, 2001) (statement of Sen. McCain).

* The author would like to dedicate this Note to his parents John and Mary Temple and thank them for their support and encouragement.