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Global Climate Change and the Challenge to Modern American Corporate Governance

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GLOBAL CLIMATE CHANGE AND THE CHALLENGE TO MODERN AMERICAN CORPORATE GOVERNANCE

*Perry E. Wallace**

TABLE OF CONTENTS

I. INTRODUCTION	494
A. THE ROLES OF AMERICAN GOVERNMENTAL AND CORPORATE ACTORS IN THE GLOBAL CLIMATE CHANGE DEBATE	494
B. THE IMPORTANCE OF AMERICAN CORPORATE LEADERSHIP	496
II. SCIENCE AND LAW IN THE GLOBAL CLIMATE CHANGE DEBATE	497
A. SCIENCE AND THE PROBLEM; GLOBAL WARMING AND CLIMATE CHANGE	497
B. LAW AND THE SOLUTION; THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE AND THE KYOTO PROTOCOL	501
1. <i>The United Nations Framework Convention on Climate Change</i>	501
2. <i>The Kyoto Protocol</i>	504
III. ECONOMICS AND POLITICS IN THE GLOBAL CLIMATE CHANGE DEBATE	509
A. THE POSITION OF THE UNITED STATES GOVERNMENT.	509
B. THE POSITION OF THE AMERICAN CORPORATE COMMUNITY; SHOULD COMPANIES STAY ON THE SIDELINES AND WATCH?	510
IV. AMERICAN CORPORATE GOVERNANCE AND GLOBAL CLIMATE CHANGE	511
A. WHO CARES? WHAT'S AT STAKE FOR THE AMERICAN CORPORATION	511
B. CORPORATE GOVERNANCE	512
C. GOVERNANCE AGAINST A BACKGROUND OF INCREASING ACTIVITY ADDRESSING CLIMATE CHANGE	515

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V. CONCLUSION 517

I. INTRODUCTION

A. THE ROLES OF AMERICAN GOVERNMENTAL AND CORPORATE ACTORS IN THE GLOBAL CLIMATE CHANGE DEBATE

IN the current debate over “global climate change,”¹ American governmental and corporate actors are both prominent and controversial. This is because, together, they have brought to the debate: (1) *the* largest producer of “anthropogenic” (human-induced) “green house gases”² (GHGs), critical elements in the “global warming”³ process; (2) *the* pre-eminent “bad boy” in the multilateral law-making process addressing climate change issues;⁴ and (3) *the* global superpower, with the capability, if not the duty, to provide leadership.⁵

1. See *United Nations Conference on Environment and Development Framework Convention on Climate Change*, 31 I.L.M. 849 (1992) [hereinafter FCCC] (climate change means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods). INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Climate 2001: The Science of Climate Change Technical Summary* (2001) [hereinafter *Science of Climate Change*]. “[A]ny change in climate over time, whether due to natural variability or as a result of human activity.”

2. See FCCC, *supra* note 1, art. 1(5), providing as follows: “Greenhouse gases” means those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation.” See also UNITED NATIONS FRAMEWORK ON CLIMATE CHANGES, *Kyoto Protocol, Annex A, FCCC/CP/1997/L.7/Add. 1*, (listing, as Greenhouse gases: Carbon dioxide, Methane, Nitrous oxide, Hydrofluorocarbons, Perfluorocarbons, and Sulphur hexafluoride).

3. See ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW SCIENCE AND POLICY 1247 (3d ed. 2000), defining “global warming”: “An increase in worldwide temperature due to increased atmospheric concentrations of carbon dioxide and other gases that contribute to the greenhouse effect.” See *infra* Section II (A) of this article for a fuller description of the process by which GHGs contribute to global warming, which is said to be a causative element in global climate change.

4. Reluctance to cooperate in the climate change law-making process, combined with its status as the largest GHG emitter, has led other nations to label the U.S. a “bad boy.” See Testimony of Lawrence Chimerine, Senior Vice President and Chief Economist, Economic Strategy Institute, before the International Economic Policy, Export and Trade Promotion Subcommittee, Senate Foreign Relations Committee (Oct. 9, 1997). (“European efforts to caricature the United States as the bad boy of global climate change are misguided. . .”). Although the pre-eminent bad boy, the U.S. has not always been the only one. See Peter Morton, *Clinton’s Gas Emissions Plan Attacked from All Sides*, THE FINANCIAL POST, October 23, 1997, p. 12. (“Canada, Japan and the U.S. are being painted as the environmental bad boys after a United Nations report said the three countries contributed 85% of gas emitted by major industrialized countries.”) But now that Japan and Canada joined 176 other nations in a July 23, 2001 Conference of the Parties (COP6) agreement to implement the Kyoto Protocol, the U.S. is the sole remaining bad boy. UNITED NATIONS FRAMEWORK ON CLIMATE CHANGE, *Implementation of the Buenos Aires Plan decision 5/CP.6, Oct. 23, 2001*; *Isolated on Global Warming*, N.Y. TIMES, July 24, 2001.

5. See, e.g., Press Release, Lieberman, McCain Call for Climate Change Legislation (Aug. 3, 2001, (available at <http://lieberman.senate.gov/~lieberman/press/01/08/2001803920.html>), in which U.S. Senators Joseph Lieberman (D-CT) and John McCain (R-AZ) “called for development of an economy-wide cap-and-trade system to control emissions of greenhouse gases . . .” One of many reactions around the world to President Bush’s rejection of the Kyoto Protocol, the proposal offered by the senators seeks to “unleash the power of

Another pertinent characteristic of these two sectors in this debate is the often concurrent and complementary nature of their positions. On this point, there is no better example of such accord than the period thus far of the current presidential administration: George Walker Bush's ascent to the American presidency has greatly enhanced the core of shared governmental and corporate attitudes about climate change.⁶ Indeed, that President Bush and Vice-President Cheney are former petroleum industry executives made it unremarkable that the administration approached the subject initially with a sense of reserve long held in the corporate community.⁷ And even as the positions of the two leaders evolved, it was not surprising that they would propose solutions reflecting the traditional emphases of business.⁸ Reserve and economic considerations, therefore, have animated the President's actions and reactions, including his controversial decision to reject as "fatally flawed," the 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change.⁹

It is largely because of the power and the centrality of the governmental and corporate actors that the present debate concerns itself so greatly with these themes. In fact, the two sectors constitute an imposing force that threatens to continue to dominate—if not prevail—in the ongoing battle to define climate change policy.

[the] market to drive the United States back into its leadership position in the international fight against global warming.”

6. See, e.g., Robert M. Sussman, *A Rocky Start: Bush's Environmental Policy*, TRENDS, July/August 2001, at 5 (noting how “industry groups and conservative Republicans praised” the president's decisions to withdraw from the Kyoto Protocol and to refuse to introduce mandatory emission reductions for carbon dioxide. Nevertheless, attitudes within the two communities are not monolithic. Perhaps the best example was the failed effort of U.S. Environmental Protection Agency Administrator Christine Todd Whitman in trying to convince President Bush to adopt a more environmentally protective position on climate change). See ROGER W. FINDLEY ET AL., ENVIRONMENTAL LAW iii (5th ed. Supp. 2001) (“The first six months of the Bush Administration have raised concern about the direction of the President's environmental policies On numerous occasions, the president has reversed or undermined the public statements of his EPA administrator, former Governor Christine Todd Whitman.”) Also, as this article will discuss, a growing number of enterprises have begun to implement pro-active, progressive business policies on climate change.

7. See DEMOCRATIC POLICY COMMITTEE, GOP: Grand Oil Party, at 9 (May 16, 2001). “Bush is a big oil man from big oil country with lots of big oil friends. From the President on down, the West Wing is filled with former big oil executives.” The report thus asserts that “the Bush energy plan that has been developed in secret is pro-drilling, pro-nuclear, anti-consumer, and anti-environment.” *Id.* at 1.

8. See *infra* Sections III (A), (B) of this article.

9. See Press Release, Office of the White House, *Remarks by the President on Global Climate Change* (June 11, 2001) (available at <http://www.whitehouse.gov/news/releases/2001/06/20010611-2.html>) [hereinafter *Remarks*] (“The Kyoto Protocol was fatally flawed in fundamental ways.”). See also *infra* Section II(B) of this article, discussing the evolution of the FCCC and the Kyoto Protocol; and *infra* Sections III(A) and (B), discussing the positions taken by the various interested parties.

B. THE IMPORTANCE OF AMERICAN CORPORATE LEADERSHIP

This article explores the role of the powerful U.S. corporate community in the global climate change debate. The discussion proceeds with a focus on the concept of “corporate governance.” In doing so, the objective here is to develop ideas about American corporate participation in this debate through a medium well-accepted in that community as a means of self-analysis, evaluation, planning, vision-seeking, and implementation.¹⁰

The underlying thesis of this article is that the stakes in the global climate change debate are too high not to have the American corporate community engaged in both corporate *and* global governance. Granted, the United States has rejected the Kyoto Protocol, and it may not accept that measure any time soon.¹¹ Accordingly, the corporate community could easily take this rejection and use it, along with its well-known objections to the protocol, to fight, without serious inquiry, for maintenance of the status quo. Or, corporate America could even remain silent. But the risks here are too great for such approaches.

Indeed, even if climate change proves not to be the threat that some claim it will be, an entire international legal, political and economic structure is now being created. This structure will likely affect in a substantial way the global economic environment. And, notwithstanding the U.S. rejection of it, the American-based transnational corporation will surely operate in many of the vast number of nations that reaffirmed (in Bonn in July, 2001, and in Marrakech in November, 2001) their participation in the United Nations Framework Convention on Climate Change and the related Kyoto Protocol.¹² In the face of these dynamics alone—not to mention the prospect that climate change could truly be a threat—the American corporate community must lead, both in its own interest and in the interest of the world community that it serves.

Sections II and III set out background matter, including underlying scientific concepts, the politics of the debate over the creation, signing and implementation of the FCCC and the Kyoto Protocol, as well as a description of the economic and energy policy considerations around climate change.

Section IV addresses in particular the difficult choices, and yet the imperative for action, on the part of U.S. corporate actors.

10. See *infra* Section IV (B) of this article for a definition of the term corporate governance and a description of its objectives, as well as a comment about the debate concerning its scope and nature in a modern economy.

11. See *infra* Section II (B) (2) of this article for a discussion of the Kyoto Protocol.

12. See *id.* (describing the Kyoto Protocol and subsequent Conference of the Parties (COP) meetings seeking to develop more fully the legal regime established by the UNFCCC and the Kyoto Protocol).

II. SCIENCE AND LAW IN THE GLOBAL CLIMATE CHANGE DEBATE

A. SCIENCE AND THE PROBLEM; GLOBAL WARMING AND CLIMATE CHANGE

Beyond certain basic, generally-accepted facts about climate change lies a wealth of disagreement. Moreover, these disputes concern not only the scientific certainty of assertions made by advocates of aggressive action on climate change; they also extend to questions of its economic implications and related policy decisions. This Section sets out and explores basic concepts, features and dynamics of the global climate change debate and identifies the place of the American corporation in that debate

So much has been said about climate change in the popular media that many fundamental points are generally well known. Energy radiating from the sun as short-wavelength radiation is either reflected away or passes through the atmosphere to be absorbed by the earth. Through complex processes of atmospheric and oceanic redistribution, the absorbed energy then radiates back toward space as long-wavelength, infrared energy.¹³ Greenhouse gases (GHGs), including Carbon dioxide, Methane, Nitrous oxide, Hydrofluorocarbons, Perfluorocarbons, and Sulphur hexafluoride, emanate from the earth and settle in the atmosphere.¹⁴ There, they compose a sort of blanket that “traps,” or retains, some of the infrared energy close to the earth’s surface while preferentially allowing in short-wavelength radiation to filter in from the sun.¹⁵

The GHGs effectively inhibit the upward passage of this energy, which would otherwise escape more rapidly out of the earth’s atmosphere. Eventually, through an interactive redistribution process that involves radiation, air currents, evaporation, cloud-formation and rainfall, the energy does in fact travel higher into the atmosphere and ultimately escapes into space.¹⁶ The result of this delay in the escape of infrared energy is a “warming” of the earth’s surface and lower atmosphere.

Some quantum of this energy retention is beneficial, in that it warms the atmosphere and permits the life forms and ecological systems of the earth.¹⁷ Too large a retention, however, upsets the “net radiative” balance between incoming and outgoing energy and thus can increase or decrease the earth’s temperature beyond normal, healthy levels:

13. Science of Climate Change, *supra* note 1, at 24.

14. *Id.*

15. *Id.*

16. See, United Nations Framework Convention on Climate Change, *Understanding Climate Change: Beginners Guide to the UN Framework Convention*, (at <http://www.unfccc.dc/resource/beginner.html>) (updated November 2001) (describing Greenhouse effect).

17. *Id.* (“This slower, more indirect process is fortunate for us, because if the surface of the earth could radiate energy into space unhindered, the earth would be a cold lifeless place—a bleak and barren planet rather like Mars.”).

A change in the net radiative energy available to the global Earth-atmosphere system is termed . . . a radiative forcing. Positive radiative forcings tend to warm the Earth's surface and lower atmosphere. Negative radiative forcings tend to cool them.¹⁸

While GHGs emanate from both natural sources and human-induced, or anthropogenic, sources, it is the anthropogenic sources that are the center of controversy.

Many scientists, environmental activists and others assert that the ever-larger amounts of anthropogenic GHGs entering the atmosphere are causing increasing and unacceptable levels of global warming at and near the earth's surface. Such increases, they predict, will cause important, and indeed, dangerous changes in the earth's climate. They speak not only of the disruption of crucial ecosystem functions throughout the world, but also of related adverse effects on the capacity of nations to feed and protect their populations and to continue along their paths of development.¹⁹

In response to such predictions, the United Nations Environment Programme (UNEP) and the World Meteorological Organisation (WMO) established in 1988 the Intergovernmental Panel on Climate Change. (IPCC) The IPCC, drawing upon the work of experts throughout the world, assumed the task of providing assessments of existing, reliable knowledge about all aspects of climate change. Working Group I of the IPCC "assesses the scientific aspects of the climate system and climate change."²⁰ Working Group II "addresses the vulnerability of socio-economic and natural systems to climate change, negative and positive consequences of climate change, and options for adapting to it."²¹ And Working Group III "assesses options for limiting greenhouse gas emissions and otherwise mitigating climate change."²²

IPCC Working Groups have prepared three Assessment Reports on the scientific aspects of climate change. The Third Assessment Report "builds upon these past assessments and incorporates new results from the past five years of climate research."²³ Basically, the report concludes that increasingly reliable studies and methodologies demonstrate a pat-

18. Science of Climate Change, *supra* note 1, at 24. ("The amount of the radiative forcing depends on the size of the increase in concentration of each greenhouse gas, the radiative properties of the gases involved, and the concentrations of other greenhouse gases already present in the atmosphere . . . [some of which] reside in the atmosphere for centuries.").

19. See, e.g., JOSEPH E. ALDY ET AL., CLIMATE CHANGE: AN AGENDA FOR GLOBAL COLLECTIVE ACTION, Oct. 2001, 3-7. (Prepared for a conference on "The Timing of Climate Change Policies," Pew Center on Global Climate Change, October 2001).

20. See Intergovernmental Panel on Climate Change, *About IPCC*, <http://www.ipcc.ch/about/about/htm>.

21. *Id.*

22. *Id.* UNEP and WMO also established the IPCC Task Force on National Greenhouse Gas Inventories, which "oversees the National Greenhouse Gas Inventories Programme."

23. Science of Climate Change, *supra* note 1, at 23. The *Third Assessment Report* includes two categories of summaries, the *Technical Summary*, and a shorter *Summary for Policymakers*.

tern of global warming and climate change that demands to be addressed through a global climate change programmatic effort.

According to the report: "The global average surface temperature has increased by $0.6^{\circ} + 0.2^{\circ}$ C since the 19th century. It is very likely that the 1990s was the warmest decade and 1998 the warmest year in the instrumental record since 1861."²⁴

Additionally, the estimate in the Third Assessment Report of global warming of 0.15° C higher than the estimate in the Second Assessment Report, is mainly attributable to the "record warmth of the additional six years (1995-2000) of data."²⁵ Over a longer period, the report notes research indicating that the rate and duration of the warming of the 20th century, particularly the 1990s, are greater than at any point during the past 1,000 years.²⁶ The report also identified certain significant increases in precipitation and atmospheric moisture in the middle and high latitudes in parts of the Northern Hemisphere and decreasing snow cover and land-ice. All of these changes have a positive correlation to observed trends in global warming.²⁷

Significantly, according to the report, human activities are causing increases in the atmospheric concentration of greenhouse gases that warm the atmosphere and, in some regions, sulfate aerosols that cool the atmosphere. Further, most of the observed warming of the last 50 years is caused by human activities.²⁸ IPCC projections indicate that the atmospheric concentration of carbon dioxide will increase significantly during the next century unless effective climate change policies are instituted.²⁹

Relatedly, climate models project that the Earth will warm 1.4 to 5.8° C between 1990 and 2100.³⁰ Precipitation will increase globally, with increases and decreases locally, and an increase in heavy precipitation events over most land areas. Increases in sea level are projected to be 8-88cm between 1990 and 2100. Finally, climate models project increased extreme weather events, such as heatwaves, heavy precipitation events, floods, droughts, fires, pest outbreaks, mid-latitude continental soil moisture deficits, and increased tropical cyclone peak wind and precipitation intensities.³¹

The report observes that climate change has already begun affecting biological systems in many parts of the world, and has been reflected most in regional temperature increases. Examples are that bird migration patterns have been changing and birds are laying their eggs earlier. Further, the growing season in the Northern hemisphere has lengthened by

24. *Id.* at 26.

25. *Id.* ("A secondary reason [for the higher estimate] is related to improved methods of estimating change").

26. *Id.* at 28.

27. *Id.* at 30.

28. *Id.* at 55-61.

29. *Id.* at 65.

30. *Id.* at 69.

31. *Id.* at 72-73.

about 1-4 days per decade during the last 40 years, and there has been observed a pole-ward and upward migration of plants, insects, and animals.³²

Climate change will have both beneficial and adverse effects on water resources, agriculture, natural ecosystems and human health, although as climate change increases in degree, adverse effects will dominate. The magnitude and rate of climate change, as well as changes in climate extremes and variability, have a decided effect on socioeconomic sectors (agriculture, forestry, fisheries, water resources, human settlements), terrestrial and aquatic ecological systems, and human health.³³ In this regard, the report projects problems of water availability in water scarce regions, decreased agricultural productivity in most tropical and sub-tropical regions, increased heat stress mortality and vector-borne and water-borne diseases, increased risk of flooding, significant and irreversible damage to some natural systems, and increased risks of extinction of some vulnerable species.³⁴

The report notes particularly that developing countries and their populations are especially vulnerable.³⁵ This is true not only because of the sheer physical effects that climate change could inflict on their societies, but also because of the unavailability of financial, technical and institutional resources to conduct sufficient mitigation and adaptation activities.³⁶

In the face of the IPCC's findings and conclusions about the science and effects of climate change, that body points towards what it considers to be the many technological options available to reduce near-term GHG emissions in a cost-effective manner. At the same time, however, it notes certain barriers to deployment of climate-friendly technology. Generally, the reports emphasizes that stabilization through emissions reductions must occur in all regions. A major feature in reaching this goal should be a trend toward de-carbonization, in which different, more efficient patterns of energy resource development and production, as well as its use, must be brought to bear. Recent technical progress in the development of alternative energy sources and technologies will be useful in this regard.³⁷

Further requirements for obtaining reductions are changed policies, increased R&D, effective technology transfer, and reductions in market and institutional disincentives. The use of carbon sequestration methods can relieve some of the burden on emissions limitations in the production process. Finally, market-based instruments are important means of ac-

32. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Climate 2001: Impacts, Adaptation & Vulnerability Technical Summary*, at 33-34 (2001).

33. *Id.* at 32-44.

34. *Id.* at 28-32.

35. *Id.*

36. *Id.* at 44-65.

37. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Climate 2001: Mitigation Technical Summary* (2001).

completing the ultimate objectives.³⁸

Together, the IPCC Assessment Reports have provided the factual and scientific predicate for major efforts to address climate change, including the effort to create an international legal regime.

B. LAW AND THE SOLUTION; THE UNITED NATIONS FRAMEWORK
CONVENTION ON CLIMATE CHANGE AND
THE KYOTO PROTOCOL

1. *The United Nations Framework Convention on Climate Change*

Based upon the recommendation of the IPCC in 1990, the United Nations General Assembly created a committee to draft an international treaty on climate change.³⁹ The Intergovernmental Negotiating Committee (INC) began its work in early 1991, in order to meet the UN's direction that the treaty be ready for signing at the 1992 United Nations Conference on Environment and Development in Rio de Janeiro, Brazil (Earth Summit). The INC proceeded to draft the United Nations Framework Convention on Climate Change⁴⁰ (FCCC).

Significantly, because of the need to gain the support of the largest number of nations possible, the treaty model adopted, from a structural standpoint, was one providing for great flexibility: a framework convention with provisions for protocols and annexes.⁴¹ In fact, flexibility and compromise were to be major features of the final document—indeed, of the entire, larger law-making process—given the vast differences of opinion among the national participants and the further provocative dimension added by environmental groups.

The United States expressed serious concerns in general about any approach that would be detrimental to U.S. economic interests. For example, it steadfastly resisted the imposition of specific, obligatory targets and timetables for reduction of GHG emissions. Additionally, because reductions in carbon dioxide emissions would be most costly, the U.S. insisted that the treaty focus more broadly, that is, on a “basket” of GHGs, with flexibility to reduce non-CO₂ GHGs. Further, the U.S. wanted to promote research geared toward the development of technology that would provide economic benefits even as it provided environmental benefits.⁴²

38. *Id.*

39. See G.A. Res. 45/212, U.N.G.A. 71st Plenary Meeting, A/RES/45/212 (1990).

40. For an excellent treatment of these developments, see, Donald Goldberg, *As the World Burns: Negotiating the Framework Convention on Climate Change*, 5 GEO. INT'L ENVTL. L. REV. 239, 244 (1993).

41. *Id.* at 244. The Vienna Convention for the Protection of the Ozone Layer, UNEP Doc. IG.53/5; 26 I.L.M. 1529 (1987) (signed March 22, 1985, entered into force September 22, 1988) and the Montreal Protocol on Substances that Deplete the Ozone Layer, 26 I.L.M. 1550 (1987) (signed September 16, 1987, entered into force January 1, 1989), provided an important example of the successful use of such a model.

42. Goldberg, *supra* note 36 at 244-51. See also, DAVID HUNTER ET AL., INTERNATIONAL ENVIRONMENTAL LAW AND POLICY 616-19 (2d ed. 2002).

At the same time, the European Community (EC) took a much more positive position, favoring specific emissions obligations and assistance to support developing country participation in the process. Japan took a similarly strong approach.⁴³

The developing countries, often through the leadership of the Group of 77, observed that the developed, industrialized countries have been the major emitters of GHGs and thus the main cause of the problem.⁴⁴ Further, they added, those developed countries have become rich and powerful through the very same economic activities that produced GHGs.⁴⁵ On the other hand, they noted, the developing—and not the developed—countries stood to suffer most from the adverse consequences of climate change.⁴⁶ Therefore, in their view, it would be unfair to stifle development in developing countries through the imposition of mitigation requirements based on a problem caused by the developed countries.⁴⁷

Given these strong and disparate positions, one is not surprised that: “The resulting Framework Convention on Climate Change was in many ways disappointing to environmentalists, but was nonetheless a positive step in the control of greenhouse gases.”⁴⁸

Certain specific provisions illustrate the delicate—and to some, troubling—balance struck between obligation and compromise. First, the objective of the FCCC is stated in its Article 2:

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve . . . stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.⁴⁹

In pursuit of these objectives, Article 4 sets forth “Commitments” applicable to the parties. Article 4(1) imposes on all parties obligations to study and collect appropriate data and information on climate change; develop and implement programs directed at climate change; and cooperate with one another in the various aspects of scientific investigation, technological development, attention to social and economic implications, and public education and awareness.⁵⁰

Most controversial was the imposition, in Article 4(2), of certain commitments on the developed countries and countries “undergoing the process of transition to a market economy” listed in “Annex I” of the treaty that were not imposed on developing countries.⁵¹ These included the re-

43. Goldberg, *supra* note 36, at ____.

44. See, Paul G. Harris, *Common but Differentiated Responsibility: The Kyoto Protocol and United States Policy*, 7 N.Y.U. ENVTL. L. J. 27 (1999).

45. *Id.*

46. *Id.*

47. *Id.*

48. HUNTER ET AL., *supra* note 38, at 618.

49. FCCC, *supra* note 1, art. 2.

50. FCCC, *supra* note 1, art. 4(1).

51. Annex II of the FCCC consists of all the developed countries *minus* the transitional market economy countries, *i.e.*, Belarus, Bulgaria Czechoslovakia, Estonia, Hun-

quirement that the Annex I parties “adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs.”⁵² The latter provision is accompanied by the requirement that Annex I parties periodically submit for review detailed information on the policies they are required to adopt “with the aim of returning individually or jointly to their 1990 levels of these anthropogenic emissions of . . . [GHGs] not controlled by the Montreal Protocol.”⁵³ Notably, however, the power and position of the U.S. forced the other parties to accept an agreement that omitted many important features, including specific targets and timetables for action.

The FCCC also introduced, in Article 3, certain modern environmental “Principles” to provide guidance in implementation of the measure. Thus, that article institutes the concept of “intergenerational equity,” by providing that “[t]he parties should protect the climate system for the benefit of present and future generations of humankind.”⁵⁴ Additionally, Article 3 seeks to provide for action by all parties and yet to respect the differing degrees of capacity and culpability, especially as relates to developing countries. Hence, the article provides that the parties should act “on the basis of equity and in accordance with their common but differentiated responsibilities.”⁵⁵

Further, Article 3 invokes the “precautionary principle” in providing that “[w]here there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing [the taking of cost-effective action].”⁵⁶ Finally, Article 3 endorses the concepts of “sustainable development” and the “right to development,” both to be applied with particular regard to developing countries.⁵⁷

The FCCC, along with the other Earth Summit instruments, “set[s] out a framework of global environmental responsibilities, distinct from ear-

gary, Latvia, Lithuania, Poland, Romania, Russian Federation, and Ukraine. Annex I consists of both categories of nations.

52. FCCC, *supra* note 1, art. 4(2)(a). *See, supra* note 1, art. 1(8), defining a “Sink” as “any process or activity which removes a greenhouse gas, an aerosol or a precursor of a greenhouse gas from the atmosphere.” An example would be a program for planting trees, or a process for injection (or reinjection) of GHGs into geological formations. Also, Article 1(7) defines “Reservoir” as “a component or components of the climate system where a greenhouse gas or a precursor of a greenhouse is stored,” such as the oceanic and atmospheric reservoirs. The U.S. had rigorously that, in addition to emissions limitations, “enhancement” processes and technologies be included as an accepted mitigation approach.

53. FCCC, *supra* note 1, art. 4(2)(b). *See also* Hunter et al., *supra* note 38, at 619.

54. FCCC, *supra* note 1, article 3(1). *See, e.g.*, EDITH BROWN WEISS, IN FAIRNESS TO FUTURE GENERATIONS: INTERNATIONAL LAW, COMMON PATRIMONY, AND INTERGENERATIONAL EQUITY 37-39 (1996).

55. FCCC, *supra* note 1, art. 3(1).

56. FCCC, *supra* note 1, art. 3(3).

57. FCCC, *supra* note 1, arts. 3 (2), (4), (5). As to all of these underlying principles, as well as others, *see generally* Hunter et al., *supra* note 38, at 371-438, (“Principles and Concepts in International Environmental Law”) for an excellent discussion of the subject.

lier concerns with merely regional or transboundary responsibilities.”⁵⁸ At the same time, however, much remained for the parties, acting through the “Conference of the Parties”⁵⁹(COP) mechanism established by the convention, to accomplish in subsequent meetings.

At their first meeting (COP1) in Berlin in 1995, the parties determined that stabilizing GHGs at their 1990 levels, as set forth in FCCC Article 4, would not suffice to achieve that agreement’s ultimate objectives.⁶⁰ Therefore, it would be necessary “to begin a process to enable it to take appropriate action for the period beyond 2000, including the strengthening of the commitments of the Parties included in Annex I . . . through the adoption of a protocol”⁶¹

The *Berlin Mandate* required developed countries “both to elaborate policies and measures, as well as to set quantified limitation and reduction objectives within specified time-frames”⁶² for their anthropogenic emissions by sources and removals by sinks of certain GHGs. Further, there would be no new commitments for developing country parties. Although the United States continued its pattern of stiff resistance through several COP meetings, various internal and external pressure groups finally prevailed just before the Kyoto COP meeting: the U.S. would agree to specific, binding targets and timetables. This set the stage for a very important subsequent COP meeting in Kyoto, Japan.

2. *The Kyoto Protocol*

The COP negotiations in Kyoto were the subject of world-wide attention. The continuing disparate attitudes about climate change among the parties, and yet the pressure that each nation did not to want to be blamed for “killing Kyoto,” made the atmosphere both lively and tense.⁶³ Ultimately, “[a] hastily crafted compromise put off for one year any further discussions about developing country commitments, thus paving the way for final adoption of the protocol.”⁶⁴ Hence, on December 11, 1997, the parties signed the Kyoto Protocol to the United Nations Framework Convention on Climate Change.⁶⁵

58. Alan E. Boyle, *Book Review: Negotiating Climate Change: the Inside Story of the Rio Convention* (Irving M. Mintzer and J. Amber Leonard, Eds., Cambridge University Press 1994), 89 AM. J. INT’L L. 864 (1995).

59. FCCC, *supra* note 1, art. 7 establishes the Conference of the Parties (COP) as “the supreme body of this Convention.” That article charges the COP with the review of the implementation of the convention and authorizes it to adopt related instruments and to make decisions that facilitate implementation.

60. *Conclusion of Outstanding Issues and Adoption of Decisions* (The Berlin Mandate), FCCC/CP/1995/L.14 (April 7, 1995).

61. *Conclusion of Outstanding Issues and Adoption of Decisions* (The Berlin Mandate), FCCC/CP/1995/L.14 (April 7, 1995).

62. *Id.* § 2(a).

63. See Hunter et al., *supra* note 38, at 629.

64. *Id.* at 630.

65. UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, *Kyoto Protocol to The United Nations Convention on Climate Change*, Dec. 10, 1997, FCCC/CP/1997/L.7/Add.1 (not yet entered into effect) [hereinafter “Kyoto Protocol”].

Perhaps the biggest achievement of the Kyoto Protocol was the agreement by the parties that the FCCC Annex I countries will meet specific, binding targets and timetables, which the protocol calls “quantified emission limitation and reduction commitments.” (QELROs) Article 3 (1) thus provides:

The Parties included in Annex I shall, individually or jointly, ensure that their aggregate anthropogenic carbon dioxide equivalent emissions of the greenhouse gases listed in Annex A do not exceed their assigned amounts, calculated pursuant to their quantified emission limitation and reduction commitments inscribed in Annex B . . . with a view to reducing their overall emissions of such gases by at least 5 per cent below 1990 levels in the commitment period 2008 to 2012.⁶⁶

The “assigned amounts” represent an allowance, or permit, to emit only so much in quantity of GHGs.⁶⁷ They are calculated based on the individualized, or differentiated, limitation and reduction commitments (QELROs) of anthropogenic GHGs listed in Annex B of the protocol. For example, the U.S. QELRO is 93 (%), based on the country’s acceptance of an agreement to reduce and stabilize its GHG emissions at 7% below the 1990 base year.⁶⁸ Article 3(7) provides that the assigned amount for each Annex I country shall be its QELRO multiplied by five.⁶⁹ This multiple specifies the allowance for each such country during the first “commitment period, from 2008 to 2012.”⁷⁰

Article 2 of the protocol sets out certain policies and measures for Annex I countries. These include enhancement of energy efficiency; protection of sinks and reservoirs; promotion of sustainable agriculture; promotion of renewable energy; reduction or phaseout of market disincentives and application of market instruments; reform of relevant sectors; limitation and reduction of emissions in the transport sector; and limitation or reduction of methane emissions.⁷¹

Although the European Union (EU) pressed for a strong mandatory section on policies and measures, in part to protect against competitive disadvantages as against the U.S. and Japan, the U.S. insisted on a more flexible provision that would allow minimization of domestic costs. The result was an Article 2 seen by some as “not mandatory” and by others as “weakened.”⁷² What the EU received instead was the right to apply the

66. Kyoto Protocol art. 3(1).

67. Kyoto Protocol art. 3(1).

68. Kyoto Protocol Annex B. Although 1990 is the general historical base year used in the protocol, there are certain exceptions. For example, because of the limited data available on certain GHGs, Article 3(8) allows any Annex I country to “use 1995 as its base year for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride, for the purposes” of calculating its assigned amounts. Additionally, Article 3(5) allows Annex I countries in transition to a market economy to choose alternative base years, when their emissions may have been higher than in 1990.

69. Kyoto Protocol art. 3(7).

70. Kyoto Protocol art. 3(7).

71. Kyoto Protocol art. 2(1)(a).

72. Compare DONALD GOLDBERG, A LEGAL ANALYSIS OF THE KYOTO PROTOCOL (CIEL 1998) (“not mandatory”), with ABA SECTION OF NATURAL RESOURCES, ENERGY

“bubble” concept to emissions of Member States within the EU. Therefore, under Article 4(4), the EU Member States’s collective emissions obligation of eight percent below base year levels may be allocated as the EU desires among those States.⁷³ In effect, the EU can assign targets to Member States in the most economically efficient manner, individually and collectively, so long as it does not exceed the assigned amount as calculated under the protocol.

Another area of compromise in the protocol concerns the role of land-use change and forestry activities. The U.S. had long insisted on the right to include reductions of GHGs through the use of sinks along with actual emissions limitations in measuring attainment of its overall commitment. Article 3(3) provides that “net changes in . . . [GHG] emissions by sources and *removals by sinks* resulting from direct human-induced land use change and forestry activities . . . shall be used to meet the commitments in this Article . . . [of Annex I countries].”⁷⁴ (Emphasis added). On the other hand, because of incomplete data and undeveloped methodologies for measurement, the right to use sinks is limited to “afforestation, reforestation, and deforestation”⁷⁵ and does not include activities such as conservation, forest management, and harvesting.⁷⁶

The Kyoto Protocol also included certain market-based mechanisms that could be used by the parties to achieve their commitments through joint, cooperative activities. The U.S. aggressively pursued “International Emissions Trading,” which allows a party that has efficiently limited or reduced its GHG emissions without exhausting its assigned amount to sell or transfer remaining allowances to another party.⁷⁷ “Joint Implementation” allows an Annex I party, or their private entities, to invest in an emissions reduction or removal enhancement project in another Annex I party and claim a credit of such “reduction units” towards its emissions limit.⁷⁸ The “Clean Development Mechanism” allows Annex I parties, or their private entities, to fund activities in developing countries. Doing so allows them to claim “certified emissions reductions” credit for emissions reductions in the developing country, which are usually of

AND ENVIRONMENTAL LAW, SPECIAL COMMITTEE ON CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT, 1997 ANNUAL REPORT (“weakened”).

73. Kyoto Protocol art. 4(4). See Kyoto Protocol Annex B for European Union emission obligation. Kyoto Protocol art. 4(1) provides: Any Parties “that have agreed to jointly fulfil their commitments under Article 3, shall be deemed to have met those commitments provided that their total combined aggregate anthropogenic carbon dioxide equivalent emissions of . . . [GHGs] do not exceed their assigned amounts. . . .

74. Kyoto Protocol art. 3(3).

75. *Id.*

76. LEGAL ANALYSIS OF THE KYOTO PROTOCOL, *supra* note 63.

77. See ERIK HAITES & MALIK AMIN ASLAM, THE KYOTO MECHANISMS & GLOBAL CLIMATE CHANGE 3 (Box 1) (Pew September 2000): “A transfer of part of its assigned amount by the Russian Federation to the government of Japan would be an example of International Emissions Trading.”

78. See *id.*: “An investment by a firm in the United States that enables a district heating system in the Czech Republic to switch from coal to natural gas and to improve the efficiency of the system could be a Joint Implementation project.”

lower cost, in meeting its Annex I commitments.⁷⁹

Although the signing of the Kyoto Protocol represented considerable progress, much work still remained. Many issues were left to be decided—often intentionally, in order to maintain positive movement in the process. Therefore, the COP continued to meet, attempting to complete the picture on what remained a complex, tedious, and delicate affair.⁸⁰ However, in March 2001, newly installed American President George W. Bush threw the process into a tailspin by announcing that the U.S. would withdraw from the protocol.⁸¹

After the failure of a multitude of efforts by other parties to the protocol to convince the U.S. to remain in the agreement, the COP-6 *bis* met in Bonn, Germany in July 2001. With the U.S. more of an outsider than ever in the process, 178 other nations adopted an agreement with important clarifications and additions.⁸²

For example, the Bonn Agreement establishes three new funds:

- (1) A Special climate change fund, “to finance activities, programmes and measures related to climate change, that are complementary to those funded by the resources allocated to the Global Environment Facility climate change focal area and by bilateral and multilateral funding,” in the areas of adaptation, technology transfer, energy, transport, industry, agriculture, forestry, waste management, and assistance to developing countries;
- (2) A fund, to be “operated by an entity which operates the financial mechanism, under the guidance of the . . . [COP], to support a work programme for the least developed countries”; and
- (3) A fund to “finance concrete adaptation projects and programmes in developing country Parties . . . to the Protocol.”⁸³

Additionally, the agreement clarified the eligible activities and provided country-specific caps for forest management in regard to the use of sinks.⁸⁴ Further, it was determined that the “mechanisms [created by the

79. *See id.*: “An investment by the government of the Netherlands to improve the efficiency of a re-heat furnace in a steel plant in Thailand could qualify as a Clean Development Mechanism project.”

80. *See, e.g., Report of the Conference of the Parties on its Fourth Session, Held at Buenos Aires from 2 to 14 November 1998, FCCC/CP/1998/16, 20 January 1999.* (COP 4) Part Two of the Report contains the Decisions Adopted by the Conference of the Parties (Decision 1/CP.4), including the *Buenos Aires Plan of Action*. This plan of action was specified in several more particularized decisions seeking ultimately to provide substantive guidance in areas such as the financial mechanism, the development and transfer of technologies, the furtherance of measures for evaluating and responding to climate change (with particular regard to developing countries), continuation of activities implemented jointly under the already-established pilot phase, institution of a “work programme on mechanisms of the Kyoto Protocol,” land-use and forestry issues, and other important matters.

81. *See, section III(A) of this Article of a discussion of the presidents actions and rationale.*

82. UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, *The Bonn Agreement on the Implementation of the Buenos Aires Plan of Action*, 23 July 2001, Decision 5/CP.6, (unedited version).

83. *Id.* at 3-4.

84. *Id.* at 10-11, app. Z.

Kyoto Protocol] shall be supplemental to domestic action, and that domestic action shall thus constitute a significant element of the effort made by each” developed country Party.⁸⁵ Rules were adopted governing the Clean Development Mechanism, including the clarification that energy efficiency, renewable energy, and forest sink projects can qualify—but that developed Parties should refrain from using nuclear facilities. Other rules address the international emissions trading regime and the Joint Implementation regime.⁸⁶ Finally, a Compliance Committee, with a facilitative branch and an enforcement branch and certain compliance rules, was established—although specific definition of the legal character of the compliance regime was left for later decision.⁸⁷

The Parties reconvened for the COP 7 meeting in November 2001, in Marrakech, Morocco. There, the parties “finalized the operational details of the Kyoto Protocol, opening the way to widespread ratification by governments and the Protocol’s entry into force.”⁸⁸ Specifically, the Marrakech Accords reflect significant progress by providing the more detailed “legal” text elaborating on the more general principles of the Bonn Agreement:

- (1) Operating rules and structures for the three flexibility “mechanisms,” including accounting procedures, election of members of the Clean Development Mechanism Executive Board; and, rules concerning eligibility to participate in those mechanisms.
- (2) Reaffirmation of the place of the compliance regime, although political dynamics required postponement of a decision regarding the legal character of the regime until after the entry into force of the Protocol.
- (3) Adoption of the Marrakech Ministerial Declaration, looking toward the September 2002 World Summit on Sustainable Development in Johannesburg. The Declaration highlights the linkages between climate change and sustainable development.⁸⁹

Thus the progression continues toward implementation of an international climate change regime. But among the many questions to be answered along this path, the one regarding the role of the U.S. is perhaps the largest.⁹⁰

85. *Id.* at 7.

86. *Id.* at 6-9.

87. *See id.* at 13-14.

88. PRESS RELEASE, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, GOVERNMENTS READY TO RATIFY KYOTO PROTOCOL (Nov. 10, 2001) (available online www.unfccc.int).

89. *See Report of the Conference of the Parties on Its Seventh Session, Held at Marrakech from 29 October to 10 November 2001*, at <http://unfccc.int/resource/docs/cop7/13a01.pdf>; *Climate Talks in Marrakech—COP 7: Update*, Pew Center on Global Climate Change, Nov. 9, 2001, at http://www.pewclimate.org/cop7/update_110901.cfm.

90. Indeed, at Marrakech, the United States participated in discussions, but refused to join the other Parties in signing the Accord. *See* Paula J. Dobriansky, Under Secretary of State for Global Affairs, Remarks to the Seventh Session of the Conference of Parties (COP-7) to the United Nations Framework Convention on Climate Change (Nov. 7, 2001), at <http://www.state.gov/g/rls/rm/2001/5969.htm>. Although Japan and Russia rendered the negotiations tedious, long and difficult, they ultimately cooperated when Japan got its wish

III. ECONOMICS AND POLITICS IN THE GLOBAL CLIMATE CHANGE DEBATE

A. THE POSITION OF THE UNITED STATES GOVERNMENT

As observed in the introduction, the United States has often taken positions on climate change in accord with those of the business community. Accordingly, President Bush has insisted on greater scientific certainty before expending significant resources to address the purported dangers of climate change.⁹¹ In so doing, he has been accused of leaving little or no room for application of the vaunted "precautionary principle."⁹² Further, President Bush has maintained an abiding concern about energy supply,⁹³ equally shared responsibilities among nations,⁹⁴ and other, largely economic, considerations.⁹⁵ Finally, he has expressed a prefer-

to have the ultimate decision on the legal character of the compliance regime made after the Protocol's effective date and Russia received a large increase in the carbon sinks it would be allowed to claim under the Protocol. See *Kyoto Negotiators Reach 11th Hour Accord; Pact Ready for Ratification by Governments*, International Environment Reporter, Vol. 24, No. 24, Nov. 21, 2001, 1009.

91. See Letter from George W. Bush, President of the United States, to Senators Hagel, Helms, Craig, and Roberts (Mar. 13, 2001) [hereinafter President's Letter], available at <http://www.whitehouse.gov/news/releases/2001/03/20010314.html>. In that letter, President Bush rejects the Kyoto Protocol, offering, among several reasons, "the incomplete state of scientific knowledge of the causes of, and solutions to, global climate change" See also Remarks, *supra* note 9, in which the president, relying upon a report of the National Academy of Sciences, identifies several of the crucial scientific uncertainties:

[T]he Academy's report tells us that we do not know how much effect natural fluctuations in climate may have had on warming. We do not know how much our climate could, or will change in the future. We do not know how fast change will occur, or even how some of our actions could impact it.

92. See Hunter et al., *supra* note 38, at 405:

[T]he precautionary principle . . . reflects the recognition that scientific certainty often comes too late to design effective legal and policy responses for preventing potential environmental threats

In essence, the precautionary principle switches the burden of scientific proof necessary for triggering policy responses from those who support prohibiting or reducing a potentially offending activity to those who want to continue the activity.

See also RIO DECLARATION ON ENVIRONMENT AND DEVELOPMENT, U.N. Doc.A/CONF.151/26, U.N. Sales No. 3 73.II.A.14; 31 I.L.M. 874, 879 (1992). Principle 15 provides that "[w]here there are threats of serious or irreversible damage, lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

93. See President's Letter, *supra* note 82, referring to "rising energy prices" and what, in the view of the president was, "a serious energy shortage." In light of the Kyoto Protocol's limitations on carbon dioxide gas emissions and the predicted economic impact on electricity prices, and considering further the energy problems confronting California and other Western states at the time, the president found it imperative to "be very careful not to take actions that could harm consumers."

94. See *id.* (stating: "I oppose the Kyoto Protocol because it exempts 80 percent of the world, including major population centers such as China and India, from compliance. . ."). See also Remarks, *supra* note 9, in which the president notes that China is "the world's second-largest emitter of greenhouse gases. . ." and that "India and Germany are among the top emitters. Yet, India was also exempt from Kyoto."

95. See Remarks, *supra* note 9, in which the president notes that: "For America, complying with those [Kyoto Protocol GHG emissions limitations] mandates would have a negative economic impact, with layoffs of workers and price increases for consumers."

ence for “economic” or “market-based” solutions that rely heavily upon technology development.⁹⁶ On these various points of concern and preference, the president’s view has been shared in many influential places.⁹⁷

Although President Bush rejected participation in the Kyoto Protocol, he has definitely not rejected the notion of taking appropriate action on climate change, to the extent continued scientific inquiry appears to point to the importance of action. Also, heavy international pressure and criticism of the Kyoto Protocol rejection in particular, and of U.S. “unilateralism” in general, appear to have softened at least the President’s rhetoric, if not his actual position.⁹⁸ Accordingly, there is movement in the U.S., including governmental, business and non-governmental parties, to address climate change issues, whether or not it ever becomes a party to the emerging international legal regime.

B. THE POSITION OF THE AMERICAN CORPORATE COMMUNITY; SHOULD COMPANIES STAY ON THE SIDELINES AND WATCH?

The debate—indeed, the battle—on global climate change is as fierce as the stakes are high. The great divergence of interests among the various participating nations and other parties is but one feature virtually assuring continued disagreement as to the science, the economics, and the ultimate solution. As noted in Section II (A) of this Article, some predict dire and extreme consequences as a result of excessive global warming. In so believing the climate change phenomenon to be a true threat, many of them thus support the multilateral process envisioned by the United Nations Framework Convention on Climate Change and the related Kyoto Protocol.

Others, largely within corporate and politically conservative communities, have grave doubts about many fundamental assertions typically made by those who support binding legal commitments on climate change. For example, they pose several key questions whose answer is greatly dependent upon scientific verification, such as the extent of global warming, the proportionate contribution (and hence the significance) of anthropogenic GHG sources to the warming process, and, in any event,

96. See *id.*: “Our approach must be flexible to adjust to new information and take advantage of new technology. We must always act to ensure continued economic growth and prosperity . . . We should pursue market-based incentives and spur technological innovation.”

97. See, e.g., S. Res. 98, 105th Cong. (1997), the Byrd-Hagel Resolution, in which the Senate, by a 95-0 vote, expressed opposition to any climate change agreement that did not include binding commitments on developing countries or would seriously harm the U.S. economy.

98. See, e.g., Andrew C. Revkin, *178 Nations Reach Climate Accord; U.S. Only Looks On*, N.Y. TIMES, July 24, 2001, available at <http://www.nytimes.com/2001/07/24/science/24CLIM.html>; *Isolated on Global Warming*, N.Y. TIMES, (editorial) July 24, 2001, available at <http://www.nytimes.com/2001/07/24/opinion/24TUE1.html>; Howard Fineman, *Lone Ranger Bush Takes off His Mask*, MSNBC, June 6, 2001, <http://www.msnbc.com/news/583689.asp>. (“The U.S. would not sign the deal, Bush said [in March, 2001]. Well, the administration has been slowly tiptoeing back in Kyoto’s direction since, now saying it wants to propose its own international global-warming plan.”)

whether the consequences of present global warming patterns are actually so great a threat to the world. Further, they assert that, politically, advocacy groups supporting the existing international legal framework unfairly favor developing nations and, more generally, distort and bolster their claims through environmentalist hype and fanaticism.

These more skeptical participants also fear that economic growth and productivity, and, relatedly, corporate competitiveness and shareholder wealth, would be greatly and unnecessarily diminished by what they consider to be precipitous, ill-conceived decisions to divert precious resources toward climate change programs.⁹⁹

Against this complex and often confusing background, leaders in the American corporate community must decide, first, whether there is enough at stake to necessitate participation in the debate, and, if participation is deserved, how to participate in the context of their schemes of corporate governance. As the next section argues, it is in the corporate community's best interest to be a full participant. Further, some patterns and examples of enlightened corporate governance on the issue are now emerging, even against the backdrop of uncertainties and risks regarding climate change in particular and those regarding the modern global economy generally.

IV. AMERICAN CORPORATE GOVERNANCE AND GLOBAL CLIMATE CHANGE

A. WHO CARES? WHAT'S AT STAKE FOR THE AMERICAN CORPORATION

What if the concerns about climate change turn out to be true? The interests of American corporations would be among the most severely jeopardized. Because, if, fundamentally, businesses require vibrant, healthy markets to prosper, then major, uncontrolled events that threaten the health, welfare and economic status of the people in a market devastate that market itself. This, of course, deprives companies of opportunities to sell in those markets. Similarly, events that diminish or destroy natural resources and their ecosystems burden and even diminish the very base of industrial, agricultural—and ultimately, commercial and financial—business operations. As described by the IPCC Working Group II in producing its Third Assessment Report (Impacts, Adaptation, and Vulnerability):

Economic sectors that support the [human] settlement [or societal setting] are affected [by climate change] because of changes in productive capacity (e.g., in agriculture or fisheries) or changes in mar-

99. See Hunter, et al., *supra* note 38, at 627 describing a mid-1990s campaign by industry, the "Global Climate Information Project," in which they waged a \$13 million to fight the FCCC, often using the saying: "It's not global, and it won't work." See also Global Climate Coalition (website), at <http://www.globalclimate.org/index.htm>, an industry association that does not support the Kyoto Protocol; it stresses voluntary programs, continued scientific inquiry, and preservation of business profitability.

ket demand for goods and services produced there (including demand from people living nearby and from tourism).¹⁰⁰

On the other hand, what if future developments reveal that the climate change “scare” is not so great? Even under such a scenario, the magnitude and intensity of the debate itself necessitates leadership on the part of the major players. Global debates can be both expensive and determinative of important future global dynamics. Management of the inquiry itself, therefore, including allocation of resources expended, should be a highly participatory event.

Whatever one thinks of the path of the global climate change debate, it has produced a legal and political infrastructure and a growing consensus that the climate change question must be addressed. Indeed, the fact that 178 nations gave acceptance to the Kyoto Protocol in July 2001, and that a similarly large number supported the Marrakech Accords in November 2001, portends that national legal and economic structures in many countries, including some that would ordinarily be prime targets of foreign direct investments, will reflect the Kyoto Protocol accords.¹⁰¹

Essentially, whatever the outcome of the research into the underlying scientific realities, the global climate change debate calls out for the best of modern corporate governance by the American corporate community.

B. CORPORATE GOVERNANCE

At the heart of corporate governance is the duty of corporate managers to make appropriate decisions, based on their informed reading of signals from market and other phenomena, that advance the interests of the corporation and its shareholders.¹⁰² Under a broader, much-contested version of the corporate stewardship, the interests of non-shareholder “stakeholders,” or “constituencies,” are taken into account by directors in managing the company.¹⁰³ This latter view has not been overwhelm-

100. INTERNATIONAL PANEL ON CLIMATE CHANGE, *supra* note 29, at 36. Especially noteworthy is the potential impact of climate change on the financial services industry, especially insurance companies. *Id.* at 38-42.

101. See *infra* notes 73-81 and accompanying text.

102. See Ronald J. Gilson & Cheryl L. Conner, Interview: *The Future of Corporate Governance in the United States*, 31 U. RICH. L. REV. 1459 (1997) (interview with Professor Ronald J. Gilson): “The [corporate governance] structure is animated by three different mechanisms: the . . . force of competition in the product or service markets in which the corporation operates; the legal framework . . . ; and shareholder direct action. . . .” The GHG emissions limitations imposed on nations under the Kyoto Protocol would indirectly—yet definitely and substantially—affect corporate behavior; as such, the protocol is an example of a legal framework that would affect corporate governance.

103. Perhaps the best known, although not the exclusive examples, of the “constituency” or “stakeholder” concepts are certain provisions that appear in state corporation codes. These provisions generally provide legal authority—and hence protection from personal liability—to corporate directors to consider the interests, not only of shareholders, but others, such as employees, consumers, suppliers, creditors and communities, in making certain corporate management decisions. See, e.g., N.Y. BUS. CORP. LAW § 717 (b) (McKinney’s Supp. 1999). These statutory provisions reflect a specific historical development in corporate law, and, most important, have everything to do with the deployment of defensive tactics in hostile takeover attempts and little, if anything, to do with the progressive

ingly embraced in corporate law. Nevertheless, as the discussion below indicates, the actual practice by directors has often been different.

Increasingly, corporate managers have been recognizing that the increased interdependence, as well as other features, of a modern global economy makes it impossible simply to ignore those other constituencies, even under a more traditional model of governance, in which those shareholder constituencies have no place in the hierarchy of beneficiaries. Thus, today, a corporation adopting such a model must, at a minimum, engage employees, consumers, suppliers, non-governmental organizations, governments and others, in order to shape the economic environment and thereby enhance corporate profits and shareholder wealth.

As the current, larger debate about globalization rages, it has been noted that “[a]t times of social protest against business, corporate governance becomes a political issue.”¹⁰⁴ In fact, the anti-globalization and other recent movements not only confirm this view but they also go further. These modern developments exacerbate the tension within the corporate community and elsewhere regarding the extent to which non-shareholder constituency interests deserve consideration in the scheme of corporate decision making.¹⁰⁵

Today, an alliance of consumer groups, socially responsible investors, labor unions, environmentalists, and human rights activists—based mainly in the rich countries—have begun to agitate against recent changes in the global economy. Recognizing the difficulties associated with influencing or overturning government policy at the domestic level, they have shifted their attention to multinational firms and international organizations. These NGOs [non-governmental organizations] have become a David battling the corporate Goliath,

extension of the scope of corporate objectives. See, e.g., DALE ARTHUR OESTERLE, *THE LAW OF MERGERS AND ACQUISITIONS* 354-56 (1999).

104. Roberta S. Karmel, *The Future of Corporate Governance Listing Requirements*, 54 *SMU L. REV.* 325, 352-55 (2001), noting that “[a]n international movement protesting globalization has emerged to question multinational corporate activity” and discussing some major features and institutions of the global environment that are affecting corporate governance decisions.

105. Significant here is the fact that, overwhelmingly, the constituency provisions *authorize*, but do not require, directors to consider a range of constituents in their decision making processes. Further, although there has always been support for a larger, more socially-oriented objective for the corporation, strong opposition exists within the corporate law community. In reality, it is more often than not economic, political and social phenomena—and not corporate law—that actually drive corporate decisions to expand the scope of the corporation’s intended beneficiaries. See, e.g., William Claiborne, *Toyota Announces Diversity Program*, *WASH. POST*, August 10, 2001, at E01, available at <http://www.washingtonpost.com/wp-dyn/articles/A56430-2001Aug9.html>, discussing Toyota Motor Corp.’s plans to initiate a \$7.8 billion, 10-year “diversity commitment initiative” to help minorities through “procurement contracts, advertising accounts, expansion of minority-owned dealerships, increased training and hiring of blacks and Hispanics, and other programs” for its U.S. operations. The decision came in the wake of threats by the civil rights leader Reverend Jesse L. Jackson to stage a boycott of Toyota products because of certain Toyota advertisements deemed by Reverend Jackson and other blacks to be racially offensive.

using every weapon at their disposal to make the giant stagger.¹⁰⁶

A closely related point, especially as regards the transnational corporation (TNC), is the modern view that the old, nation-state-centered model of world politics and international law is now inaccurate, if not inappropriate. As Professors Keohane and Nye observe in *Governance in a Globalizing World*:

The actors in world politics cannot simply be conceived of as states. Private firms, NGOs, and subunits of governments can all play independent or quasi-independent roles. These agents help to create or exacerbate the dilemmas of diffusion of power, transparency, and deadlock, afflicting international organizations. But they also play a crucial role in governance.¹⁰⁷

One result of all these developments has been the emergence of various international laws and norms directed at TNCs. In the environmental area, as in others, evolving standards draw heavily upon a fundamental fact about TNCs: "their influence on the global economy is enormous":

TNCs are key players in terms of development activity, and the perception that they operate in a vacuum between ineffective national laws and non-existent or unenforceable international laws has heightened concerns about the current reach and effectiveness of environmental regulation, particularly where TNCs are operating in developing countries.¹⁰⁸

Notably, the evolving standards vary in their source of authority, whether "hard" or "soft" law, codes of corporate conduct or international standards.¹⁰⁹ Hence, TNCs today encounter measures such as the Organization for Economic Cooperation and Development Declaration on International Investment and Multinational Enterprises, the CERES Principles (Coalition for Environmentally Responsible Economies), the International Chamber of Commerce Business Charter for Sustainable Development Principles for Environmental Management, the United Nations Global Compact, the European Union Eco-Management and Audit Scheme (EMAS), and the International Organization for Standardization ISO 14000.¹¹⁰ No stretch of the imagination is required to envision that

106. Ethan B. Kapstein, *The Corporate Ethics Crusade*, FOREIGN AFFAIRS September/October 2001, at 105, 108.

107. Robert O. Keohane & Joseph S. Nye, Jr., *Introduction*, GOVERNANCE IN A GLOBALIZING WORLD 22 (Joseph S. Nye & John D. Donahue eds. 2000).

108. Robert J. Fowler, *International Environmental Standards for Transnational Corporations*, 25 ENVTL. L. 1-3 (1995).

109. See Hunter et al., *supra* note 38, at 349, describing "soft law": "either 'not yet law or not only law' . . . an important innovation in international lawmaking that describes a flexible process for States to develop and test new legal norms before they become binding upon the international community." See also Pierre-Marie Dupuy, *Soft Law and the International Law of the Environment*, 12 MICH. J. INT'L L. 420, 420-35 (1991); Hunter, et al., *supra* note 38, at 1409, noting, as to corporate codes of conduct, that "[t]hrough no more binding upon signatory companies than soft international law is upon signatory States, voluntary codes of conduct may become a marketplace requirement in certain sectors for companies to remain competitive.

110. See HUNTER ET AL., *supra* note 38, at ch. 18, 1405-33, for a discussion of these standards.

these various norms could soon embrace the Kyoto Protocol and, in doing so, create an international marketplace in which American corporations find themselves pressed toward conformity.

The foregoing discussion illustrates the complexity and the magnitude of the external pressures that impose themselves on business. The question for business, therefore, is how to negotiate these demands—and where possible, even use them—while pursuing traditional corporate objectives.

C. GOVERNANCE AGAINST A BACKGROUND OF INCREASING ACTIVITY ADDRESSING CLIMATE CHANGE

Whether it be President Bush or the conservative, industry-sponsored Global Climate Coalition, or the World Resources Institute, all sides in the debate are now pursuing solutions to the problem of climate change. That is, they might be against the Kyoto Protocol and in favor of more scientific research, voluntary (non-binding) programs, technology development, and market-based solutions. Or, they might support the protocol, with its binding commitments. Nonetheless, a general direction has been set now, and some patterns, as well as actual programs, have emerged. Central to all these efforts is a commitment to action on climate change as an integral part of—and a positive contributor to—a company's quest for enhancement of corporate profit and shareholder value.

On the conservative side, the Global Climate Coalition has tracked, and often supported, numerous voluntary programs on climate change effects. In their view:

[I]t is imperative that climate policies focus on responsible voluntary actions, including further research, innovation and deployment of current and potential future technologies in developed and developing nations to address concerns about the climate. Unrealistic targets and timetables, such as those called for under the Kyoto Protocol, are not achievable without severely harming the U.S. economy and all American families, workers, seniors and children.¹¹¹

111. Global Climate Coalition, *2000 Inventory of Industry Voluntary Actions*, at <http://www.globalclimate.org>.

- Oil producers targeting technology strategies to reduce emissions and making real cuts in carbon emissions through process improvements such as highly-efficient compressors, battery-reinjection systems, steam power from cogeneration, and the like.
- Electric utilities reducing GHG emissions by 174 million tons through efficiency and process improvements.
- Coal producers increasing efficiency and reducing emissions through Clean Coal Technology and crosscutting technologies.
- Forestry and paper industry members using improved forestry management methods, increasing opportunities for carbon sequestration.
- The American Highway Users Alliance (truckers, automakers, tire, construction, farming, etc.) addressing the issue of traffic congestion relief, in order to reduce GHGs and other pollutants.

Many of these programs are conducted as “public/private partnerships,” whereby government (federal or state), industry, and non-profit organizations combine resources and efforts on a given project.

From another philosophical perspective, the Business Environmental Leadership Council of the Pew Center on Global Climate Change, which includes a number of prominent multinational corporations, approaches climate change solutions through a somewhat different matrix of beliefs:

- Accept the views of most scientists that enough is known about the science and consequences of climate change to justify taking serious action.
- Businesses can and should take concrete steps now to evaluate possibilities for emissions reductions, establish and pursue reduction objectives, and invest in efficient new products, practices and technologies.
- The Kyoto agreement represents an important *first step* and is a useful framework for implementation and global participation.
- Progress in addressing climate change and sustaining economic growth in the U.S. are both possible if we adopt reasonable policies, programs and transition strategies.¹¹²

A pertinent example of the Pew Center’s work is a recent report entitled *Corporate Greenhouse Gas Reduction Targets*. In this report:

Michael Margolick and Doug Russell of Global Change Strategies International, Inc. provide guidance to companies contemplating targets. Based on in-depth case studies of six diverse members of the Pew Center’s Business Environmental Leadership Council—ABB, Entergy, IBM, Shell, Toyota, and United Technologies Corporation—the authors trace the corporate target-setting process from the point of deciding to act on climate change, to the factors involved in setting a target, to management and employee engagement, and to evaluating, monitoring, and performance review.¹¹³

At the federal and state governmental levels, numerous voluntary programs have been instituted. Examples are the Climate Change Action Plan¹¹⁴ and the Technology Cooperation Agreement Pilot Project.¹¹⁵

On the international level, the World Bank’s Prototype Carbon Fund seeks to mitigate climate change by producing emission reductions “fully consistent with the Kyoto Protocol and the emerging framework for Joint

112. Pew Center on Global Climate Change, *Business Environmental Leadership Council*, <http://www.pewclimate.org/belc/index.cfm>.

113. Eileen Claussen, *Corporate Greenhouse Gas Reduction Targets*, November 2001, ii (foreword), at http://www.pewclimate.org/projects_targets_forword.cfm.

114. *National Partnership*, Environmental Protection Agency, at <http://www.epa.gov/globalwarming/actions/national/partnership.html>, stating that the Climate Change Action Plan “is expected to produce energy savings of over \$60 billion by the year 2000 and create clean jobs for the future.

115. *International—Technology Cooperation*, Environmental Protection Agency, at <http://www.epa.gov/globalwarming/actions/international/techcoop/tcapp.html>, describing the project as “a means to implement Article 4.5 [FCCC] by assisting developing country teams to define and implement technology cooperation priorities.

Implementation . . . and the Clean Development Mechanism.”¹¹⁶ This pilot project is a public-private partnership that provides a means by which all stakeholders—business, government, non-governmental organizations—can begin the work of refining the actual process and simultaneously produce real benefits.¹¹⁷

These various projects and programs provide only a few examples of the burgeoning field of active engagement, by which companies are choosing, consistent with their own visions of corporate governance, approaches to deal with what has now come to be accepted as a real problem that needs a real solution. Moreover, these examples also provide evidence of the vast body of resources for information and data gathering, analysis, and cooperative activities. In this sense, companies can follow the course typically followed by prudent companies in the relatively uncertain periods in which a substantial and perhaps costly new regulatory regime might well become a reality:

- (1) They track the emerging process carefully, being sure to include in their analysis all pertinent dynamics, including political, social, economic, and legal;
- (2) They participate actively in the law-making process, as they realize that they must live with the regulatory system that may eventually come into being; and,
- (3) Armed with information about the nature of an approaching system, they plan and prepare for it by making early, gradual (and thus less costly) adjustments to corporate structure and operations.

V. CONCLUSION

The global climate change debate has attracted interest and attention all over the world. And well it should, for it is a subject that, for all the doubts and the reticence directed towards it, has emerged as one of the truly important concerns of the day. Each step of the way in forging what consensus we have today regarding the science, economics, and policies that should prevail, has been troubled and tedious. Moreover, much remains to be done in all those categories.

The American corporation's role in furthering the debate and developing solutions continues to be crucial. Given that virtually all interested parties to the debate are in accord that technology-oriented, cost-effective, market-based solutions should be the principle means of mitigating climate change, business has the advantage of proposed solutions framed in a language it understands. Accordingly, more and more, corporate leaders are stepping forward, engaging the process, and crafting solutions that to the greatest degree possible are serving the interests of all.

116. World Bank Prototype Carbon Fund, <http://www.protocypecarbonfund.org/about.cfm>.

117. See PRESS RELEASE, PRIVATE SECTOR INTEREST IN PROTOTYPE CARBON FUND EXCEEDS EXPECTATIONS: FIRST CLOSURE INVESTMENTS REACH \$135 MILLION, at <http://wbln0018.worldbank.org/news/pressrelease.nsf>.

