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U.S. Climate Change Policy: A New Chance for Leadership

Samiksha Nair *

Introduction

U.S. climate change policy has been glacial in its progress over the past fifteen years, as its development has been subject to significant economic and political forces. Even though there has been a gradually narrowing global consensus in the great debate on climate change, a distinct impression exists that the United States, as one of the principal producers of greenhouse gases (GHG) in the world, has delayed signing on to the leading international accords that seek to reduce and control their harmful effects.¹ U.S. policy regarding climate change over the past eight years has been subject to the less-than-friendly approach of the recently completed Bush Administration, but a new, almost diametrically opposed stance is now expected from the Obama Administration. While wholesale reversals of policy are predicted, realists see less of a policy shift in the offing, and in fact expect to see the continuation of earlier policies in many areas.

Though governance in this field is increasingly falling to the United Nations, skeptics have resisted embracing all aspects of the findings and recommendations of the UN bodies. As the debate has gradually gained traction in most national and international political forums, there is an increasing awareness and acceptance that policymaking in this area will also have implications for security. This adds yet another layer of complexity and possible skepticism that may further force the U.S. to dig in its heels, prior to ratifying any UN protocols. Regardless of the outcome, it is certain that the security context of climate change policy has transformed the nature of the policy-development process and legitimized it as a global priority.

In this article, climate change pertains to the long-term change of usual weather patterns in specific regions, either states, geographic zones, or the entire Earth. The following discussion reflects the concern that such changes can be widespread in their effects and can endure for millions of years. The debate regarding climate change centers around the modern observation of global warming—namely, the fact that the average temperature near the Earth’s surface and in the oceans has in-

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¹ Since 2007 the United States has been the second largest producer of GHG, after China. However, for many years prior to this, the U.S. was the largest GHG producer.

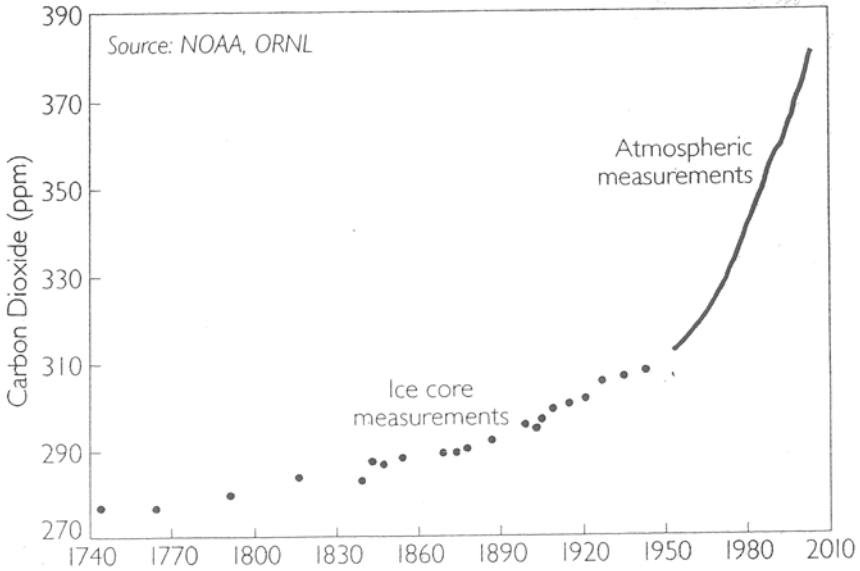


Figure 1: Atmospheric Concentrations of Carbon Dioxide, 1744–2004.²

creased in the last fifty years, and this trend appears to be progressing.³ Global temperatures have risen just under one degree Centigrade since the mid-nineteenth century. However, the rate of warming has more than doubled over the past twenty-five years.⁴ The mathematical models used to measure climate change and global warming scenarios are based on average surface temperatures recorded over one-year periods, as well as observations of natural and anthropogenic climate forcing, such as the amount of carbon dioxide in the atmosphere, due primarily to the burning of fossil fuels, as shown in Figure 1.

Climate forcing can be defined as the “physical factors external to the climate system that force a net increase (positive forcing) or net decrease (negative forcing) of heat in the climate system as a whole.”⁵ The United Nations Intergovernmental Panel on Climate Change (UNIPCC) has concluded, after one of the most

² Adapted from Christopher Flavin, “Building a Low-Carbon Economy,” in *2008 State of The World: Innovations for a Sustainable Economy* (New York: W.W. Norton & Company, 2008), 78.

³ For details, see Michael E. Mann, and Lee R. Kump, *Dire Predictions: Understanding Global Warming* (New York: DK Publishing, 2008), 36.

⁴ Ibid.

⁵ Pew Center on Global Climate Change, *The Cause of Global Climate Change* (August 2008); available at www.pewclimate.org/global-warming-basics/science-brief-092006.

rigorous and collaborative scientific studies of the subject ever conducted, that anthropogenic greenhouse gases are responsible for most of the observed temperature increase. This article emphasizes the dispersed nature of the climate change dilemma, the enormous stresses this would place on even an advanced nation such as the U.S., and highlights both the absence and the great need for enlightened governance to prepare for this grim reality.

This essay will address the following questions:

- How is climate change treated as a matter of international and national security from a U.S. perspective?
- Are there transformative climate change policies expected from the Obama Administration?
- How will the current economic crisis affect U.S. climate policy?
- Is the U.S. expected to play a leadership role in the climate change policy debate in the future?

The first subject of examination will be the evolving role of security policy in the climate change debate. U.S. policy has historically been largely based on the realist school of thought.⁶ According to this view there was a logical progression from considering climate change as a purely environmental issue with costs for implementation that were too great to justify any substantial change, to the realist reservations in endorsing Kyoto. However, in recent years there has been a move to accept developing climate change regimes more openly. The earlier reluctance may be ascribed to prevailing market-driven forces that pushed back attempts to change U.S. trade practices. Nevertheless, the recent acceptance of post-Kyoto regimes does not demonstrate an abandonment of realist aims. Rather, it is motivated by the overwhelming evidence from numerous scientific panels that outline the dangers of global warming to national and international security. This new reality pervades the current climate change debate. In accordance with realist thought, the United States, like other states, can be expected to preserve its interests in this regard and ensure that its security policy remains linked to its climate change policy.

Second, this article will outline the climate change policies that were handed down from the Bush Administration and examine the possible changes in these policies expected from the Obama Administration. While the securitization of

⁶ In international relations theory, realists see the world as it is rather than how they would like it to be. Realist theory stresses the importance of the state, and takes the view that the primary impulse of the state is to protect its interests. The central objective in realism is to search for, acquire, and maintain power. The state does this in order to perpetuate its national interests and core values. Consequently, realist thinking is often dominant in security and foreign relations policy.

certain issues has hindered policy development in the past, this essay asserts that in this case the accepted security implications of climate change actually propelled it to the forefront of the U.S. policy agenda. Evidence of the shifting priority given to climate change policy became apparent during the latter part of the second Bush Administration. Additionally, it has clearly been carried over to President Obama's fast-developing program beginning immediately after his inauguration in January 2009.

Thirdly, this article will discuss the important tempering role of the current economic crisis in shaping climate change policy and the priority it will be given within budgets and policy forums. With glowing forecasts of progress, and optimism that the Obama Administration is committed to a change of pace when it comes to climate policy, the economic crisis may act as a spoiler for what otherwise would be a more significant departure from the previous policy trajectory.

Finally, from these analyses this article will consider why the U.S. has not been at the forefront of the climate change debate so far, and will conclude with suggestions that could reinvigorate its leadership, particularly with U.S. and international security at stake.

Climate Change in a Security Framework

Linking Climate Change to Security

The modern concept of security has changed in its paradigms since the Cold War. The routine assessments of competing militaristic strength have been modified and are being replaced by threats posed by events that lack the trappings of a conventional war, and can even be precipitated by natural disasters. Since climate change is being increasingly recognized as a possible cause for such disasters, a linkage of security and climate change policies has emerged. Such disasters increasingly have impacts that are global rather than simply local, and these effects may be felt more rapidly in cases where nations find that they have to subordinate the goal of national security and embrace the greater goal of international environmental policy to mitigate their effects. A recent review of scholars in international relations showed that climate change was ranked as a major challenge for the U.S., even above the Iraq and Afghan wars, and brought the caution that it will feature as an even greater foreign policy threat in the next ten years.⁷ While the emphasis being placed on climate change issues may not come as a surprise today, such an urgent and serious evaluation would not have been expected by most policymakers when evaluating the U.S. stance even just a few years ago.

⁷ Daniel Maliniak, Amy Oakes, Susan Peterson, and Michael J. Tierney, "Inside the Ivory Tower," *Foreign Policy* (March/April 2009); available at www.foreignpolicy.com/story/cms.php?story_id=4685&page=0.

The U.S. must temper its enthusiasm to develop a U.S.-centric security policy pertaining to climate change, since this risks adding to international skepticism already directed at U.S. policy. The attempts to link the two may be viewed as disingenuous and could be used as yet another excuse to delay ratification of an international alternative. However, as pointed out by Joshua W. Busby, drawing from a study from the Council on Foreign Relations, the U.S. does face genuine threats in multiple domains as a result of climate change.⁸ Prominent among these include increasing temperatures, increasing precipitation, a decrease in Arctic summer ice, rising sea levels, and increased numbers and severity of Atlantic hurricanes. Such changes could impact and alter the natural environment, adversely affect agriculture, make water supply unpredictable, cause societal and population shifts due to the flooding of coastal regions, pose health problems through the spread of infectious diseases, and threaten energy supplies and distribution.⁹

The Center for Naval Analyses (CNA) describes climate change as a “threat multiplier” in volatile regions. Such studies highlight the intertwining of U.S. climate change, energy dependence, and security policies. The international status of the U.S. also forces it to consider the same issues in the wider concept of sharing the world’s resources equitably, in what is referred to as “allocating the global commons.”¹⁰ Such allocations are expected to be fair and will be watched intently by other nations, since skeptics will always worry that security policy may be expanded under the guise of good environmental intentions.¹¹

Any distributive attempts to ensure ecological security under strict international normative guidelines are destined for a rocky ride in the United States. Anthropogenic climate change pits humans, society, and states in roles that are both causal and consequential. The formulation of theories to better categorize the social, political, and governance principles of climate change is only a recent phenomenon, and the implied threat to national security is only now gaining widespread acknowledgement. What guidelines, then, does the international community adopt that are fair to all humans, and how fairly does the U.S. adopt such proposals while maintaining its role as a leader in the area of human rights? Since the U.S.

⁸ Joshua W. Busby, *Climate Change and National Security: An Agenda for Action*, Council Special Report No. 32 (New York: Council on Foreign Relations, November 2007).

⁹ Ibid.

¹⁰ Leigh Raymond, “Allocating the Global Commons: Theory and Practice,” in *Political Theory and Global Climate Change*, ed. Steve Vanderheiden (Cambridge, MA: MIT Press, 2008), 3.

¹¹ Recent natural disasters like the 2004 tsunami in Indonesia, the floods in Myanmar in the summer of 2009, and the May 2008 earthquake in China were followed by hesitation on the part of these nations to embrace foreign aid. This was most likely due to suspicion of the “mission creep” that could ensue from these efforts where humanitarian measures could morph into human rights platforms (or, in the case of Myanmar, into means of support for dissent against an unpopular military regime).

Table 1: Energy Related Carbon Emissions, Selected Countries, 2006.¹²

<i>Country or Region</i>	<i>Carbon Emissions*</i>	<i>Carbon Emissions, Per Capita</i>	<i>Carbon Emissions, Per \$ GDP</i>
	(million tons)	(tons)	(kilograms per \$1,000 GDP (PPP))
United States	1,600	5.3	120
China	1,400	1.1	140
Western Europe	930	2.2	71
India	400	0.4	97
Japan	330	2.6	78
Africa	300	0.3	130
World	8,000	1.2	120

* Does not include emissions resulting from gas flaring, cement making, or land use change.

may have fundamental disagreements with other nations in this regard, this basic social question will need addressing before considerations of economic or governmental policies on climate change are made.

When allocating resources like greenhouse gas emissions, current thinking follows “families of arguments” dating back to the signing of the UN Framework Convention on Climate Change in 1992 and even earlier. The most prominent of these arguments was guided by principles such as equal burdens, equal efficiency, equal rights, and equal subsistence rights.¹³ The equal burden argument attempts to justify emissions based on both the principle of ownership via possession (drawn from David Hume) and the principle of ownership from beneficial prior use (drawn from John Locke).¹⁴ Both justify emissions at current levels as the baseline for further negotiations. Locke’s principles would be considered by many (including Raymond) as “prepolitical,” with no political body yet allocating greenhouse gas emissions based on beneficial prior use.¹⁵ Hume’s principle of allocation based on possession being uniformly beneficial is clearly debatable, but it is one of the most common arguments made in the climate change debate, and (according to Raymond) was forwarded by many states in the Kyoto negotia-

¹² Adapted from Flavin, “Building a Low-Carbon Economy,” 76.

¹³ Raymond, “Allocating the Global Commons: Theory and Practice,” 5.

¹⁴ Ibid.

¹⁵ Here Raymond also points out that Locke qualified the right of appropriation with the proviso that appropriation leave “as good and enough” for others. This has often been ignored in climate change debates.

tions.¹⁶ These states argued that via the possession and ownership of industries in certain regions there were economic improvements fostered in those regions that entitled them to more greenhouse emission allocations, while states opposed to this scheme argued for an equal sharing of the burden of GHG reductions. This was particularly true when states that felt they could efficiently control their emissions demanded a greater right to emit greenhouse gases within cap-and-trade systems.

The equal efficiency argument attempts to allocate based on the rate rather than the total amount of greenhouse gas emissions. Stretching this formula, suggestions have included allocations based on either GHG production per unit of Gross Domestic Product (GDP) or GHG per capita, as shown in Table 1.

For obvious reasons, the U.S. favored the former calculation, while India and China favored the latter. This schism ultimately proved a point of departure for the U.S. with regard to Kyoto. The equal rights and equal subsistence arguments are variations expressing the views of developing states who want climate change policy to reflect the per capita burden of such policies. The burden for developing states may be unfairly high, especially when developed states have left their primary polluting years behind them in the era of increasing industrialization. Arguments such as these will factor in the crucial negotiations ahead when the U.S. considers ratifying avatars of Kyoto now that security considerations have been so firmly linked to policy related to climate change. Accordingly, states that have had traditions of thorny allocations in the past will certainly bear closer scrutiny when new regimes to govern climate change and security are constructed.¹⁷

Applying such approaches from political theory during the development of climate change regimes is not an idle exercise, but rather a new and useful advance in the understanding of the forces that will come to bear on the U.S. in both climate change and security policy making in the future. U.S. corporate policy and machinery have heretofore been driven by the notion of endless resources without any explicit acknowledgement of the need for equitable distribution of the commons.¹⁸ Some experts also expect the confluence of a so-called “perfect moral storm” in this matter, bringing together “storms” in global, intergenerational, and theoretical dimensions.¹⁹

The global storm, which certainly has security implications, pertains to the dispersion of causes and effects in global perturbations, the fragmentation of govern-

¹⁶ Raymond, “Allocating the Global Commons: Theory and Practice”.

¹⁷ Raymond, “Allocating the Global Commons: Theory and Practice,” 9.

¹⁸ Jonathan Rowe, “The Parallel Economy of the Commons,” in *2008 State of the World: Innovations for a Sustainable Economy* (New York: W.W. Norton and Company, 2008), 43.

¹⁹ Stephen M. Gardiner, “A Perfect Moral Storm: Climate Change, Intergenerational Ethics, and the Problem of Corruption: Theory and Practice,” in *Political Theory and Global Climate Change*, 26.

ance bodies, and the inadequacy of institutions to meet these challenges. Modern society is used to understanding cause and effect regionally, but the effects of climate change do not follow these rules; boundaries are no longer regional, but global. There is wide dispersion of the impacts of these shifts, leading the effects of climate change to be characterized as the “tragedy of the commons,” where greenhouse gas emissions by one polluter have long-lasting effects for distant co-inhabitants who suffer the effects of this global storm. Examples of this include deforestation in one region that may change weather patterns elsewhere, or the flooding of coastal areas in Micronesia from melting ice caps in the Arctic region. Lacking cohesive agency to address the problem only compounds the effects of climate change. Thus, from a realist perspective it is clear that, since the effects of climate change are non-discerning and inescapable, any action taken by a state to address these concerns are in that state’s own basic security interests.

The intergenerational dilemma is brought into relief by David Archer, who states that “for the best guess cases ... we expect that 17 to 33 percent of the fossil fuel carbon will still reside in the atmosphere one kyr²⁰ from now, decreasing to 10 to 15 percent at 10 kyr. That means (the) lifetime of fossil fuel CO₂ is about 30 to 35 kyr.”²¹ The effects of CO₂ appear to be very long lasting, and are therefore “back-loaded,” suggesting that the current impacts of climate change are primarily the result of past emissions, with climate change outcomes often being deferred to future generations.

This argument also has great moral force. Can the U.S. justify leaving the Earth in such a precarious state for inheriting generations? As raised by the UNIPCC, if the current generation does not take strong action, it is “socially discounting” future generations by neglecting to do all that is necessary to prevent problems down the road, and thus essentially placing a greater value on the current inhabitants of the Earth than on those who will succeed us.²² Gauging this risk encompasses the theoretical dimension of Gardiner’s perfect storm, a realm that also includes the debates on climate science, equity for future generations, the structure of governance of climate change, ecosystems and, not least, security.

Climate Change in Action

The relationship between climate change and security was not always obvious, let alone accepted. Arguably, there is no overt critical threat yet evident because of the incremental nature of climate change. Global temperatures are currently 0.8 degrees Centigrade above pre-industrial levels, but they are expected to increase by two to seven degrees Centigrade as soon as the end of the twenty-first century. Security policies are therefore designed to avoid the adverse outcomes that would

²⁰ One kyr is one thousand years.

²¹ Gardiner, “A Perfect Moral Storm: Climate Change,” 31.

²² Mann and Kump, *Dire Predictions: Understanding Global Warming*, 191.

ensue from this calamity, as significant problems are expected to arise when global temperatures increase by two degrees Centigrade above pre-industrial levels, the maximum temperature increase at which effects are still considered to be manageable.²³ Such warming may occur sometime from 2025 to 2040.²⁴

Historically, climate-related conflicts or climate-related decimation of populations have been documented as early as the Bronze Age.²⁵ David Zhang, who studied the frequency of warfare in Europe, China, and the rest of the Northern hemisphere across the last millennium, observed links between temperature fluctuations, warfare, and reduced agriculture, which was then related to food shortages and conflict.²⁶ In the 2008 *State of the World* yearbook, from the Worldwatch Institute, the accelerating pace of climate change is highlighted in their review of environmental changes occurring in the last two years alone. Researchers reported that 60 percent of ice melt into the oceans came from ice caps that were melting at an accelerated pace in just the last decade. Arctic sea ice was reported as having decreased in thickness by half since 2001, with large areas now measuring only one meter thick.²⁷ 30 percent of the major tributaries of China's Yangtze River are considered to be "seriously polluted," and ten percent of the waterway is rated in "critical condition."²⁸ In 2007, China experienced "once-in-a-century" rains and floods that displaced millions of people for weeks.²⁹ The Yangtze, Mekong, Salween, Ganges, and Indus rivers were among the ten rivers in the world reported to be at greatest risk, with climate change being a major causal factor. The World Wildlife Fund reported in 2006 that two thirds of the Congo River basin, the second largest tropical forest, could disappear within fifty years. Climate change will directly or indirectly affect water sources around the globe, with cascading consequences. The World Bank estimated that 360 reported disasters in 2005 killed 90,000 and affected 150 million people, and caused over USD 150 billion in damage.³⁰

²³ United States National Intelligence Council, *Global Trends 2025: A Transformed World* (Washington, D.C., November 2008), 40–59.

²⁴ Jürgen Scheffran, "Climate Change and Security," *Bulletin of the Atomic Scientists* 64:2 (May/June 2008): 19–25, 55–60.

²⁵ See Scheffran, "Climate Change and Security."

²⁶ David D. Zhang, *et al.*, "Global Climate Change, War and Population Decline in Recent Human History," *Proceedings of the National Academy of Sciences* 104:49 (4 December 2007): 19214–219; available at www.pnas.org/content/104/49/19214.full.

²⁷ Mark Halle, "New Approaches to Trade Governance," in *2008 State of the World: Innovations for a Sustainable Economy*, xxvi.

²⁸ While this pollution is not directly linked to climate change, when combined with climate change-related fluctuations in water resources, the effects could be catastrophic for the regional population.

²⁹ Halle, "New Approaches to Trade Governance," 214–19.

³⁰ *Ibid.*

Water access will be limited in regions due to the “degradation of the natural resource base,” which will also stress ecosystems and populations.³¹ Whether governments are ready to deal with this problem will depend on the rate of climate change and the level of a nation’s dependence on the ecosystem. Effects of change are not linear, and a change of two degrees Centigrade could cause alarming impacts.³² Such large climate changes could produce dangerous “tipping points,” precluding the capabilities of many poor states to control the fallout.³³ Possible consequences include decreased agriculture, economic decline, population displacement, and disruption of social relations. All of these effects could ultimately lead to conflict. While this outcome is more likely in developing states, the United States, as a global power, cannot afford to ignore such possibilities due to their indirect security implications.

In a similar vein, the German Advisory Council on Global Change (WBGU 2007) has reported on four trends resulting from climate change that would affect security: degradation of water resources, food insecurity, natural disasters, and environmental migration.³⁴ The report, which is the most thorough such examination so far, detailed “hot spots” in the Middle East, Peru, Central Asia, the Pacific Rim, Bangladesh, and India that could manifest slow-emerging social alterations resulting from climate change that may prove to be destabilizing. The Council also warned about other threats to weaker states that may impact the global development and distribution of products, human rights, legitimate migration, and the stretching of security limits, which are imposed under the pretext of providing protection to vulnerable populations. The number of “climate migrants” moving to privileged countries, rather than simply relocating within their native regions, will become a growing concern. The largest inflows will most likely follow current migratory patterns from North Africa and Western Asia to Europe, Latin America to the U.S., and Southeast Asia into Australia. This would have a direct effect on U.S. national security.

U.S. Security and Climate Change: Genesis and Status

The climate change debate in the U.S. was initially always considered in economic terms. This calculus was not unique to the Bush Administration. For many years the predominant view was that American culture and society were simply too deeply rooted in traditions that made effective climate change policy not worth the

³¹ Scheffran, “Climate Change and Security,” 19–25, 55–60.

³² Hans J. Schellnhuber, *et al.*, *Avoiding Dangerous Climate Change* (Cambridge: Cambridge University Press, 2006).

³³ Timothy M. Lenton, *et al.*, “Tipping Elements in the Earth’s Climate System,” *Proceedings of the National Academy of Sciences* 105:6 (2008): 1786–93.

³⁴ Renate Schubert, *et al.*, *Climate Change as a Security Risk* (Berlin: German Advisory Council on Global Change, WBGU, 2007).

costs of implementation. In accordance with realist thinking, the cost of reducing greenhouse gas emissions was compared to the potential costs of climate change, and it was felt to be economically prohibitive. George A. Gonzales, tracking the U.S. dependency on hitherto cheap oil and the anthropogenic release of GHGs from automobiles used to navigate urban sprawl, suggests these social trends as major culprits in preventing earlier recognition of the climate change dilemma.³⁵ Entrenched elites ensured urban sprawl from 1934 with the creation of the Federal Housing Authority (FHA). The FHA encouraged building in the urban periphery by offering cheap mortgages. This spread into rural regions (which was often unregulated) clearly stimulated the economy by increasing the demand for durable household goods, and particularly automobile ownership, consequently encouraging oil dependency. This practice of unchecked urban sprawl is consistent with Marx's contention that capitalism will drive to maximize profit at the expense of despoiling the natural environment.³⁶ No changes in policy were enacted while oil prices remained low. This changed, however, when the U.S. finally exhausted its own domestic oil supplies, and the Organization of the Petroleum Exporting Countries (OPEC) became ascendant as a U.S. energy supplier during the 1970s.

Nevertheless the FHA, which was placed under the control of the real estate industry, continued the "horizontal" spread of urban communities.³⁷ U.S. oil policy came under the influence of the Twentieth Century Fund task force, which urged demand-side policies that made the U.S. increase oil consumption to even greater levels than those of 1970, making the U.S. the largest emitter of greenhouse gases ever. It must be noted that, while eco-Marxism may be one theory that helps explain the U.S. conundrum, neo-classical economists would assume that such demands are a given, and would focus instead on how different producers respond to such demands.³⁸ Regardless, well into this millennium, climate change and the demands on security never entered the "economics-dominated" debate about global environmental change in the United States.

The threat to security was never considered a serious one until Hurricane Katrina exposed a significant chink in the U.S. armor to a national and international audience in 2005. Katrina cost 1836 lives, caused USD 100 billion in damage, and displaced 1.5 million people.³⁹ However, the significance of Katrina was not determined by the scale of the hurricane, nor in the destruction it wreaked on the poorly situated urban center of New Orleans. The U.S. is vast enough that sin-

³⁵ George A. Gonzales, "Urban Spread, Climate Change, Oil Depletion and Eco-Marxism," in *Political Theory and Global Climate Change*, 166.

³⁶ *Ibid.*

³⁷ *Ibid.*, 153–76.

³⁸ *Ibid.*

³⁹ Peter F. Cannavo, "In the Wake of Katrina," in *Political Theory and Global Climate Change*, 178.

gle climate events do not present an existential threat to the state, but Katrina did expose potential risks, particularly when the nation had to divert resources from two wars in Iraq and Afghanistan.⁴⁰ Katrina focused attention on U.S. disaster relief capabilities, bringing intense criticism of emergency management responses, and raising concerns about the larger issue of homeland security. It was in the wake of such criticism that Senators Richard J. Durbin and Chuck Hagel introduced a bill requesting a National Intelligence Estimate in March 2007 to assess the security threat posed by climate change. Several reports quickly followed linking security and climate change, both in the U.S. and internationally. The CNA Corporation, which operates the Center for Naval Analyses and the Institute for Public Research, issued a report in April 2007 that also linked global warming and U.S. security.⁴¹ Thus hurricane Katrina brought attention to an aspect of the climate change debate that until this point had been widely ignored; it acted as the impetus to transform the nature of climate change policy for the United States.

The Priority of National Security and President Bush

President George W. Bush's reluctance to embrace the Kyoto protocol, even as support crumbled in the Senate, is understandable given his conservative political leanings. Having traditionally supported smaller government, less public spending, and less bureaucracy, and demonstrating a general aversion to ratifying international regimes promptly, the Republican base was unlikely to support President Bush on a radical departure from free market principles by adopting any climate change regime. Yet national and international security did unwittingly elbow their way onto the Bush agenda with the start of the "war on terror" in the wake of the terrorist attacks of 11 September 2001. In fact, it became one of the defining themes of Bush's legacy. There was a willingness on the Bush Administration's part to assert a greater governmental role in order to ensure security, even in the private sector. For example, this was manifested through privacy intrusions in the form of wiretaps of telephone lines and the monitoring of bank accounts, which the Republican base viewed as necessary after 9/11. The threshold for the administration's support of climate change and its securitization was further lowered by the Katrina disaster, which catapulted such concerns into the policy sphere. The floundering Federal Emergency Management Agency came under severe criticism and was quickly folded into the Homeland Security mantle. Thus, though reluc-

⁴⁰ Busby, *Climate Change and National Security, An Agenda for Action*. Scientists, according to Busby, are not settled in the argument that the Katrina disaster was a result of climate change, but agree that climate change will cause more severe hurricanes as global warming proceeds.

⁴¹ *National Security and the Threat of Climate Change* (Alexandria, VA: CNA Corporation, 2007); available at <http://securityandclimate.cna.org/report/>.

tantly and serendipitously, the Bush Administration did begin to slowly securitize the climate change deliberations.

Changing of the Guard in U.S. Climate Change

The Bush Administration's legacy on climate change has come under fire from the outset for its separation from the international dialogue on the subject. Salient features of this isolationist legacy include the refusal to ratify the Kyoto Protocol; the opening of public lands in the U.S. to drilling, mining, and logging; relaxing pollution standards; discrediting the science underlying climate change policy; and avoiding constructive engagement with the world community on climate change. Critics have been harsh with respect to the Bush legacy, largely because of its conservative, market-driven, and U.S.-centric agenda.

However, there were islands of hope in the sea of Bush-era policy, places where "significant action" was taken. Air quality was improved, funding for renewable energy sources was increased, the largest marine sanctuary to date was dedicated in the Pacific Ocean, and President Bush did initiate an important dialogue with some developing nations (including China and India) that will form important threads for President Obama's climate change initiatives.⁴²

Even Mr. Bush's harshest critics must concede that some progress was made during his eight years in office. Yet few were surprised that after taking office in January 2009 President Obama did not waste much time reversing many of the Bush Administration's policies regarding the environment. While it is clear that many changes remain to be made, what may prove more difficult is for President Obama to determine which of the Bush initiatives he should incorporate into the foundations of his own climate policy. Since taking office, the new president has rescinded Bush policies on drilling in Utah, and is planning new, more stringent automobile and coal plant emission standards. President Obama has the advantage of his enormous popularity and the perceived goodwill and intent of Americans to dedicate themselves to acting in concert with global partners on approaches to climate change. Looking forward, however, political realities and economics may again rule the day, as they have in the past.

The Bush Administration

The Kyoto Protocol is the most far-reaching global effort to date to address climate change. As a consequence, it also sometimes serves as the dominant criterion used to measure the Bush legacy, and thus American involvement, on the subject. But such a narrow evaluation may be misleading. The reality surrounding the Kyoto Protocol is that many acolytes who supported the original regime are now

⁴² John Broder, *et al.*, "Environmental Views, Past and Present," *New York Times* (7 February 2009); available at www.nytimes.com/2009/02/07/science/earth/07enviro.html?scp=1&sq=Environmental%20Views,%20Past%20and%20Present&st=cse.

struggling to meet its targets, thus suggesting a significant design flaw in the treaty. It also implies that the U.S. was wise in its rejection of the proposal.⁴³ Those who defend President Bush's decision to reject the Kyoto Protocol say that, while he correctly prevented its ratification, he was not nearly as effective in explaining the justification behind his decision—namely, that there was a better approach to deal with the issue.⁴⁴ The luxury of retrospection affords even the most loyal, liberalist thinkers the opportunity to reexamine the practical value of this unprecedented treaty.

Realistically, Kyoto had three critical flaws that could not be ignored from the U.S. perspective: the unreasonable expense for the U.S. to meet its targets; its failure to require developing nations such as India or China to reduce their emissions; and the lack of emission-reduction targets that were substantial enough to make an impact. In other words, according to this camp, “the reach is too short, its grasp too weak, and its cost too high.”⁴⁵ The argument was made that if President Bush had ratified Kyoto in its most stringent form, the results would have had virtually no effect on the threats and trends of global warming. Signing on to the Protocol may have signaled commitment and solidarity to the international community, but that would have been its most significant accomplishment. Furthermore, from the traditionally more realist American perspective, this was neither its aim, nor a justification to proceed. At first, investing in climate change policy was not consistent with U.S. economic interests. After the securitization of the issue, a treaty such as Kyoto would only be worthwhile for the United States if it effectively protected and promoted American interests, which at the time it clearly failed to do. Consequently, it is difficult to dismiss the conclusion that rejecting the treaty was not President Bush's most unfortunate decision. An accurate assessment of U.S. commitment to addressing climate change cannot be based on this event alone.

U.S. talks with China during the end of President George W. Bush's second term are viewed by even Bush's harshest critics as having set the stage for future multilateral talks where discussions between the U.S. and individual states would avoid the cumbersome negotiations that constrict decision making in a large forum like the UNIPCC. These talks provided useful assistance to developing countries in areas like steel plant pollution and transportation, while they reassured domestic legislators about the security of U.S. jobs that could disappear with a badly negoti-

⁴³ Andrew C. Revkin, “Climate: The Legacy of Kyoto,” *New York Times* (7 February 2009); www.nytimes.com/2009/03/29/weekinreview/29revkin.html?scp=1&sq=Among%20Climate%20Scientists,%20a%20Dispute%20Over%20%E2%80%98Tipping%20Points%E2%80%99&st=cse.

⁴⁴ Lee Lane and Samuel Thernstrom, *A New Direction for U.S. Climate Policy: Credible Alternatives to Kyoto* (Washington, D.C.: American Enterprise Institute for Public Policy Research, January 2007).

⁴⁵ *Ibid.*

ated climate treaty. China's position is crucial to any leverage that President Obama will have with Congress. China, which is now perceived as a major economic rival to the U.S., would have to respond very positively to U.S. suggestions in order for the U.S. to sign on the dotted line in Copenhagen,⁴⁶ and as things currently stand, China has not even agreed to mandatory restrictions on emissions in their coal plants.⁴⁷

Critics of President Bush like Eileen Claussen, President of the Pew Center on Climate Change, regard his legacy as one in which global warming was viewed as very difficult to forecast when proposed policies designed to address the issue (like the Kyoto Protocols) were perceived as likely to harm the U.S. economically. Claussen described the Bush presidency as "mainly one of delay and lost opportunities."⁴⁸ President Bush largely focused on the "uncertainties in forecasts of a dangerously human-heated world and the certainty that economic harm would come from mandatory cuts in emissions of heat-trapping gases."⁴⁹ His manner of addressing climate change policy was initially very much in line with the pre-securitization approach to the issue. With no perceived realist value, climate change policy was barely on President Bush's radar. His reluctance to join climate change enthusiasts even after the early stages of the shift towards endorsement and securitization cannot be disputed. Consequently, industry was not required to follow any mandatory reductions in emissions. As late as September 2007, when UN Secretary-General Ban Ki Moon urged the world to "confront climate change within a global framework ... that guarantees the highest level of international cooperation," President Bush's response was limited at best.⁵⁰ Even after the reports that followed Hurricane Katrina, Bush continued to imply that links between climate change and security were premature.

Though on the international stage the Bush Administration seemed to be one of climate change policy's biggest adversaries, there were advancements made domestically. On air quality, the Bush Administration introduced legislation to reduce particulate materials in the environment that adversely affect health. However, according to Felicity Barringer, President Bush was criticized by courts and

⁴⁶ With the 2012 expiration of Kyoto looming, the December 2009 conference in Copenhagen will be the last time the parties of the UNIPCC meet before the climate agreement needs to be renewed.

⁴⁷ Broder, *et al.*, "Environmental Views, Past and Present."

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*

⁵⁰ Bryan K. Mignone, "International Cooperation in a Post-Kyoto World," *Brookings Institution*, November 2007; available at www.brookings.edu/articles/2007/11_climate_mignone.aspx.

scientists for falling short.⁵¹ The Obama Administration has warned power plants that they intend to pursue violators, and will possibly alter this policy. Power plant regulation is expected to be stepped up, with the Environmental Protection Agency (EPA) already following up on judicial demands to curb mercury emissions. The Bush Administration did reduce diesel emissions with a 2005 rule to cut emissions by 70 percent, but allowed old coal-fired plants to expand. In 2006, an opportunity to further reduce particulate matter emissions was ignored. The administration suffered many legal defeats on this front, including the repeal of the 2005 rule. The Obama Administration is also expected to further review the Clean Air Act.

The Bush initiative to designate large ocean areas in the Pacific Ocean as national monuments has been criticized as a low-risk environmental effort, since private firms had very little interest in developing these areas, but it did not stir up any political opposition. Obama, however, is planning to wade into more dangerous waters, and is expected to face opposition when determining water rights, particularly in western states. Other contentious areas that will depart from the Bush agenda include fishing rights, coastal erosion, offshore wind power, and international marine regulations.⁵² The UN is looking at modifications to its Law of the Sea Convention, which will impact shipping, oil exploration, and fishing as the ice recedes in the Arctic Sea. The expansion of national territories to undersea continental shelves is also being considered. This debate has stewardship, allocation, and security overtones, returning the U.S. to the challenge of equitably distributing resources. While Bush supported the treaty with marginal Republican backing, Obama is expected to court it more enthusiastically.

The Department of the Interior, which controls a fifth of the U.S. land surface, performed poorly under President George W. Bush. There were numerous scandals under the Bush Administration, and important land reforms from the Clinton Administration were reversed. Large tracts were once again opened to logging, but attempts to increase these concessions further were thwarted by courts. The Bush Administration granted a record 6000 new drilling permits in just a one-year period (2003–04), some of them in land that had been previously protected. In 2004

⁵¹ Felicity Barringer, “Air: New Direction on Pollution,” *New York Times* (7 February 2009); <http://query.nytimes.com/gst/fullpage.html?res=9A03E3DB1338F934A35751C0A96F9C8B63&scp=1&sq=Air:%20New%20direction%20on%20Pollution&st=cse>.

⁵² Cornelia Dean, “Water: A Change in Tone,” *New York Times* (7 February 2009); at <http://query.nytimes.com/gst/fullpage.html?res=9E0DE3DB1338F934A35751C0A96F9C8B63&scp=1&sq=Water:%20a%20Change%20in%20Tone&st=cse>.

Bush finally reversed this trend, but the effort to prevent drilling is expected to be more vigorous and robust under Obama.⁵³

The Bush legacy on climate change was no doubt a mixed one. While far from a “green” president, Mr. Bush did take some helpful steps toward effective climate change policy that would be unfair to ignore. Generally any major progress, however, was made only as a result of the linkage of climate change issues to national security, particularly following Hurricane Katrina. The Bush Administration put most of its ideological and political emphasis on national security. During the Bush years in the White House, climate change shifted from a purely environmental issue to one of national and international security. This shift was certainly more widely accepted in Washington during Bush’s second term. Given this transformation, the personal significance of national security to his presidency, and the emergence of new realist motives associated with the issue, President Bush could not afford to end his last term having neglected to give climate change policy the attention it required.

This said, President Bush was not unique in his unwillingness to commit the United States to far-reaching international regimes. Though in the past the justification behind such decisions may have been communicated more successfully to the international audience, U.S. presidents have been notoriously cautious to enter into any international treaties, oftentimes opting not to. While the realist rationale to preserve state sovereignty can account for this hesitation, the reasoning goes beyond that fundamental theoretical explanation. The unique nature of the U.S. legal system most definitely enters into such reckoning. All too often states ratify conventions, but do little to actually implement the documents they have signed on to. It is habitually difficult for the international community to ensure full compliance, and failing to adhere to these treaties may go without consequence. In contrast, though hesitant to ratify international agreements, the United States is usually not guilty of failing to implement agreements after ratification. In part this can be attributed to the U.S. domestic legal system and the real influence it has over implementation. Consequently, in addition to the economic deterrents and Bush’s personal questioning of the science behind climate change and green agendas, the skepticism of international regimes among conservatives also prevented the U.S. from taking a leadership role earlier.

Tempered Optimism: A Time for Change

President Obama, who referred to climate change an “irreversible catastrophe” during his presidential campaign, has proposed a sharp departure from the view that climate change policy is a secondary priority. In line with the European

⁵³ John M. Broder, “Land: The Balance Shifts,” *New York Times* (7 February 2009); <http://query.nytimes.com/gst/fullpage.html?res=9C0CE3DB1338F934A35751C0A96F9C8B63&&scp=1&sq=Land:%20The%20Balance%20Shifts&st=cse>.

stance, he has fully accepted the reported security implications that acknowledge “violent conflict, terrible storms, (and) shrinking coastlines” as consequences of the phenomenon. With this acknowledgement, President Obama has added the threat to security posed by climate change to the heart of his policy initiatives. This was evident even during the early months of his presidency with his emphasis on investment in renewable energy and “green jobs” in his economic stimulus package.⁵⁴ Though it is clear that the Obama Administration has fully embraced the securitization of climate change, President Obama has had the added advantage of time in his alignment of his views on climate change policy with traditional realist priorities.⁵⁵ Following the debate in the Bush Administration, there has been wider acceptance of this conclusion and validation of the weight given to the policy proposed by Obama. He has been spared the need to convince the majority of policy makers of the necessity of these initiatives, as was the case when the issue was still viewed as a pet project of environmentalists. However, optimism must be tempered, since many of the lobbyists and politicians opposing the idea during the Bush era still remain in the wings. These actors will certainly erect fresh roadblocks for the new president, providing undetermined challenges motivated by their own priorities. Any compromises made with these parties on the environment would reinforce skepticism of Obama’s commitment to climate change policies both at home and abroad. A glimpse of such a scenario already exists in other policy areas where the Obama campaign promised dramatic deviation from the policies of the Bush Administration but has (as yet) failed to deliver.⁵⁶

To this point, the most far-reaching policy decision from the Obama Administration with respect to climate change was forwarded in April 2009 by the EPA. The Agency has proposed regulating six heat-trapping gases that have been deemed as endangering the health of present and future generations. This was based on “overwhelming and compelling evidence” following scientific review,

⁵⁴ Joseph Romm, “Must-read Obama Speech Warns of ‘Irreversible Catastrophe’ from Climate Change,” *Alternet.org* (26 January 2009); www.alternet.org/environment/122788/mU.S.tread_obama_speech_warns_of_%22irreversible_catastrophe%22_from_climate_change/.

⁵⁵ Todd Stern, the current special envoy on climate change, confirmed the drastic difference in attitude between the Bush and Obama Administrations during the climate change talks in Bonn. He said, “We are glad to be back, we want to make up for lost time, and we are seized with the urgency of the task before us. The science is clear and the threat is real...the costs of inaction or inadequate actions are unacceptable.” See Lewis Smith, “America ‘Can’t Wave Magic Wand’ on Climate Change,” *The Times (UK)* (30 March 2009); available at www.timesonline.co.uk/tol/news/environment/article5999170.ece.

⁵⁶ David M. Herszenhorn and Jackie Calmes, “Despite Major Plans, Obama Taking Softer Stands,” *New York Times* (18 April 2009); www.nytimes.com/2009/04/19/us/politics/19lobby.html?scp=1&sq=Despite%20Major%20Plans,%20Obama%20Taking%20Softer%20Stands&st=cse.

with future enforcement proposed under the provisions of the Clean Air Act.⁵⁷ Significantly, when it released this ruling in April 2009, the EPA stated that, “in addition to threatening human health, the analysis finds that climate change also has serious national security implications.”⁵⁸ The policy is expected to lay down rules after sixty days of debate that will then set limits on the amounts of these gases released in practically any endeavor in the U.S. The impact of these rules would be so sweeping that a revolutionary effect is expected in the way the U.S. conducts business.⁵⁹ It is also a repudiation of the Bush Administration’s attempts to suppress scientific evidence in the global warming debate. This policy is one of the first real departures from the legacy of the past eight years, and demonstrates the tangible commitment that will be necessary for the U.S. to take on a leadership role in the area.

Such evidence confirming the deleterious effects of greenhouse gas emissions was presented to the courts in 2007 by EPA scientists from the Bush Administration, but was then suppressed. The Obama Administration reopened the evidence and validated the scientific conclusions while forwarding and incorporating this new “endangerment finding” regarding heat-trapping gases in EPA policy. In pursuing this path, Obama is publicly giving credence to the scientific community that was frequently ignored by the Bush Administration. This anti-science stance was also a significant stumbling block to the Bush Administration accepting the global warming findings of the UNIPCC. While the new EPA initiative sets the stage for epic battles with many sectors of the U.S. economy, the Obama Administration would prefer to avoid the legal challenges that are very likely to follow from the EPA rules by letting Congress take the initiative on crafting climate change legislation.⁶⁰ The EPA has, however (inadvertently or otherwise), increased the pressure on Congress to speed up the progress of its environmental bills or lose the stark choice between “regulation and legislation.”⁶¹

Both the House and Senate are expected to introduce new bills in due course, which would then supersede the EPA rulings. The core of this congressional effort is still expected to be some form of a cap-and-trade system. As suggested in this article, this will also have wide-ranging effects and will eventually decide the out-

⁵⁷ John M. Broder, “E.P.A. Clears Path to Regulate Heat-Trapping Gases for First Time in U.S.,” *New York Times* (18 April 2009); www.nytimes.com/2009/04/18/science/earth/18endanger.html?scp=7&sq=April%2018%20Climate%20change&st=cse.

⁵⁸ EPA News Release, “EPA Finds Greenhouse Gases Pose Threat to Public Health, Welfare / Proposed Finding Comes in Response to 2007 Supreme Court Ruling,” 17 April 2009; <http://yosemite.epa.gov/opa/admpress.nsf/0/0EF7DF675805295D8525759B00566924>.

⁵⁹ “A Danger to Public Health and Welfare,” *New York Times* (18 April 2009).

⁶⁰ Broder, “E.P.A. Clears Path to Regulate Heat-Trapping Gases for First Time in U.S.”

⁶¹ “EPA Finds Greenhouse Gases Pose a Danger to Health,” *Associated Press* (17 April 2009); available at www.physorg.com/news159190717.html.

come of the Obama climate change policy. Republicans have already criticized the EPA plan as detrimental to trade and agriculture. While the EPA measure is also a very strong endorsement of U.S. intentions to credibly advance climate change policy on the world stage, pragmatism and economic realities may ultimately win out, impacting the regime that the U.S. finally presents at Copenhagen in December 2009.

Though Obama is undoubtedly more in line with European liberal, multilateralism thinking, ultimately he will not abandon American realist traditions of protecting American interests above all others. It is here that the global economic crisis will have important effects.

The Wild Card: The Effects of the Current Economic Crisis on Climate Change Policy

Even as the climate change policy effort has placed security on the U.S. and UN agendas, how it is dealt with in the coming years will be greatly determined by the current economic crisis. The most recent World Bank assessment predicts that the world economy will shrink for the first time since World War II.⁶² The global downturn can be expected to pare national budgets, significantly affecting the contributions that states are able to make to the effort to curb emissions. In the U.S., however, President Obama's recent proposed budget—in keeping with his campaign pledges—promises another departure from past policy.

This budget claims that it will address global warming, cut oil imports, and create millions of “green” jobs. Obama expects to realize USD 150 billion over ten years from the cap-and-trade program to cut greenhouse gases beginning in 2012. This money will then finance his renewable energy projects. An additional USD 65 billion will also go toward middle-class tax credits. Any surplus revenues will also reward families, communities, and businesses burdened by higher energy prices. The budget has an ambitious plan to reduce emissions by 14 percent from 2005 levels by 2020, and by 83 percent by 2050. The Department of Energy has budget provisions and money from the recent massive stimulus package for weatherizing buildings,⁶³ research, and electric grid improvements.⁶⁴ While all these measures go a long way toward improving the United States' climate change credentials, the devil (as usual) will lurk in the details.

⁶² Edmund L. Andrews, “Report Says Economy Will Shrink Worldwide,” *New York Times* (9 March 2009); www.nytimes.com/2009/03/09/business/09bank.html.

⁶³ Weatherizing is the process of reconditioning structures to be more energy efficient.

⁶⁴ John M. Broder, “Energy: Setting Green Goals,” *New York Times* (27 February 2009); at <http://www.nytimes.com/2009/02/27/washington/27web-energy.html?scp=1&sq=Energy:%20Setting%20Green%20Goals&st=cse>.

Analysts are certainly concerned that the cap-and-trade program may be a gamble. It mandates limits on the emission of greenhouse gases by industry, which must purchase auctioned permits if their emissions exceed these limits. Business lobbies have already called this scheme burdensome, characterizing it as a “permanent tax on oil, electricity, and manufactured goods” at an incredibly inopportune time of economic crisis. These costs will be passed on to consumers, even though the middle class may have some tax credits and the poor would have weatherized homes. Congress has found cap-and-trade systems too complex in the past, but both the House and Senate are preparing new versions of cap-and-trade legislation. The greatest challenge will be estimating the cost and the revenues, and herein lies the dilemma, as both are definitely “unknown or unknowable” at present.⁶⁵ Republicans and some Democrats can be expected to lead a spirited opposition, seizing on the recession as a valid excuse. Other concerns include the possible wild fluctuations of permit prices and the unfair burden on central as opposed to coastal states, where coal-burning power sources are more prevalent. However, it may provide an indirect subsidy to less polluting energy producers, like nuclear plants. Despite some indirect benefits, Harvard economist Martin Weitzman fears a backlash in response to such problems that may set back climate change legislation significantly.⁶⁶

Competing with cap-and-trade legislation, the system favored by the Obama Administration (and the control system that is most likely to be adopted nationally) is the carbon tax legislation introduced in Congress by Representative John B. Larson. Many consider this legislation dead on arrival, since it proposes increasing taxes gradually until greenhouse gas reductions are achieved—an extremely untenable proposition in the current economic climate. It does, however, simplify the issue by avoiding the complexities of an auction scheme, particularly since such schemes have failed to achieve their objectives in the European Union (EU). This system only regulates CO₂ emissions at present. The second phase of cap-and-trade in the EU from 2008 to 2012 may correct some of the earlier flaws, such as the volatility in permit prices due to inadequate monitoring, the percentage of allocations that would be auctioned by member states, and the determination of emission levels for member states following the 2012 Kyoto expiration.⁶⁷ While the cap-and-trade system proposed for the U.S. does allow the market to set the limits for greenhouse gas production, taxation would definitely increase the cost of en-

⁶⁵ John M. Broder, “News Analysis: Obama’s Greenhouse Gamble,” *New York Times* (28 February 2009); www.nytimes.com/2009/02/28/science/earth/28capntrade.html?scp=1&sq=Obama%E2%80%99s%20Greenhouse%20Gamble&st=cse.

⁶⁶ Ibid.

⁶⁷ Raymond Kopp, “An Overview of the European Union Emissions Trading Scheme,” testimony prepared for the U.S. Senate Committee on Energy and Natural Resources, 26 March 2007; available at www.rff.org/rff/Documents/RFF-CTst_07-Kopp.pdf.

ergy. Revenues from such taxes would be returned to individual taxpayers in the form of lower payroll taxes. In 1993, the Clinton Administration tried to impose an energy tax with similar intentions but failed. In 2007, the Liberal Party in Canada suffered its worst loss in the elections by including an energy tax in its platform. Even Al Gore, who favored such a tax, now favors the cap-and-trade system.⁶⁸ Critics of the cap-and-trade scheme also argue that it would ultimately raise the price of goods. Besides paying for the privilege to pollute, manufacturers will still have to pay for the energy needed to run their factories. Such costs will ultimately be transferred to the consumer. Clearly, while it sets some limits, the cap-and-trade option does grandfather polluters to their past levels of greenhouse gas emissions, thus rewarding past bad behavior at the outset.

The cap-and-trade system has yet to be tested nationally, as Congress is still pondering legislation. The ten states in the U.S. that have a somewhat similar scheme in a common trading pact, called the Regional Greenhouse Gas Initiative, have already run into problems. Power producing plants have also complained about costs, and the allowances have not been uniform in all the states. Such allowances, which are decided by the individual states, have the potential to give carbon markets poor credibility. The prices in these markets are already very low, and any plan put forward by the Obama Administration would be expected to standardize these rates across state lines.

Overall, these concerns are dismissed by Obama's supporters as being the necessary costs for finding solutions to a problem that has the gravest implications for both the U.S. and the world. The UNIPCC estimated the cost of controlling emissions to be one percent of GDP by 2030, and finds this level of cost to be acceptable, but this figure is viewed as too low by industry groups. Veronique Bugnion, Managing Director of Trading Analytics and Research at Point Carbon, a consulting firm on emissions trading, translated this into effects on the average consumer. "A carbon price of USD 13 per ton would produce an increase in the cost of gasoline of USD 0.12 per gallon, a six percent increase over current retail gasoline prices. The carbon price impact would grow to USD 0.15 per gallon by 2020."⁶⁹ This would also increase average retail electricity rates by 6.8 percent or more in coal-burning states. There may also be excesses in collected revenues down the line that could lead to future fights in Congress. When it comes time to enact the proposed climate change policies, it may be difficult to justify high costs in the present for results which will only be seen many years down the line. It is

⁶⁸ John M. Broder, "House Bill for a Carbon Tax to Cut Emissions Faces a Steep Climb," *New York Times* (7 March 2009); www.nytimes.com/2009/03/07/us/politics/07carbon.html?scp=1&sq=House%20Bill%20for%20a%20Carbon%20Tax%20to%20Cut%20Emissions%20Face%20a%20Steep%20Climb&st=cse.

⁶⁹ "Point Carbon Forecasts U.S. Carbon Allowances at \$13.70 in 2012," *PointCarbon.com* (27 February 2009); www.pointcarbon.com/aboutus/pressroom/pressreleases/1.1066734.

difficult to put a value on the unknown, especially in realist terms when resources are already scarce and spread very thin. As details on the global economic crisis are unveiled, experts have become increasingly pessimistic about predicting when it will end. In sum, this does not bode well for an unavoidably expensive climate change policy plan.

The Role of U.S. Leadership in Climate Change under the Obama Administration

The debate on climate change evolved through the Bush Administration years with the realization that security policy and climate policy cannot be built on the foundation of the status quo. Climate change policy was a significant agenda item in the campaign platforms of all the major candidates in the last U.S. presidential campaign. Former Vice President Al Gore suggested in 2008 that the U.S. should be prepared to lead once more by demonstrating a willingness to meet the challenge of solar and wind energy development with innovation and investments, make a commitment to greater efficiency, improve the U.S. electric grid, and make improvements on carbon capture.⁷⁰ The Obama Administration has started taking substantial steps to address these issues, both in the stimulus package and in its budget proposal. The White House has also stated the administration's goal to lead in this area unambiguously in most forums. Such statements of intent will undoubtedly go far in assuring developing countries that the U.S. has reengaged fully in the climate change policy debate and means to take a leading role in efforts to reduce greenhouse gas emissions. The U.S. so far has contributed more significantly than any other nation "to advance scientific understanding of the causes and consequences of global warming."⁷¹ This fact is sometimes forgotten when critics evaluate the U.S. role (or lack thereof) in reducing greenhouse gas emissions in recent years.

As previously stated, President Obama has committed to reducing emissions to the levels of 1990 by 2020. His long-term target for 2050 is to reduce GHG emissions in the U.S. by about 80 percent.⁷² However, even these seemingly large commitments have already faced criticism. Scientists suggest that, although the long-term goals are sufficient, the 2020 target needs to be even more ambitious "if there is to be even a 50-50 chance of limiting temperature rises to two degrees Centi-

⁷⁰ "We" Campaign Press Release, "Gore Issues Challenge to Repower America: 100% Clean Energy in 10 Years" (17 July 2008); http://acp.3cdn.net/59663a7d483a3fc45d_7lm6bno16.pdf.

⁷¹ Eileen Claussen and Elliot Diringer, "A New Climate Treaty: U.S. Leadership after Kyoto: A Tilted Balance," *Harvard International Review* 29:1 (Spring 2007); at www.harvardir.org/index.php?page=article&id=1594&p.

⁷² Lewis Smith, "America 'Can't Wave Magic Wand' on Climate Change."

grade.”⁷³ Even the more ambitious targets set by the EU for 2020 have also been criticized as being too moderate. The EU plans to cut emissions by 20 percent from 1990 levels by 2020, increase renewable energy usage by 20 percent, and cut energy consumption through improved energy efficiency by 20 percent. EU Commission President Jose Manuel Barroso has said that the 20/20/20 plans were “the most ambitious proposals anywhere in the world.” For the U.S., even a robust commitment to the cause and a distinct departure from the lukewarm sentiment of the Bush years may not necessarily yield the results the U.S. would need to convincingly take on the leadership role the world is anxiously anticipating.

During the Bonn talks in March 2009, Todd Stern, Obama’s special envoy on climate change, stressed it was important for him to attend and “make the first statement on behalf of the United States and say we’re back, we’re serious, we’re here, we’re committed and we’re going to try to get this thing done.”⁷⁴ Such effusive statements, while showing the enthusiasm and intent of the Obama Administration, still comes at a difficult time for the president. There are many who doubt whether he has the necessary bandwidth to simultaneously tackle all the major issues currently facing the nation, and are concerned that the U.S. will simply once again defer making any concrete decisions on climate change.

Still, such fears are largely misplaced, since there have been grassroots efforts across the U.S. to promote climate change policies, particularly at the state level. California has implemented a new climate change scheme that includes policies for energy efficiency and energy renewal. It has an enviable per capita CO₂ emission target of 12.2 metric tons, well below the national per capita average of 20 tons. The Action Plan, which was introduced by Governor Arnold Schwarzenegger, also reduces vehicle emissions. Massachusetts has also introduced policies that target ten percent reductions by 2020. Progressive state policies illustrate the seriousness of the U.S. commitment to making substantial headway not only on the international stage, but domestically as well. This change in attitude is not limited to the executive branch of the federal government, but rather has been emerging prior to the change in administrations within state bureaucracies. Given the federal system, state policy has considerable influence on national policy. An ingrained commitment at the state level to combat the threat of climate change that goes beyond presidential rhetoric will support the staying power of progressive policy, even during challenging economic times.

The recent crisis has made the world, and Europe in particular, question the United States’ leadership role in global affairs. This is reflected in the tensions

⁷³ Ibid.

⁷⁴ Dina Cappiello, “U.S. Takes New Climate Change Agenda to Global Talks,” *Associated Press* (28 March 2009); available at www.deseretnews.com/article/705293698/US-takes-new-climate-change-agenda-to-global-talks.html.

leading up to the G20 summit in London in April 2009.⁷⁵ President Obama's stimulus package, which includes many environment-friendly initiatives, has been widely criticized in Europe as inflationary, and was even described by the current EU president as "a path to hell." Such a harsh response from usually reliable allies does not augur well for transnational or multilateral talks on economic matters, and these tensions could spill over into climate and security negotiations. The major concerns for other nations include the lack of regulations in the U.S. financial system, which they view as the root cause for the current economic meltdown. The U.S., however, has always touted this lack of regulation as a major strength that has attracted both national and international investment. The U.S. now agrees that some regulations of the financial markets are necessary to avoid the collapse of large sectors of the economy, including the insurance and auto industries. Free-market enthusiasts will view this as a departure from *laissez faire* attitudes in the U.S. arena, and will definitely expect new regulations in other areas such as trade and industry, including greenhouse gas abatement. This willingness to change is significant, since it indicates that the U.S. is ready to take the necessary steps to promote multilateralism and shows a willingness to compromise that would be important for both consensus and leadership. This new "climate" of increased regulation will help in the acceptance of climate change policies like emission limits—guidelines that were traditionally anathema to U.S. industry groups.

It is significant that the U.S. also faces resistance to its plans in the security sphere, where NATO members, while supporting the U.S. effort in Afghanistan, are refusing to commit any additional troops. Jaap de Hoop Scheffer, the NATO Secretary-General, has stated his concern to the European member states. He fears that Afghanistan will be viewed as "Obama's war," and he strongly cautions against such a stance. This could lead to a major foreign policy fiasco for the U.S. president—a fear that is not allayed when Scheffer adds that there will "never" be matching NATO troops in Afghanistan.⁷⁶ The U.S. also faces stiff resistance from Russia regarding the deployment of a missile shield in Poland (a plan that the Obama Administration recently abandoned), and is receiving very little help from Russia on confronting Iran. Such security-related interactions on the world stage will be added to the mix on future multilateral talks, particularly those shaping both security and climate change policies, and they should be expected to affect attitudes on both sides.

Though much of what Todd Stern stated during the climate change talks in Bonn was meant to reassure the international community of the U.S. commitment

⁷⁵ Helene Cooper, "Obama Will Face a Defiant World on Foreign Visit," *New York Times* (29 March 2009); available at www.nytimes.com/2009/03/29/washington/29global.html?_r=1&scp=1&sq=Obama%20Will%20Face%20A%20Defiant%20World%20On%20Foreign%20Visit&st=cse.

⁷⁶ Cooper, "Obama Will Face a Defiant World on Foreign Visit."

to the task at hand, he also tempered expectations. Stern said, “The U.S. is going to be powerfully and fervently engaged in this process.... That doesn’t mean that anyone should be thinking that the U.S. can ride in on a white horse and make it work, because it can’t. What (it) can do is return to the table with energy and commitment, and commitment to science and pragmatism to getting a deal that will be doable.”⁷⁷ While the Obama Administration is passionately devoted to making changes and taking the lead on climate change issues, good intentions do not automatically translate to results. Though without a genuine commitment no departure from the course charted by the Bush Administration would be possible, climate change is not the only priority on the new administration’s plate. Consistent with America’s realist and pragmatic past, the agenda will be determined by the most pressing issues, and ultimately by what will most benefit U.S. national interests.

A Look to the Future: Conclusions and Suggestions

Understanding the “procrastination penalties” of a business-as-usual approach, the U.S. must spur policy changes that conserve resources, thus preventing disaster scenarios that have grave security implications.⁷⁸ The Obama Administration must reassert the United States’ leadership role and reengage the world in the area of policy development for reducing greenhouse gas emissions. At the heart of this policy is the determination of the price of GHG emissions or the cost to pollute against the backdrop of a market that has polluted liberally and has allowed market forces, rather than environmental responsibilities, to determine such costs. Some policy changes designed to curb such excesses were evident in the Bush Administration, but the global warming imperative has now forced the current U.S. administration to state its policies unambiguously while constructing national and international regimes. The U.S. should assume this responsibility of leadership and build multilateral relationships with nations to promote successor regimes to the Kyoto Protocol. This would benefit not only the greater international community, but would also allow the U.S. greater influence in determining the path to a necessary transformation of global society.

The U.S. should embrace regulations that will promote the more efficient use of energy that will be profitable in the long run. As outlined in a recent report by the McKinsey consulting firm, such efficiencies can be realized by overcoming “market imperfections” that are looking at narrow goals but can be favorably

⁷⁷ Smith, “America ‘Can’t Wave Magic Wand’ on Climate Change.”

⁷⁸ Mann and Kump, *Dire Predictions: Understanding Global Warming*, 195. Climate change is projected by the IPCC to have implications in the areas of sustainability, biodiversity, water resources, weather extremes, disease, and regional conflicts. Delaying action to control it has a significant “procrastination penalty.”

channeled to improve efficiency with appropriate standards and norms. Other excellent suggestions in the report include long-term incentives for power producers to develop efficient technologies to reduce greenhouse gas emissions, supporting and incentivizing emerging technologies, and promoting forestry and agriculture in developing economies.⁷⁹

President Obama has to be careful not to collect power in the White House by the appointment of “czars” to oversee areas where important policy is being developed. Such appointments may backfire if they are seen as attempts to bypass Congress, and may even be compared to similar methods in the Bush Administration, where there was politicization of areas like intelligence and justice. Jim Jones, the president’s National Security Adviser, has started “redefining the role of the (National Security Council) to oversee everything from traditional foreign policy to climate change.”⁸⁰ There is great danger in constructing climate change and related security policy in any forum that is not completely transparent, particularly when the new U.S. mantra in foreign policy is the freshly minted embrace of multilateralism.

At its core, while addressing the issues of climate change, the U.S. needs to assure developing nations that there will be a fair distribution of resources. These nations—particularly those in Africa, which will undoubtedly bear an unfair burden from the fallout of global warming—must be given special consideration. This must include aid to develop clean and sustainable energy sources, relief of crippling foreign debt obligations, and help in developing environmental policies and population control measures. Unwanted fallout from overzealous emission control could result in unchecked nuclear energy development that circumvents pollution policies in order to boost power production. This in turn may inadvertently lead to nuclear proliferation and the numerous other consequences that could follow, such as accidents during disaster scenarios. U.S. policy must reflect the current understanding that there is a significant link between environmental disasters and international security.

As far as security is concerned, studying the World Trade Organization (WTO) model provides helpful clues on problems of international governance. Ideas born in the Evian Group (which mixes WTO, academics, and civil society representatives); the International Center for Trade and Sustainable Development in Geneva; the Royal Institute for International Affairs in London; and similar institutes in China, South Africa, India, and Brazil are being developed to spread and “build a level of trust” in the governing institutions of the WTO.⁸¹ Similar multilateralism,

⁷⁹ McKinsey & Co., *Pathways to a Low-Carbon Economy: Version 2 of the Global Greenhouse Gas Abatement Cost Curve* (New York: McKinsey, 2009); at www.climateworks.org/case_studies/PathwaysToLowCarbonEconomy_FullReport.pdf.

⁸⁰ “Barack Obama’s Progress: Coming Down to Earth,” *The Economist* (28 March 2009): 29.

⁸¹ Halle, “New Approaches to Trade Governance,” 209.

which is crucial for WTO governance, can also be adapted and applied to advance climate and international security policy.

The UNIPCC in its 2007 report avoided the use of the term “tipping point,” which is generally perceived as the irrevocable threshold from which recovery is impossible.⁸² Some scientists—who may be considered either pragmatists or alarmists in their views—are also currently debating the use of this phrase. The pragmatists fear increasing the shrillness of the climate change debate by discussing tipping points may lead to inaction on the part of certain states, who will be led to view their efforts as futile. They accept the science, and feel that action to combat climate change is imperative, but seek determined and coordinated endeavors from the world community without the haste of precipitous decisions that alarmist views may generate. Such alarmist views can have the undesired effect of limiting policy choices. Since tipping points have almost always been considered as being characterized by significant strains on resources, and are thus consequently seen as a security issue, the significance of understanding and defining this concept will be extremely germane to policy makers.

In concert with the acceptance of global warming is the growing understanding that concepts of U.S. security also need to be adjusted accordingly. This now comes as less of a surprise than it did in the Bush Administration’s experience, where weather effects demonstrated U.S. vulnerability and forced a reckoning of the security concerns associated with such disasters. The U.S., as a global power, will have to address not just the narrow national implications of climate change, but will also have to lead the global effort to advance climate change regimes beyond Kyoto. The dispersed nature of the impacts of climate change demands that the U.S. align national and international goals to prevent disaster scenarios that can cascade into security concerns. The Obama Administration has initiated the task of channeling national climate change policy to address these concerns as it faces skeptical world actors eager to see U.S. leadership, particularly at the UNIPCC. The current time constraints, with just a few months before Kyoto redux—along with the legislative and political tussles in the U.S. and the shrinking of the U.S. and world economies—may well be the final determinants of climate change policy for the Obama presidency.

⁸² Andrew C. Revkin, “Among Climate Scientists, a Dispute over ‘Tipping Points,’” *New York Times* (29 March 2009); available at www.nytimes.com/2009/03/29/weekinreview/29revkin.html?scp=1&sq=Among%20Climate%20Scientists,%20a%20Dispute%20Over%20%E2%80%98Tipping%20Points%E2%80%99&st=cse.