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SUSTAINABLE DEVELOPMENT LAW & POLICY



EXPLORING HOW TODAY'S DEVELOPMENT AFFECTS FUTURE GENERATIONS AROUND THE GLOBE

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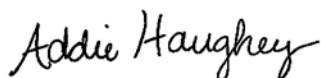
EDITORS' NOTE

Sustainable Development Law & Policy publishes a Climate Law Reporter each year with the goal of providing a default tool for practitioners and academics to gauge the current state of climate law. We have sought out articles for this issue that give as complete a snapshot as possible of the increasingly amorphous realm of climate law. There is no doubt that after the UNFCCC negotiations in Copenhagen, international climate law is at somewhat of a loss—we hope to provide some clarity through an evaluation of the Copenhagen Accord and its potential impacts moving forward.

Also at the international level, our authors provide an assessment of the UNFCCC provisions employed in Copenhagen, an in depth evaluation of the current international offsets mechanisms in place under the Kyoto Protocol, and a look at one of the major players in this political game: China.

On the domestic side, one author provides suggestions on how simple policy mechanisms can help to implement decidedly advanced geoengineering responses to global warming, and another gives the industry perspective on the U.S. Environmental Protection Agency's proposed tailoring rule on the prevention of significant deterioration.

SDLP is proud to present the 2010 Climate Law Reporter and looks forward to continuing to provide a forum for climate law and policy analysis on an annual basis, through the UN negotiations in Cancún in December of this year, and beyond.



Addie Haughey
EDITOR-IN-CHIEF



Blake M. Mensing
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INTRODUCTORY COMMENTS: THE CURRENT STATE OF CLIMATE CHANGE LAW

by Michael B. Gerrard*

The three words that best characterize the current state of climate change law are fragmentation, uncertainty, and insufficiency.

Almost everyone who takes climate change seriously believes that comprehensive federal legislation is needed. President Obama and the majority leadership of the House and the Senate agree, but regional politics, massive lobbying by various interest groups, and partisan posturing, have combined to form an almost impenetrable bramble bush. The legislative journey may have begun with a rational plan, but to accumulate the necessary votes, important elements are cast aside and dreadful provisions are added. As I write this in mid-March 2010, I do not know if a bill will reach the President's desk and, if it does, whether it will have any potency.

Meanwhile, existing legal tools are being hurled at the problem. They were all designed for tasks other than solving global climate change; some are federal, some are state, some are local. Adding them all up reveals some overlap, even more gaps, and precious little coordination. Hence the fragmentation.

The future course of all this is unknown. Empowered by the U.S. Supreme Court's landmark 2007 decision in *Massachusetts v. EPA* and by the 2009 inauguration of a sympathetic president, the U.S. Environmental Protection Agency is moving forward with its best existing tools, disparate portions of the Clean Air Act, to regulate what it can. Opponents are lobbing legislative and litigation grenades in the path; some may be duds, but all are scary. Thus industries, both clean and dirty, cannot plan because they cannot see the road ahead. Hence the uncertainty.

Any legislative outcome that is plausible in the near term will achieve far less greenhouse gas ("GHG") emissions reduction than the scientists tell us is needed to avoid serious climate consequences. The existing legal tools fall even shorter of the mark. Almost all of these efforts are focused on mitigation of emission levels; none seriously grapples with adaptation to the

climate change that is coming, or with governance of the geoengineering schemes that will surely be proposed as bad climate events accelerate. Hence the insufficiency.

If there is a ray of light, it is in the area of energy. This matters, since 80% of U.S. GHG emissions come from fossil fuel combustion.¹ Congress has not enacted a major new environmental statute since 1990, but it manages to pass new energy bills every two or three years. Thus we have major new incentives for energy efficiency and renewable energy, and even more may be coming soon, even if comprehensive climate legislation remains stalled. Many brilliant minds are also at work in private enterprises devising energy solutions; those who succeed stand to become the next billionaires. States and cities have been especially vigorous laboratories of innovation, and some of the techniques they have devised, such as renewable portfolio standards and green building codes, can make a real difference, especially if expanded nationally.

The rest of the world is waiting for the U.S. tumult to subside. Though China has overtaken the U.S. as the largest GHG emitter, the U.S. is still responsible for the largest portion of the GHGs that have accumulated in the atmosphere. It is difficult for leaders abroad to adopt strong climate controls when the biggest historic emitter still hasn't. It is too much to expect Congress to remove all the fragmentation, uncertainty and insufficiency in one swoop, but the need for real progress is urgent.



Endnotes:

¹ U.S. Environmental Protection Agency, 2010 Draft U.S. Greenhouse Gas Inventory Report, ES-5 - ES-6, (Mar. 2010), available at <http://www.epa.gov/climatechange/emissions/downloads10/US-GHG-Inventory-2010-Chapter-Executive-Summary.pdf>.

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ABOUT SDLP

Sustainable Development Law & Policy (ISSN 1552-3721) is a student-run initiative at American University Washington College of Law published three times each academic year, with occasional special editions and two annual foreign language translations. The journal publishes articles and essays that focus on reconciling the tensions between environmental sustainability, economic development, and human welfare. It embraces an interdisciplinary focus to provide a broad view of current legal, political, and social developments. Our mission is to serve as a valuable resource for practitioners, policy makers, and concerned citizens promoting sustainable development throughout the world.

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IMPLICATIONS OF THE COPENHAGEN ACCORD FOR GLOBAL CLIMATE GOVERNANCE

by David Hunter*

INTRODUCTION

Rarely has as much anticipation accompanied an international meeting than swirled around the 15th Conference of the Parties of the United Nations Framework Convention on Climate Change (“UNFCCC”), also known as the Copenhagen Summit in honor of the city where it was held in December, 2009. The announcements in early November that President Barack Obama and Premier Wen Jiabao would attend the conference turned an important climate negotiation into an enormous summit featuring most of the world’s leaders. Along with these leaders, upwards of 40,000 participants from civil society, the private sector, and governments sought to shoehorn their way into the conference center.

Rarely, too, has so much fanfare accompanied so little substance. Although many in the United States heralded the outcome as a diplomatic success that freed the climate issue from the chains of an unworkable UN process, by almost any measure the Copenhagen summit has to be viewed as a disappointment. Rather than a detailed, binding framework for furthering global climate cooperation, the parties left Copenhagen with a general political statement that privileges the voluntary actions of states and devalues the role of international law and global climate governance.

The result was not a negotiation over targets or actions, but a series of unilateral press releases, with each country announcing what it is willing to do to mitigate climate change. The potential give-and-take that, in theory at least, is one of the hallmarks of international negotiations was relevant only to the modalities of climate finance, adaptation, technology transfer, reporting, and verification. Even with these issues, precious little compromise or leadership was apparent, and little was ultimately accomplished.

There is plenty of blame to go around. Rather than marking the United States’ triumphant return to international climate negotiations with strong leadership in unifying the world around shared bold action, the Obama Administration offered only modest targets and never moved from them throughout the two weeks. Nor did any other major emitting country strengthen its mitigation actions during the negotiations. Instead of participating in a discussion over what mitigation targets industrialized countries should take, the United States drew its line in the sand around the extent to which large developing countries would allow their mitigation actions to be monitored, reviewed or verified (“MRV’d”). While maintaining a central focus on this issue, the United States essentially refused to budge on most

other issues (with the arguable exception of financing, which is discussed below).

Ultimately, the Copenhagen Accord seems as much a capitulation as a compromise. The Accord reflects the United States’ preferred “pledge and review” approach; each country that associates with the Accord is expected to make some commitment to mitigate climate change. This was not a negotiating victory except in the sense that the United States was not forced to take on any legally binding obligations in the absence of similar developing country commitments. Although developing countries had to drop their desire for a Kyoto-like agreement that would hold only industrialized countries to binding targets, the net result was that no one would be subject to binding targets. The United States, China, and India could all claim success, but the environment was the clear loser. India and China did agree to more reporting requirements but virtually no international monitoring or verification of their commitments. Also lost was any schedule for negotiating a binding legal agreement.

Only twelve paragraphs long, the Copenhagen Accord could nonetheless mark a substantial realignment of global climate governance. To be sure, the long-term ramifications of the Copenhagen Accord are not yet certain, but some initial, tentative conclusions can be reached about the direction that the Copenhagen Accord seems to lead us in global climate governance. After describing what exactly the Copenhagen Accord does and does not do, this article will lay out some initial implications for international climate law and governance.

THE ROAD TO COPENHAGEN

The Copenhagen negotiations were formally convened as the Fifteenth Conference of the Parties (“CoP”) to the UNFCCC¹ and the Fifth Session of the Meeting of the Parties to the Kyoto Protocol.² The UNFCCC, signed in 1992, sets forth the broad framework for international climate governance, including the overall objective, principles, and institutional structure for international cooperation with respect to climate change.³ The United States, as well as almost every other country of the world, is a party to the UNFCCC, which is widely understood to set no binding targets or timetables for reduction of greenhouse gas emissions. The Kyoto Protocol, negotiated in 1997, on the other

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hand provides for clear targets and timetables for industrialized countries that are parties. President Clinton signed the Protocol, but it was subsequently repudiated by President Bush in 2001. The Protocol entered into force without U.S. participation in 2005.⁴ Under the Kyoto Protocol, the European Union and other industrialized countries agreed to reduce their greenhouse gas (“GHG”) emissions an average of five percent below 1990 levels.⁵ These reductions are to be achieved during the years 2008-2012, known as the first reporting period.⁶ The Protocol also established an elaborate “cap-and-trade” system to reduce the costs of compliance through the creation of a market for GHG emission reductions—the so-called carbon market.

THE BALI WORK PLAN

Recognizing that the first reporting period under the Kyoto Protocol would end in 2012, the global community worked for several years to set forth a negotiating plan that would build on the Kyoto Protocol, bring the United States back into the UN process for addressing climate change, and outline the future obligations, if any, of developing countries. These efforts culminated in 2007 when the parties to the Framework Convention agreed to the so-called Bali Road Map—a roadmap to Copenhagen.⁷ The Bali Road Map is comprised of several forward-looking decisions, including (1) a timetable with a 2009 deadline for negotiating further commitments of those parties that have adopted an emissions cap under the Kyoto Protocol (called “Annex I Parties”),⁸ (2) a decision operationalizing the Adaptation Fund that had been created under the Kyoto Protocol and was critical for developing country participation,⁹ (3) a compromise on what to include in the review of the adequacy of the Kyoto Protocol as required under Article 9,¹⁰ and (4) the Bali Action Plan.¹¹ The Bali Action Plan set out an ambitious framework for negotiating a post-Kyoto agreement with binding commitments on all parties. The parties, including the United States and most other major countries in the world, agreed to launch a “comprehensive process” for achieving a “shared vision for long-term cooperative action, including a long-term global goal for emission reductions.”¹² That process was intended to culminate in an agreement at Copenhagen.

The Bali Action Plan further enumerated a number of topics for “consideration” during the negotiations, including: (i)

“measurable, reportable and verifiable” commitments, including quantified emissions limitations, by all developed countries; and (ii) nationally appropriate mitigation actions (“NAMAs”) by developing country Parties, “supported and enabled by technology, financing and capacity-building, in a measurable, reportable and verifiable manner.”¹³ Thus, in the Bali Action Plan, all developed countries (including the United States) agreed to negotiate commitments that would include further binding caps on emissions. For their part, all developing countries (including China and India) agreed to negotiate NAMAs to reduce the threat of climate change. The developing countries did not commit to negotiating caps on emissions, but did commit to negotiations over taking actions of some indeterminate nature. Other provisions in the Bali Action Plan committed the parties to

negotiate positive incentives for reducing emissions from deforestation and forest degradation (“REDD”) in developing countries,¹⁴ enhanced actions for adaptation,¹⁵ technology development and transfer,¹⁶ and international financial support for responding to climate change.¹⁷

The Bali Action Plan committed both the United States and developing countries to negotiating a post-Kyoto agreement with some form of binding—or at least measurable, reportable, and verifiable—commitments. Under the terms of the Bali Action Plan, the agreement was to be negotiated by the Fifteenth CoP of the UNFCCC in December, 2009 in Copenhagen. The Bali Action Plan set forth the priorities for the Copenhagen negotiators and all of the elements are reflected to some extent in the Copenhagen Accord.

The track from Bali to Copenhagen was a roller coaster ride of expectations. The inauguration of the Obama Administration, for example, gave new hope that an era of U.S. exceptionalism and isolation with respect to climate change had ended, yielding to greater U.S. willingness to accept binding international targets for GHG reductions. Indeed, the Obama Administration placed climate change on the top of its domestic legislative agenda with the hopes that economy-wide emission targets passed by the U.S. Congress could form the basis for international commitments at Copenhagen.¹⁸ Even before his inauguration, Obama signaled to the international community his intention to engage in meaningful climate negotiations by publicly endorsing federal cap-and-trade legislation with targets for reducing current emissions to 1990 levels by

Rather than a detailed, binding framework for furthering global climate cooperation, the parties left Copenhagen with a general political statement that privileges the voluntary actions of states and devalues the role of international law and global climate governance.

2020, and eighty percent reductions from 1990 levels by 2050.¹⁹ In the end, the Obama Administration's international position would remain tethered—some would say held hostage—to the prospects of climate legislation in the U.S. Congress.

As the prospects were turning positive in the United States, other countries began to announce their positions with respect to the Copenhagen negotiations. Europe agreed to reduce emissions by 30% from 1990 levels if there was an agreement reached by all major countries, but would otherwise reduce emissions only 20%. At the December 2008 negotiations in Poznan, developing countries, too, proposed a wide range of commitments that were generally seen as signaling their willingness to take serious mitigation steps. Among these 2008 proposals: China promised to reduce its energy intensity by twenty percent by 2020; Brazil committed to cut its deforestation rate by seventy percent by 2017 (resulting in a thirty to forty-five percent reduction in the country's GHG emissions); Mexico pledged to cut its emissions by fifty percent by 2050; South Africa committed to capping its GHG emissions by 2025 and working toward a decline thereafter; and Kazakhstan announced a decision to join Annex I of the Kyoto Protocol and reduce emissions to 1992 levels by 2012.²⁰ These developing country pledges were premised on access to expanded financing and technology from the industrialized countries.

More problematic was the form of any international agreement. Most observers initially assumed that the Copenhagen negotiations would result in an amended or revised Kyoto Protocol. The United States is not a party to the Kyoto Protocol, however, and consistently opposed any suggestion that it would agree to anything that even looked like the Protocol. Many climate advocates nonetheless hoped for a new binding "Copenhagen Protocol" that imported most, but not all, parts of the Kyoto Protocol, giving the United States some political cover while maintaining the basic components of the Kyoto carbon market. This offered a relatively clean solution, but it would become clear in Copenhagen that the Obama Administration, emphasizing a lack of support in the U.S. Senate, would not seriously consider such an option. Moreover, such an approach left open the question of how to incorporate "measurable, reportable and verifiable" commitments from developing countries, which resisted making such commitments in a legally binding instrument.

The leading alternative option to a binding Protocol was to implement the Copenhagen agreements through a series of decisions by the Conference of the Parties ("CoP") to the UNFCCC. This would not require ratification by any of the parties, but the legal status of CoP decisions was open to question. Such decisions do not fit into the traditional sources of international law and they may not be viewed as binding in many national jurisdictions. A U.S. appeals court, for example, has found that CoP decisions made under the Montreal Protocol are not part of domestic law and do not have to be implemented by the U.S. Environmental Protection Agency.²¹

One variation was Australia's pledge-and-review proposal. Patterned loosely after the way tariff schedules are created under the World Trade Organization, each country would

be asked to make some kind of commitment based on factors such as their economic status and their historical contribution to climate change. In this way, industrialized countries would be expected to accept mandatory emissions caps, while developing countries might choose from a wide range of policy options, including energy intensity targets, sectoral targets, or promises to create certain policies.²² Unclear in these proposals was how or whether the pledges would be mutually binding and how the transfer of Northern financial and technological support would be aligned with the diversity of Southern commitments. Developing countries were unlikely to make any significant commitments without the binding promise of Northern financial support, and the North was unlikely to make financial commitments without knowing what the pledges would be.

The long-awaited proposal by the United States released in early May 2009 was deliberately ambiguous, referring vaguely to an "implementing agreement" that would "allow for legally-binding approaches."²³ This language essentially left open the form and binding nature of any Copenhagen agreement, to be decided at a later time. With only six months left until Copenhagen, wide divisions still remained over the basic form of the negotiations—and time was running short.

President Obama's Administration seemed to be working hard for an agreement, holding bilateral summits with both China and India.²⁴ The broad agenda for both summits placed climate change cooperation high on the list. Subsequently, when President Obama announced that he would attend the Copenhagen Summit (followed closely by similar announcements from the leaders of both China and India), many observers believed an agreement had already been reached among these key countries. Why else would these leaders risk their political capital in showing up at Copenhagen? World leaders typically show up for photo opportunities at international summits, not for negotiations.

As Copenhagen approached, countries began to position themselves more clearly for the upcoming negotiations—but the public signals remained largely mixed. The United States announced they would accept targets of 17% reductions from 2005 levels by 2050 and 80% reductions by 2050.²⁵ This matched the reductions set forth in the proposed legislation working its way through the U.S. Senate. Europe reaffirmed its commitments to cut 30% from 1990 levels by 2020 if a universal agreement could be reached.²⁶ Most importantly, major developing countries, including eventually Brazil, China, and India all agreed to at least some specific mitigation actions.

Despite these encouraging announcements, as Copenhagen neared, no agreement among key countries had emerged over the form and status of the agreement. In fact, hopes for a legally binding agreement dimmed considerably when countries participating in the November, 2009 Asia Pacific Economic Cooperation meeting announced that Copenhagen should result in a "political" deal only. As Copenhagen opened, many observers believed that such a political agreement—with a firm deadline for negotiating a future legally binding agreement—was the best that could be hoped for.

AT COPENHAGEN

The first week of the Copenhagen negotiations proved to be contentious with little progress made even on the basic issue of what form the agreement(s) should take. The nation of Tuvalu demanded discussion on a single, legally binding agreement. China and other developing countries adamantly opposed the proposal, wanting to pursue the “two-track” approach: additional binding commitments for developed countries under the Kyoto Protocol and nonbinding actions for developing countries pursuant to Decisions of the parties or by other means. The United States opposed both Tuvalu and China’s positions because both would require U.S. participation in an agreement essentially patterned after the Kyoto Protocol. In the meantime, a leak of a draft “Danish Agreement,” intended as the negotiating text for a non-binding, political agreement was met with widespread acrimony, particularly from developing countries. A new coalition of Brazil, South Africa, India, and China (quickly dubbed the “BASIC” countries) called for continuation of the Kyoto Protocol with stronger commitments and a binding U.S. mitigation target, coupled with financial and technical support for voluntary developing country mitigation actions. With no clear consensus on even the most basic structure of the agreement, negotiators appeared to be waiting for the Heads of State to arrive in the second week.

The Heads of State arrived, but with few answers or solutions. After all of the speeches were completed, no agreement was evident. It was clear the United States would be taking a hard line and offering little compromise. President Obama’s well-publicized intervention into the meeting of the BASIC countries would ultimately lead to the agreement on the Copenhagen Accord, but his haste to control the public messaging for a domestic audience by announcing the agreement in a press conference meant that the Accord would be met with anger and frustration from many negotiators. Although some agreement was arguably better than none, the Accord left many issues unanswered.

THE COPENHAGEN ACCORD

The Copenhagen Accord is a non-binding political agreement. It is not a treaty nor did the parties intend in any way to be legally bound to the commitments in the Accord. As a political declaration with widespread acceptance, it can rightly be labeled a form of soft law—but that label adds little to the discussion of the impact of the Accord. Its impact will have less to do with whether it is legally binding (it is not), and more to do with whether it is politically accepted as a viable framework for organizing international climate cooperation moving forward.²⁷ If successful, the Accord could pave the way for more universal commitments that in the future could form the shape of a more legally binding set of commitments. This section looks more closely at the terms of the Copenhagen Accord.

SHARED VISION FOR LONG-TERM COOPERATIVE ACTION

As part of the Bali Action Plan, the parties, including the United States and most other major countries in the world,

agreed to launch a “comprehensive process” for achieving a “shared vision for long-term cooperative action, including a long-term global goal for emission reductions.”²⁸ Much of the discussion up to and during Copenhagen anticipated reaching a global consensus regarding clear timetables for when global emissions and atmospheric concentrations of GHGs would peak.

Unfortunately, the Accord provides little specificity surrounding future global targets and failed to advance the discussion much beyond what had been achieved seventeen years before in the UNFCCC. Under the UNFCCC, the objective of international climate cooperation has been to “stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”²⁹ That level has long been assumed to require holding the increase in global temperature below 2 degrees Celsius. Given recent developments in climate science, however, small island states and others were pushing for a consensus commitment to limit long-term changes to less than 1.5 degrees. In the Copenhagen Accord, the countries agreed to “enhance [their] long-term cooperative action to combat climate change,” “recognizing the scientific view that the increase in global temperature should be below 2 degrees Celsius.”³⁰ They also agreed that deep cuts in global emissions “are required according to science . . . with a view to reduce global emissions so as to hold the increase in global temperature below 2 degrees Celsius, and take action to meet this objective consistent with science and on the basis of equity.”³¹ In a compromise with those who sought a stronger goal, the countries called for an assessment of the Accord by 2015, which would include “consideration of strengthening the long-term goal referencing various matters presented by the science, including in relation to temperature rises of 1.5 degrees Celsius.”³² In this way, the parties could be seen as not turning their back completely on science-based calls for stronger emission reductions.

THE GENERAL FRAMEWORK FOR MITIGATION

Countries that decide to join the Copenhagen Accord are required to commit themselves to a climate mitigation strategy that they identify and report publicly to the international community. Countries are divided into two categories. First, Annex I countries (i.e. industrialized countries that were listed on Annex I of the UNFCCC) commit to implement “quantified economy-wide emissions targets for 2020.”³³ These commitments are expected to “further strengthen the emissions reductions initiated by the Kyoto Protocol.”³⁴ Second, non-Annex I countries (i.e. developing countries) will submit “mitigation actions,” which are not further defined except that they should be in the context of sustainable development.³⁵ Least developed countries and small island developing states “may undertake actions voluntarily and on the basis of support.”³⁶ In addition and critically, developing countries agreed for the first time to provide national reports of their greenhouse gas inventories every two years consistent with Article 12.1(b) of the UNFCCC.³⁷ Biannual reporting was considered a major concession by developing countries.

Both Annex I and Non-Annex I countries that choose to associate with the Copenhagen Accord were supposed to announce their commitments by January 31, 2010. Those commitments are reported to the UNFCCC secretariat and reported on their website.³⁸ As of March 2010, approximately 75 countries have made commitments under the Copenhagen Accord, including 41 Annex I and 34 non-Annex I countries. As expected, the commitments vary considerably, even within each category of countries. Many of the Annex I commitments are conditioned on a more ambitious agreement in the future, or in the case of the United States, on passage of national legislation. Developing countries also took varied approaches. Some, for example South Africa, identified significant cuts from current “business as usual” estimates of emission trajectories (thus allowing their emissions to increase but less than expected). Others, such as India and China, committed to reducing their energy intensity (i.e. to improving their emissions per unit output) but placing no overall cap on emissions. Still others, like the Congo or Brazil, listed numerous sector-specific actions or goals they would meet. Some representative examples of country pledges are listed below on page 9-10.

The pledges under the Copenhagen Accord have been met with mixed response. On the one hand, some value must be attached to getting so many countries to commit publicly to addressing climate change—and many of these commitments are specific and significant. Overall, however, the aggregation of commitments does not appear to get the world close to the levels necessary to limit temperature increases to the 2 degree Celsius goal identified in the Accord. According to the World Resources Institute:

Existing pledges by developed countries, when added together, could represent a substantial effort for reducing Annex I emissions by 2020—a 12 to 19% reduction of emissions below 1990 levels depending on the assumptions made about the details of the pledges. But they still fall far short of the range of emission reductions—25 to 40%—that the [Intergovernmental Panel on Climate Change] notes would be necessary for stabilizing concentrations of CO₂[equivalent] at 450 [parts per million], a level associated with a 26 to 78% risk of overshooting a 2°C goal.⁴⁰

Of course, the Copenhagen Accord is designed at least to some extent to allow for changing commitments to be added over time.⁴¹ Nonetheless, current reduction commitments were

disappointing to most observers and prompted repeated protests in Copenhagen from, among others, 350.org, which seeks commitments at a level that will reduce long-term atmospheric GHG concentrations to 350 parts per million.⁴²

MONITORING, REPORTING AND VERIFICATION

Ever since the Bali negotiations finished and the world’s attention shifted to Copenhagen, requirements for monitoring, reporting, and verification (“MRV”) loomed among the most controversial and difficult issues. It was clear that developing countries would agree to a wide range of voluntary commitments, but they were resistant to any international oversight—

i.e. any MRV requirements—attaching to those voluntary commitments. On the other hand, developing countries wanted MRV requirements to apply not only to industrialized country mitigation commitments, but more controversially to their commitments of financial and technology assistance. Ensuring some MRV requirements applied to the developing country NAMAs was a high priority for industrialized countries, particularly for any actions that would be supported through international financial or technology assistance.

In the end, developing country mitigation actions were divided into two categories: those receiving support from developed countries and those that would be unsupported. Unsupported mitigation actions taken by developing countries will be subject only to “domestic measurement, reporting and verification the result of which will be reported through their national communications every two years.”⁴³ Developing countries are also to provide “for international consultations and analysis under clearly defined guidelines that will ensure that national sovereignty is respected.”⁴⁴ If a developing country chooses to seek international financing to support their mitigation action, they must subject their activity “to international measurement, reporting and verification.”⁴⁵ For developed countries, commitments both to reduce emissions and provide financing will be measured, reported, and verified.⁴⁶ In each of these cases, detailed guidelines for MRV must still be determined in future negotiations under the Conference of the Parties, a potentially difficult task.

FORESTS AND REDD-PLUS

One area that enjoyed perhaps the greatest consensus in Copenhagen was the framework for reducing emission from deforestation and forest degradation (“REDD”). Developing countries saw this as an opportunity to generate significant amounts of foreign assistance and investment to improve the

The result was not a negotiation over targets or actions, but a series of unilateral press releases, with each country announcing what it is willing to do to mitigate climate change.

Appendix I - Quantified Economy-wide Emissions Targets for 2020

Annex I Party	Quantified Economy-wide Emissions Targets for 2020	Base Year
Australia	-5% up to -15% or -25%. Australia will reduce its greenhouse gas emissions by 25% on 2000 levels by 2020 if the world agrees to an ambitious global deal capable of stabilizing levels of greenhouse gases in the atmosphere at 450 ppm CO ₂ -eq or lower. Australia will unconditionally reduce our emissions by 5% below 2000 levels by 2020, and by up to 15% by 2020 if there is a global agreement which falls short of securing atmospheric stabilization at 450 ppm CO ₂ -eq and under which major developing economies commit to substantially restrain emissions and advanced economies take on commitments comparable to Australia's.	2000
Canada	17%, to be aligned with the final economy-wide emissions target of the United States in enacted legislation.	2005
EU and its 27 Member States (Currently, not all EU Member States are Annex I Parties)	20%/30%. As part of a global and comprehensive agreement for the period beyond 2012, the EU reiterates its conditional offer to move to a 30% reduction by 2020 compared to 1990 levels, provided that other developed countries commit themselves to comparable emission reductions and that developing countries contribute adequately according to their responsibilities and respective capabilities.	1990
Japan	25% reduction, which is premised on the establishment of a fair and effective international framework in which all major economies participate and on agreement by those economies on ambitious targets.	1990
Kazakhstan	15%	1992
New Zealand	10%/20% New Zealand is prepared to take on a responsibility target for greenhouse gas emissions reductions of between 10% and 20% below 1990 levels by 2020, if there is a comprehensive global agreement. This means: the global agreement sets the world on a pathway to limit temperature rise to not more than 2° C; developed countries make comparable efforts to those of New Zealand; advanced and major emitting developing countries take action fully commensurate with their respective capabilities; there is an effective set of rules for land use, land-use change and forestry (LULUCF); and there is full recourse to a broad and efficient international carbon market.	1990
Norway	30-40%. As part of a global and comprehensive agreement for the period beyond 2012 where major emitting Parties agree on emissions reductions in line with the 2° C target, Norway will move to a level of 40% reduction for 2020.	1990
Russian Federation	15-25%	1990
United States of America	In the range of 17%, in conformity with anticipated U.S. energy and climate legislation, recognizing that the final target will be reported to the Secretariat in light of enacted legislation. (The pathway set forth in pending legislation would entail a 30% reduction in 2025 and a 42% reduction in 2030, in line with the goal to reduce emissions 83% by 2050.)	2005

Appendix II - Nationally Appropriate Mitigation Actions of Developing Country Parties (selected Parties)³⁹

Non-Annex I Party	Nationally Appropriate Mitigation Actions
Brazil	<ul style="list-style-type: none"> • Reduction in Amazon deforestation (range of estimated reduction: 564 million tons of CO₂eq in 2020); • Reduction in “Cerrado” deforestation (range of estimated reduction: 104 million tons of CO₂eq in 2020); • Restoration of grazing land (range of estimated reduction: 83 to 104 million tons of CO₂eq in 2020); • Integrated crop-livestock system (range of estimated reduction: 18 to 22 million tons of CO₂eq in 2020); • No-till farming (range of estimated reduction: 16 to 20 million tons of CO₂eq in 2020); • Biological N₂ fixation (range of estimated reduction: 16 to 20 million tons of CO₂eq in 2020); • Energy efficiency (range of estimated reduction: 12 to 15 million tons of CO₂eq in 2020); • Increase the use of biofuels (range of estimated reduction: 48 to 60 million tons of CO₂eq in 2020); • Increase in energy supply by hydroelectric power plants (range of estimated reduction: 79 to 99 million tons of CO₂eq in 2020); • Alternative energy sources (range of estimated reduction: 26 to 33 million tons of CO₂eq in 2020); • Iron & steel (replace coal from deforestation with coal from planted forests) (range of estimated reduction: 8 to 10 million tons of CO₂eq in 2020); <p>These actions are expected to lead to reductions of 36.1% to 38.9% from projected business-as-usual.</p>
China	China will endeavor to lower its carbon dioxide emissions per unit of GDP by 40-45% by 2020 compared to the 2005 level; increase the share of non-fossil fuels in primary energy consumption to around 15% by 2020; and increase forest coverage by 40 million hectares and forest stock volume by 1.3 billion cubic meters by 2020 from 2005 levels.
Congo	Listed 33 specific actions, including training and education for forest conservation.
India	India will endeavor to reduce the emissions intensity of its GDP by 20-25% by 2020 in comparison to the 2005 level.
Israel	Israel “will do its utmost” to reduce its CO ₂ emissions by 20% from a business-as-usual projection primarily by calling for a 10% share of renewable energy generation and 20% reduction in electricity consumption.
Marshall Islands	40% reduction of CO ₂ emissions below 2009 levels by 2020.
Mexico	Mexico aims at reducing its GHG emissions up to 30% from projected business-as-usual emissions by 2020, provided the provision of adequate financial and technological support from developed countries as part of a global agreement.
South Africa	34% reduction in projected business-as-usual emissions by 2020. 42% reduction in projected emissions by 2025. Implementation depends on financial resources, the transfer of technology and capacity building support from developed countries.

sustainable management of their forest resources and land-use practices. Developed countries recognized avoided deforestation as offering relatively inexpensive mitigation that could generate cheap offsets for meeting their international reduction commitments. Aably chaired by Tony La Vina, the REDD negotiations had progressed in Copenhagen to a relatively detailed proposal being forwarded for approval by the parties, but the draft (like many other draft decisions) was never formally adopted, and was instead preempted by the Copenhagen Accord.⁴⁷

The Copenhagen Accord endorsed REDD and called for “the immediate establishment of a mechanism including REDD-plus, to enable the mobilization of financial resources from developed countries.”⁴⁸ The parties also agreed to provide additional financial assistance in both the short- and long-term for establishing REDD activities. Such a mechanism will likely be established during the Mexico negotiations planned for November 2010, and the existing draft text will hopefully form the basis for those REDD negotiations.

FINANCING AND TECHNOLOGY

As in all environmental negotiations, the terms and extent of financial support from developed countries was critical.⁴⁹ Secretary of State Hillary Clinton made a high-profile announcement that the industrialized countries would collectively provide \$10 billion in annual support over the near term (2010-2012) and financial resources up to \$100 billion per year by 2020.⁵⁰ These numbers would be enshrined in the Copenhagen Accord, but several critical questions surrounding finance remain: (1) what revenue sources will provide the promised financial support for addressing climate change; (2) what institutions would be used to distribute it; and (3) for what purposes can the support be used.

First, with respect to the sources of funding, the Copenhagen Accord contemplates that the additional financial resources committed to climate change “will come from a wide variety of sources, public and private, bilateral and multilateral.”⁵¹ Following Copenhagen, many donor countries have clarified their specific financial commitments for the period 2010-2012, with commitments as of March 2010 nearing \$25 billion towards the \$30 billion goal.⁵² Less clear at this point is where the resources will come from to meet the \$100 billion per year commitment by the period 2020. To this end, the Copenhagen Accord announced a “High Level Panel” to be established under the Conference of the Parties to study various potential sources of revenue to meet this goal.⁵³ The High Level Panel was subsequently created under the auspices of the UNFCCC and is expected to provide its recommendations by the time of the next meeting of the Conferences of the Party in November, 2010.⁵⁴ The Panel may consider both public and private sources of climate financing; civil society is hoping that the Panel will consider and recommend innovative sources, including for example: taxes on international financial transfers (also known as a Tobin Tax); the use of Special Drawing Rights under the International Monetary Fund; a tax on bunker fuels from international aviation and maritime shipping; and shifting money that currently funds fossil fuel

subsidies towards climate mitigation. Each of these four potential revenue sources are generally of a magnitude that could contribute significantly to meeting the committed target, but each of them also face political hurdles and additional challenges.

The institutional structure for delivering the promised climate finance is also yet to be determined. The United States strongly supports using the World Bank and other existing institutions as the primary delivery vehicle for climate finance. The United States argues that the Bank is an efficient and knowledgeable institution in delivering multilateral assistance, but perhaps the more important reason for U.S. support is that the United States enjoys dominant decision making power in the World Bank (holding seventeen percent of the voting share). Not surprisingly, developing countries oppose the Bank and seek a new funding mechanism with more representative decision making structures.⁵⁵

The Accord does not clearly decide what role the World Bank or other existing institutions will play, but it did announce that a new “Copenhagen Green Climate Fund” (“CGCF”) will be established as “an operating entity of the financial mechanism of the Convention.”⁵⁶ The Fund cannot be formally established until the next meeting of the Conference of the Parties. The operational and governance modalities will also need to be negotiated. The expectation is that the governance structure of the CGCF will have equal representation of developed and developing countries. At least this appears to be the implication from the Accord’s reference to adaptation funding: “New multilateral funding for adaptation will be delivered through effective and efficient fund arrangements, with a governance structure providing for equal representation of developed and developing countries. A significant portion of such funding should flow through the Copenhagen Green Climate Fund.”⁵⁷

In addition to the High Level Panel and the CGCF, the Accord announced one further new institution at least indirectly related to financial support: a Technology Mechanism “to accelerate technology development and transfer in support of action on adaptation and mitigation.”⁵⁸ The mission, operating guidelines, structure, and composition of the Mechanism have not yet been clarified.

Finally, details will still have to be negotiated regarding what activities will be eligible for international climate financial support. For the most part, the Copenhagen Accord was all inclusive: the Parties agreed to provide “[s]caled up, new and additional, predictable and adequate funding . . . to enable and support enhanced action on mitigation, including substantial finance to reduce emissions from deforestation and forest degradation (REDD-plus), adaptation, technology development and transfer and capacity-building, for enhanced implementation of the Convention.”⁵⁹ The Accord also promises a “balanced allocation between adaptation and mitigation,” with priorities for adaptation funding to go to “the most vulnerable developing countries, such as the least developed countries, small island developing States and Africa.”⁶⁰ The CGCF’s mission as spelled out in the Accord will be to “support projects, programmes, policies and other activities in developing countries related to

mitigation including REDD-plus, adaptation, capacity-building, technology development and transfer.”⁶¹ The net result is that the Accord contemplates financial support for a wide range of climate-related activities, but more detailed conditions on the use of the funds must still be negotiated in the next few years. Indeed, financing is now expected to be a major focus of the 2010 negotiations in Cancun, Mexico.

IMPLICATIONS FOR GLOBAL CLIMATE GOVERNANCE

It is undoubtedly too soon to understand fully what the long-term implications of the Copenhagen Accord may be. The Accord is only one step in what is a decades-long effort to fashion a comprehensive and effective global approach to climate change. Although the Accord arguably signals a major shift away from the global cap-and-trade approach of the UNFCCC and the Kyoto Protocol, we may find in ten years that the Accord simply shaped a process that still led to a system fundamentally shaped by the Protocol’s cap-and-trade system. We must, therefore, recognize that the implications of the Accord will depend as much on what happens in the next few years of negotiations as what happened at Copenhagen. This is all the more true, given the relative general nature of the Accord, the lack of clarity in how the Accord relates to the UNFCCC, and the lack of a clear consensus for a way forward. Indeed, the lack of consensus on next steps was particularly striking at Copenhagen; the Summit ended with no clear work plan for ensuing CoP negotiations or for the Secretariat, resulting in an unprecedented lack of clarity over the direction of future climate negotiations. Although some of the uncertainty has been addressed in the months following Copenhagen, the long-term direction of the post-Copenhagen climate regime is still unclear. With these caveats firmly in mind, this article ventures some potential implications of the Copenhagen negotiations for the future of global climate governance.

THE THREAT TO A NEGOTIATED, SCIENCE-BASED APPROACH

The UNFCCC and Kyoto Protocol embody a clear top-down global approach to addressing climate change, in which (1) scientists through, for example, the Intergovernmental Panel on Climate Change (“IPCC”) inform the negotiators of what cap on global emissions is necessary to avoid the most significant negative climate impacts; (2) the negotiators agree to a system of targets and timetables that will achieve the science-based cap on emissions; (3) a global market-based system will assist in re-allocating the cap, through such mechanisms as cap-and-trade and the offset market; and (4) compliance with targets and timetables will be monitored internationally and sanctions for non-compliance may be imposed by the other parties. The Copenhagen Accord essentially has rejected such a science-driven, universally negotiated and enforced system of targets and timetables. In its place, the Accord allows each country or group of countries to make a separate and potentially unrelated pledge regarding its efforts to reduce climate change. Nothing in this process of pledges suggests that the GHG reductions in aggregate will be tied to a scientifically based analysis of what is necessary to avoid significant climate impacts. Indeed, as noted

above, even if every country fulfills its pledges under the Copenhagen Accord, reductions will still fall short of what is necessary to avoid significant climate disruption. Also lost in the Copenhagen Accord’s “pledge-and-review” approach is that the individual country’s pledges are not openly negotiated among the parties. As a result, little possibility exists to increase commitments through the give-and-take of negotiations or by publicly isolating a country that is doing too little. The net result is that overall commitments are likely to be less than we could expect through a negotiated process.

EMPHASIZING THE NATIONAL LEVEL

Associated with the “pledge-and-review” approach of the Accord is a shift in the emphasis of global climate policy from the international to the national level. Rather than an internationally agreed set of caps, the focus is entirely on what national governments are willing to pledge publicly to support. The attention is thus shifted to national level decision making. This makes explicit what many observers have recognized all along—that what happens at the international climate negotiations may be less important to addressing global climate change than what happens in the capitals of key countries. Indeed, although the Accord provides for significantly less monitoring and oversight than would be expected in a Kyoto-like system of mutually negotiated and internationally accepted targets and timetables, even compliance with a Kyoto-like system ultimately depends on domestic action for compliance.

Perhaps the Accord’s more explicit focus on the national level will provide for more resources being shifted from international negotiations to building capacity for national implementation. Given that developing countries have voluntarily self-identified their mitigation actions, we could expect greater commitment to implementation and failure to meet these individually-tailored actions may be more embarrassing than failure to meet internationally negotiated targets. The result could be that both donors and recipient governments may be more inclined to invest in implementation of the mitigation commitments. If such a focus on the national level can be transferred into a long-term focus on the difficult work of building national capacity, global efforts to address climate may benefit. But long-term capacity building does not provide the promise of a quick headline or the excitement of international negotiations. Funders, governments, and civil society must resist the allure of international negotiations and shift at least some of their work to the less romantic drudgery of long-term training, capacity building, and movement building at the national level. If nothing else, anything that shifts resources from talking to action should be welcomed in global climate policy.

THE EMERGENCE OF A PLURALISTIC APPROACH TO CLIMATE GOVERNANCE

Both the substance of the Accord’s pledge-and-review approach and the process by which it was negotiated arguably undermine the importance of the United Nations, particularly the UNFCCC Secretariat, in future climate governance. The Accord was ultimately negotiated outside of the formal UNFCCC

process, behind closed doors, with only a handful of countries present. For the most critical part of the negotiations, only the United States and the BASIC countries (Brazil, South Africa, India, and China) were in the room—and those five countries had not been authorized by any others to negotiate the Accord.⁶²

This process was heavily criticized by many other countries and left the parties wondering how the Accord fit with the UNFCCC or Kyoto Protocol. This tension manifested itself in the debate on the floor at Copenhagen over whether and how the parties to the UNFCCC should recognize this document labeled the Copenhagen Accord. Ultimately, the UNFCCC parties neither adopted nor endorsed the Accord, instead simply “taking note” of it. This meant the UNFCCC Parties as a whole recognized that the document existed, but gave it no formal status. This decision threatened the legitimacy and importance of the Accord and revealed the relatively weak consensus that surrounded it.

The debate over the formal status of the Accord revealed deeper tensions over the appropriate forum for negotiating climate governance. The Accord was seen as a new path separate from, and potentially dominant over, the UNFCCC process. It also revealed the weakness of the UN process, in which under the current rules of decision even a handful of oil-dependent states, for example, can continue to disrupt overall progress. To some observers the UN process is too unwieldy and too easily held hostage by a small number of states to allow for effective negotiations. On the other hand, the heavy-handed approach by just a few states in negotiating and announcing the Accord also arguably undermines progress toward reaching broad global consensus for long-term cooperative action.

The potential for splitting off a new negotiating process under the Accord raises the specter of a more pluralistic approach to climate governance, with significantly more institutions involved in climate policy. The Accord itself creates three new institutions—the High Level Panel on Financing, the CGCF, and the technology mechanism—without fully clarifying their relationship with existing institutions. Moreover, the willingness to negotiate the Accord outside of the UNFCCC processes suggests that in the future the most critical climate negotiations may take place in meetings of the G-20, the Major Economies Forum (“MEF”), or in bilateral or regional forums. The increase in forums is not necessarily negative, but it does raise additional challenges for ensuring policy coherence and integration. These alternative forums do not have the broad participation of the UN process, potentially missing, for example, the moral voice brought to the negotiations by the countries hardest hit from climate change (the small island states and the least developed countries). Excluding these countries from the negotiations may make the negotiations more comfortable, but climate policy will likely suffer. The alternative forums will also likely be less transparent and accessible to the public. An elaborate system for civil society participation has developed around the climate negotiations that has until now been largely lacking in the G-20, MEF or similar forums.

The emergence from Copenhagen of a pluralistic approach is also evident in specific areas of climate governance. For example, Copenhagen appeared to do little to further the interests of a global carbon market, and in fact the failure to make progress on a second reporting period under Kyoto suggests that a global carbon market is not likely in the near future. This does not mean that we have seen the end of carbon markets, however. On the contrary, the carbon markets do not require a global cap-and-trade system to flourish. The carbon marketers were not visibly upset with the outcome of Copenhagen because they know that the most important decisions for a carbon market will be made at the national and bilateral level. For example, the carbon market’s future depends mostly on whether the United States establishes a national cap on emissions and a framework for integrating its market with the European emissions trading system. In addition, Europe and the United States can adopt, through their respective legislation, the necessary rules for creating an offset market with opportunities for developing country participation. Thus, for example, the United States may adopt legislation that allows U.S. companies to purchase offsets from pre-approved sectors of specific developing countries (for example, forest credits from Brazil). In this way the carbon market is established and maintained not by a global set of standards negotiated under the UNFCCC, but by a series of bilateral and regional agreements, creating an interconnecting market for emissions trading and the purchase and sale of reduction credits.

The situation is similar with respect to climate finance architecture. As noted above, the Copenhagen Accord reflected significant new commitments in financial transfers from the North to the South, but it left open significant questions regarding the future institutional architecture for managing these funds. Climate financial architecture is controversial. Among the recurring issues are: (1) the extent to which decision making will be controlled by the donor countries; (2) what conditions, including environmental and social safeguards, will be placed on financing; (3) how the financing commitments will be monitored to ensure that funds earmarked for climate financing are “new and additional;” and (4) the extent to which the UNFCCC will set policy and coordinate financing.⁶³ Complicating this further is the multiplicity of institutions that already address climate finance. The World Bank itself administers the Climate Investment Funds (“CIF”), the Forest Carbon Partnership Facility, and approximately a dozen other climate-related funds, not to mention the general climate and energy-related lending it does under its normal operations.⁶⁴ Added to the World Bank’s climate-related activities are the Adaptation Fund, the Global Environment Facility, the Clean Development Mechanism, and a variety of national and regional climate-related funds. For obvious reasons, ensuring coordination among these institutions and between these organizations and the UNFCCC secretariat was a high priority.

Unfortunately, the Copenhagen Accord, itself, did little to enhance coordination, consolidate climate finance architecture, or answer any of the related questions. In fact, in announcing the new Copenhagen Green Climate Fund, the parties added a

new institution with little operational clarity. The expectation is that decision making at the CGCF will be made by equal representation of developed and developing countries—still unknown is whether the CGCF will be independent or operate under the World Bank, what safeguard policies will attach to its operations, or what will be the composition of the CGCF decision making structure.

The parties to the Accord also established the High Level Panel for climate financing, but in so doing they apparently missed an opportunity to provide for greater institutional coordination. The High Level Panel has a relatively limited mandate to investigate new sources of revenue. During the Copenhagen negotiations, a consensus had been emerging for the need of such a high level panel to coordinate the myriad of financing institutions and to ensure that the goals of the UNFCCC were being efficiently advanced. This greater coordinating role was not (or at least not yet) included in the High Level Panel's mission.

IMPLICATIONS FOR INTERNATIONAL LAW

Much of the debate, both before and after Copenhagen, centered around whether the parties would continue the pursuit of legally binding targets and timetables. In the end, the choice to accept a non-binding option reflected a lack of political consensus—not over whether there should be a binding agreement, but what the requirements should be and to whom they should apply. Indeed, virtually every country has endorsed (and continues to endorse after Copenhagen) the pursuit of a binding agreement, but of course this did not lead to any binding decision at Copenhagen. Moreover, the parties excised (with the insistence of China and India) any language in the Accord that would have set a schedule for negotiating a binding agreement in the near future. In short, Copenhagen can only be viewed as a major set-back for anyone seeking a hard, binding agreement.

To some extent, however, the concerns over the relative “hardness” of the climate regime may be too formalistic an inquiry. We should not lose sight that the end goal of global climate policy is to take action to reduce the risk of significant climate disruption — it is not to have a binding agreement. In that respect, it is helpful to abandon the arcane discussion of whether the Copenhagen Accord is or is not binding (it clearly is not), in favor of a discussion of whether the Accord nonetheless promotes commitments and actions that can be effectively

monitored and enforced. As Jake Werksman of the World Resources Institute notes, more important than the formality is the functionality of binding international law.⁶⁵ According to Werksman, the salient questions in the context of the Accord would be: (1) are norms being developed under the Accord specific and clear enough to monitor and determine compliance, (2) is there a viable institutional framework available for monitoring and determining compliance, and (3) are there sanctions available for non-compliance.

Looking first at the normative framework, the Accord offers some modest steps forward. The Accord's “pledge-and-review” system means that both the United States and most developing countries for the first time have agreed to take some specific actions for mitigating climate change. As can be seen from the few examples excerpted above, many (although not all) of the commitments made under the Accord could, in theory, be measured and verified. Thus, for example, economy-wide reductions, improvements in energy-intensity, or sector-specific actions can all be monitored effectively, assuming the country has established appropriate baselines, developed methodologies for measuring results, and committed the resources to monitoring over time. Developing countries also agreed for the first time to submit national reports, including GHG inventories, biannually. This is an important com-

mitment that can easily be monitored for compliance. In general, then, the Accord does offer some standards of behavior that are sufficiently clear and detailed to allow for holding the signatory responsible.

On the other hand, the institutional framework for monitoring, reporting, and verifying country actions under the Accord does have significant deficiencies. The MRV requirements were one of the most hotly contested issues in Copenhagen and indeed to some extent the entire negotiations pivoted on the extent to which parties could reach consensus on the international MRV requirements that would be applied to their various commitments. This is not surprising given that the MRV requirements in many ways are critical to whether an agreement is or is not functionally binding.

In the end, a variety of MRV requirements were suggested by the Copenhagen Accord, but most of the details have been left for future negotiations. Developed country mitigation commitments are expected to be subject to MRV requirements similar to those currently existing under the Kyoto Protocol. The

[B]oth the process and outcome of Copenhagen do not offer significant reason to hope that the world's leaders can put aside short-term political expedience to make the long-term, shared, equitable steps needed to avert substantial climate disruption.

financial commitments of developed countries are also to be subject to MRV, but under guidelines yet to be adopted. The most controversial issue relating to MRV—the extent to which developing country NAMAs would be subject to international oversight—resulted in a two-tiered outcome. For developing countries that take steps without international support, MRV will be conducted at the national level according to national MRV requirements and included as part of the biannual national reports submitted to the UNFCCC. These actions will also be subject to “international consultation and analysis,” which was left undefined but recognized to be considerably less than international MRV requirements would normally entail. Developing countries that accept international financial support to implement their NAMAs will be subject to more robust international MRV oversight requirements, according to detailed guidelines to be negotiated in the future. Overall, the MRV requirements in Copenhagen were disappointing to those who wanted to see progress on a system with strong and comprehensive international oversight. India, China and the emerging economies considered the relative lack of MRV requirements to be a major victory that preserved their national sovereignty.

Even more disappointing for those who want muscular international oversight is the lack of any sanctions for non-compliance in the Accord. This is a difficult area generally in international environmental law, with the primary sanction being one of “naming and shaming” those in non-compliance. This is the only sanction implicitly available under the Accord, although there is no mechanism for parties to formally condemn

each other for non-compliance. By contrast, non-compliant parties to the Kyoto Protocol could face more significant mitigation commitments in future reporting periods (assuming there are subsequent reporting periods).⁶⁶ The Protocol would also lend itself readily to sanctioning non-compliance by reducing certain regime benefits (for example, withdrawing eligibility for receiving funding under the regime or for participating in the offset markets). The Accord thus far contemplates no such sanctions.

CONCLUSION

It may be too soon to understand the ultimate impact of the Copenhagen Summit; it is after all only one step in a long-term process of global cooperation to address climate change. In this regard, agreement to even the anemic Copenhagen Accord is arguably better than if the negotiations had failed to reach any agreement at all. Most of the world has now, or soon will have, associated with the Accord and announced either an economy-wide target (in the case of developed countries) or one or more mitigation actions (in the case of developing countries). These commitments, along with progress relating to financing, REDD, and technology transfer may subsequently be viewed as critical building blocks in an effective, comprehensive climate regime. For now, however, both the process and outcome of Copenhagen do not offer significant reason to hope that the world’s leaders can put aside short-term political expedience to make the long-term, shared, equitable steps needed to avert substantial climate disruption.



Endnotes: Implications of the Copenhagen Accord for Global Climate Governance

¹ United Nations Framework Convention on Climate Change [UNFCCC], May 9, 1992, 1771 U.N.T.S. 107, available at <http://unfccc.int/resource/docs/convkp/conveng.pdf>.

² Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 11, 1997, 37 I.L.M. 22 [hereinafter Kyoto Protocol], available at <http://unfccc.int/resource/docs/convkp/kpeng.pdf>.

³ For more on the UNFCCC, see Daniel Bodansky, *The U.N. Framework Convention on Climate Change: A Commentary*, 18 YALE J. INT’L L. 451 (1993).

⁴ *UN’s Kyoto Treaty Against Global Warming Comes Into Force*, UN NEWS SERV., Feb. 16, 2005, <http://www.un.org/apps/news/story.asp?NewsID=13359&Cr=global&Cr1=warm; Bush Firm over Kyoto Stance>, CNN.COM, Mar. 29, 2001, <http://archives.cnn.com/2001/US/03/29/schroeder.bush/index.html>.

⁵ Kyoto Protocol, *supra* note 2, art. 3, ¶ 1. See generally MICHAEL GRUBB ET AL., *THE KYOTO PROTOCOL: A GUIDE AND ASSESSMENT* (Royal Institute of International Affairs 1999) (providing a general overview of the Kyoto Protocol).

⁶ Kyoto Protocol, *supra* note 2, art. 3, ¶ 1.

⁷ See Rachmat Witoelar, President, U.N. Climate Change Conference, Address to Closing Plenary at Closing of the Joint High-Level Segment: The Bali Road Map (Dec. 15, 2007), available at http://unfccc.int/files/meetings/cop_13/application/pdf/close_stat_cop13_president.pdf.

⁸ See Ad Hoc Working Group on Further Commitment for Annex I Parties under the Kyoto Protocol, Fourth Session, Bali, Indon., Dec. 3-15, 2007, *Report of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol*, ¶ 22, U.N. Doc. FCCC/KP/AWG/2007/5 (Feb. 5, 2008).

⁹ Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol, Bali, Indon., Dec. 3-15, 2007, *Report of the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol on its Third Session—Addendum, Part Two: Action Taken by the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol at its Third Session*, dec. 1/CMP.3, U.N. Doc. FCCC/KP/CMP/2007/9/Add.1 (Mar. 14, 2008) [hereinafter Adaptation Fund], available at <http://unfccc.int/resource/docs/2007/cmp3/eng/09a01.pdf>.

¹⁰ See *id.*

¹¹ See United Nations Framework Convention on Climate Change, Bali, Indon., Dec. 3-15 2007, *Bali Action Plan*, dec. 1/CP.13, U.N. Doc. FCCC/CP/2007/6/Add.1 (Dec. 2007) [hereinafter Bali Action Plan], available at <http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf#page=3>.

¹² *Id.* dec. 1/CP.13.1(a).

¹³ *Id.* dec. 1/CP.13.1(b)(i)–(ii).

¹⁴ *Id.* dec. 1/CP.13.1(b)(iii).

¹⁵ *Id.* dec. 1/CP.13.1(c).

¹⁶ *Id.* dec. 1/CP.13.1(d).

¹⁷ *Id.* dec. 1/CP.13.1(e).

Endnotes: Implications of the Copenhagen Accord for Global Climate Governance *continued on page 56*

STANDARDIZATION OF REDD MONITORING TECHNOLOGY TO LEVEL THE PLAYING FIELD

by Beth Zgoda*

To meet the goals of the United Nations Framework Convention on Climate Change (“UNFCCC”), the nations of the world must address the approximately seventeen percent of global greenhouse gas emissions from deforestation.¹ Reducing emissions from deforestation and degradation (“REDD”) will require transparent accountability for national mitigation action and effective technology sharing.² Remote-sensing technologies—primarily utilizing satellite imagery—are an effective means of monitoring and verifying REDD.³ Although many developing countries currently lack the capacity to make use of remote-sensing technology,⁴ the technology is readily available to governments and non-governmental organizations through software programs that analyze publicly-available data sets produced by existing satellites.⁵ With this in mind, the REDD Web Platform of the UNFCCC website already provides links to information about remote sensing, including, among other things, technical assistance for data collection and training.⁶ The UNFCCC Parties must further encourage the use of effective remote-sensing monitoring of REDD in two ways. First, they must reach out to all developing country parties to ensure that they receive capacity-building training and funding. Second, they must develop uniform standards for data collection and processing so that the software programs under development can produce results easily comparable to each other.


Many developing nations lack the technical capacity and skills to make use of available technologies.⁷ Currently, the UNFCCC has a Regional Capacity Building Project for Sustainable National Greenhouse Gas Inventory Management Systems in Southeast Asia (“SEA GHG Project”).⁸ The SEA GHG Project is focused on building capacity within eight Southeast Asia countries by strengthening their institutional and technical capacity to monitor national GHG data, including training on software that incorporates remote-sensory imaging into its data analysis.⁹ This project is scheduled for completion in September of 2010.¹⁰

The UNFCCC REDD Web Platform states that a replication of the SEA GHG Project is scheduled for 2010 in Africa.¹¹ The SEA GHG Project should coordinate with the Australian government’s National Carbon Accounting System, which is already supporting capacity building for monitoring in several developing countries, including in Kenya, Tanzania, Guyana, and Cambodia.¹² In addition, the SEA GHG Project should be replicated in South and Central America. Efforts in South America should also incorporate the Brazilian government’s experience, as Brazil has already developed its remote-sensing technological skills and made its datasets publicly available.¹³

The Copenhagen Accord recognizes the need for a mechanism to provide financing from developed to developing countries for REDD.¹⁴ Any REDD-financing mechanism should invest in hiring

teams within each country, or within partnerships of countries, providing them with the available technology and training. Much of the technology, including data sets from satellites and programs to process the information, is available free or at low cost; many of the programs can run on a standard desktop computer.¹⁵ The funding would primarily go to salaries and training. As the teams for monitoring remotely would be smaller than teams needed for on-the-ground monitoring, remote-sensing will not only increase accuracy but decrease costs for monitoring REDD progress in developing countries.

One way for developing countries to fund ongoing monitoring programs is to allow the sale or trade of their carbon credits on a worldwide carbon market. For such a market to function properly, the carbon credits must be based on uniform standards of measurement.¹⁶ Several different countries and organizations are developing software for monitoring REDD from satellite data.¹⁷ Unfortunately, there are no uniform standards for the data produced by the satellites and for the output and input of the REDD-monitoring software programs,¹⁸ which will hamper any capacity-building efforts by reducing the ability to trade REDD credits. Without uniform standards, each satellite dataset and software program may lead to different results for the same area. The lack of standardization both of data and of software processing may allow countries with greater capacity and additional dedicated funding to shop around for the program and satellite that show better results for them, and the less developed countries will not have that option to game the system. The UNFCCC needs to develop uniform standards that software program developers can incorporate into their designs and REDD financing must include funding for a team of researchers to develop and issue guidelines for what factors and standards the software programmers should use.

Monitoring of REDD can be achieved with currently available technologies if the UNFCCC community is willing to build the capacity necessary to utilize those technologies. Building capacity requires direct investment in all developing forest nations. To build capacity adequately, there must be uniformity of data and data processing so that each country is trained to use systems that reach compatible and interchangeable results. If REDD is to be used as a means of trading within the carbon market, the means of measuring results must be interchangeable to ensure tradable results. 

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EXCEPTIONALISM UNITED?: UNPACKING UNFCCC ARTICLE 7.2(c)

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INTRODUCTION

In the wee hours of the United Nations Framework Convention on Climate Change's ("UNFCCC" or "Convention") fifteenth Conference of the Parties ("COP-15"), the United States invoked Article 7.2(c) of the Convention,¹ an obscure and little understood provision, in a last-minute effort to reach agreement on the post-2012 climate regime.² What is Article 7.2(c), and what are its potential applications beyond the specific context of the negotiations at Copenhagen? Some have suggested that this particular provision could present a unique opportunity for specific groups of countries to take coordinated action to address climate change while remaining under the UNFCCC umbrella. This article offers an initial analysis of the scope of Article 7.2(c) and its potential application to international efforts to address climate change.

Under the UNFCCC, Article 7.2(c) provides that:

The Conference of the Parties, as the supreme body of this Convention, shall keep under regular review the implementation of the Convention and any related legal instruments that the Conference of the Parties may adopt, and shall make, within its mandate, the decisions necessary to promote the effective implementation of the Convention. To this end, it shall: . . . (c) **facilitate, at the request of two or more Parties, the coordination of measures adopted by them to address climate change and its effects**, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under the Convention.³

Article 13.4(d) of the Kyoto Protocol ("KP" or "Protocol") has nearly identical language to the text contained in Convention Article 7.2(c). Like the Convention text, KP Article 13.4(d) gives the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol ("CMP") the authority to:

Facilitate, at the request of two or more Parties, the coordination of measures adopted by them to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under this Protocol.⁴

Indeed, the difference between the Convention text and this provision lies only in the commitments: the Convention text applies to the commitments of the Convention, while the Protocol text applies to commitments "under this Protocol."⁵

For the purposes of this article, we focus our analysis on the authority given to the Conference of the Parties ("COP") to

facilitate coordination of measures adopted by a group of Parties based upon the specific text in Article 7.2(c). We begin with the Vienna Convention on the Law of Treaties ("Vienna Convention") for guidance on interpreting treaty-level text.⁶

LEGAL FRAMEWORK

Rules for treaty interpretation are contained in Articles 31 and 32 of the Vienna Convention.⁷ These rules are widely considered to be a codification of customary international law regarding treaty interpretation.⁸ Thus, they are applicable with respect to a given State regardless of whether it has ratified the Vienna Convention.⁹

The primary rule of interpretation states, "[a] treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose."¹⁰ "Context," in relevant part, can include other provisions of the treaty,¹¹ "any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions,"¹² "any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation,"¹³ "any relevant rules of international law applicable in the relations between the parties,"¹⁴ and any special meaning given to a term.¹⁵ Therefore, with respect to interpreting Article 7.2(c) of the UNFCCC, relevant sources would include: operative and preambular text of the UNFCCC, and its annexes; the Kyoto Protocol, which would constitute a subsequent agreement applying provisions of the UNFCCC (including, but not limited to, Article 4.2(a) and (b) of the UNFCCC, relating to Annex I mitigation); COP decisions and CMP decisions, which would constitute subsequent practice to the extent that they establish agreement of the Parties on interpretation of UNFCCC provisions;¹⁶ and other relevant rules of international law.¹⁷ For the purpose of this preliminary scoping, we will focus on context provided by provisions within the UNFCCC and the Kyoto Protocol.

Based on this Vienna Convention guidance, the relevant terms of Article 7.2(c) should be analyzed in accordance with

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their ordinary meaning in context and in light of the object and purpose of the UNFCCC. The next section of the article contains this analysis, followed by an examination of procedural requirements for invoking the power, as well as additional considerations and a conclusion.

INTERPRETATION

The purpose of this preliminary scoping is to provide initial guidance on what it would mean for the UNFCCC if the COP were to facilitate coordination of measures adopted by two or more Parties. As such, we have limited the examination of “context” to key provisions within the UNFCCC and the KP (which constitutes a subsequent agreement).¹⁸ For the purposes of Article 7.2(c), the key operative phrase is, “facilitate coordination of measures adopted.”¹⁹ The remaining portions of the paragraph provide broader context and procedural considerations, which we address in later sections.²⁰ We now consider the ordinary meaning of these terms and their context, taking into account the object and purpose of the UNFCCC.²¹

ORDINARY MEANING

Recognizing the key operative phrase of Convention Article 7.2(c) is “facilitate coordination of measures adopted,” we now examine the ordinary meaning of “facilitate,” “coordinate,” “measures,” and “adopted.”²² The UNFCCC does not define any of the above terms, so without explicit guidance on definitions we begin our analysis with standard dictionary definitions.²³ The ordinary meaning of “facilitate” is to “make easy or easier.”²⁴ To “coordinate” is to “adjust (various parts) so as to have harmonious action.”²⁵ “Measures” typically refers to some form of legislative enactment, or a course of action to achieve a specified goal.²⁶ And “adopt” implies some type of formal acceptance process.²⁷

Based on these plain meaning definitions, the power to “facilitate coordination of measures adopted” means: making easier the harmonization of courses of action accepted by a formal process. Of course, this does not shed much light on what facilitation or coordination might involve, nor what kinds of actions can be considered measures for UNFCCC purposes. For this we look to context—both specific to the terms and broadly applicable to the power—provided in the UNFCCC and the KP, and the object and purpose of the UNFCCC.

SPECIFIC CONTEXTUAL CONSIDERATIONS

In this section we examine specific contextual considerations associated with each of the key terms. Under the Vienna Convention, “context” in relevant part includes, *inter alia*, other provisions of the treaty;²⁸ and “any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions.”²⁹ We now analyze “context” based on the specific key terms of Article 7.2(c) and their broader context within the UNFCCC and Kyoto Protocol.³⁰

Facilitate

In the context of the scope of activities that may be facilitated, the UNFCCC contains several helpful references. With respect to Party obligations, there are provisions that expressly connect facilitation with: adequate adaptation measures to be

taken by all Parties;³¹ and the transfer of technologies and capacity building for developing countries by developed country Parties, including those in Annex II.³² “Facilitate” could also indirectly apply to both mitigation and new and additional financing measures through the application of Articles 7.2(b) or 7.2(c), which provide for facilitation of measures to address climate change and its effects; however there are no express provisions that link “facilitate” with mitigation or new and additional financing measures.³³ Additionally, facilitation can apply to: “(i) the development and implementation of educational and public awareness programmes on climate change and

its effects; (ii) public access to information on climate change and its effects; (iii) public participation in addressing climate change and its effects and developing adequate responses; and (iv) training of scientific, technical and managerial personnel.”³⁴ This type of facilitation may be at national levels, and as appropriate, sub regional and regional levels.³⁵

In terms of COP powers, there are two explicit powers to “facilitate:” Article 7.2(b) on facilitating the exchange of information;³⁶ and Article 7.2(c) on facilitating coordination.³⁷ Additionally the Secretariat can provide facilitation with respect to the provision of assistance in compilation and communication of information required by the Convention, which is aimed at assisting developing countries.³⁸ Finally, within the UNFCCC, “facilitate” is distinct from “promote” and “finance.” There are several provisions that call for Parties/bodies to “promote and facilitate”³⁹ and one provision that requires Parties to “promote, facilitate and finance,”⁴⁰ indicating that the term “facilitate” is distinct from the other two.

Based on this Vienna Convention guidance, the relevant terms of Article 7.2(c) should be analyzed in accordance with their ordinary meaning in context and in light of the object and purpose of the UNFCCC.

In the context of the scope of activities that may be facilitated, the Kyoto Protocol offers several textual references for consideration. The Kyoto Protocol specifically allows for the facilitation—including by the CMP—of adequate adaptation measures.⁴¹ Further, it allows for indirect facilitation of mitigation measures to address climate change and its effects.⁴² Additionally, like the UNFCCC, “facilitate” can apply to technology transfer, capacity building, and the exchange of information.⁴³ Yet another similarity with the Convention is that, within the Protocol, “facilitate” is distinct from “promote” and “finance.”⁴⁴

While the Protocol and Convention have largely similar, and in some cases identical, provisions regarding facilitation, the KP provides context, as per the Vienna Convention framework, as a subsequent agreement applying provisions of the UNFCCC. Beyond the express powers of facilitating exchange of information and coordination, the Kyoto Protocol specifically mandates the CMP to facilitate cooperation with respect to Annex I (“AI”) Parties’ obligations.⁴⁵ An additional consideration is that the Protocol has provisions that explicitly allow for facilitation at the national and international levels, while the Convention also allows for facilitation at the sub-regional and regional levels.⁴⁶

In sum, facilitate seems to mean enhancing something beyond promoting or financing, at various levels. To better understand what that “something” is, we now consider the specific context for “facilitate coordination.”

Coordination

Article 7.2(c) clearly indicates that coordination can apply to measures that address climate change and its effects. There are few other references to coordination in the UNFCCC;⁴⁷ however, they do indicate that, in addition to measures, coordination can apply to specific instruments, such as “relevant economic and administrative instruments developed” by AI Parties “to achieve the objective of the Convention.”⁴⁸ Additionally, the UNFCCC provides the Secretariat with powers to undertake coordination activities with secretariats of other relevant international bodies.⁴⁹ With respect to COP powers, as noted above, there are two types of facilitation powers granted to the COP: the power to facilitate exchange of information (Article 7.2(b)), and the power to facilitate coordination (Article 7.2(c)).⁵⁰ Noting that exchange of information relates to measures by all Parties, and coordination relates to a subset of Parties,⁵¹ the two separate COP powers point to the inference that “coordinate” and “exchange of information” are distinct. However, to the extent that harmonizing action may involve the exchange of

information, “coordinate” could involve or be enhanced by, but not be limited to, exchanges of information. Indeed, it is possible that facilitating the exchange of information of measures adopted by all Parties under Article 7.2(b) is part of what would allow the COP to coordinate measures taken by a subset of Parties.

“Coordination,” in the context provided by the KP, has a similar meaning as in the UNFCCC. It is clear that policies and measures may be coordinated.⁵² “Coordination” can involve specific activities, including developing the “ways and means”

for coordination, enabling consideration of reviews undertaken across the UNFCCC and KP, and establishing expert teams.⁵³ “Coordinate” is a distinct term from “cooperate” or “promote,” although the terms are not necessarily completely distinct.⁵⁴

In the context of seeking “harmonious action,” as the plain language indicates, “coordination” in the context of the UNFCCC and KP can include the development of ways and means to undertake actions regarding policies and measures, consideration of reviews across relevant treaties, and minimization of adverse impacts.⁵⁵ For

the purposes of this analysis, we focus on “facilitate coordination” of “measures.”

Measures

The UNFCCC provides some interesting context for the meaning and use of measures. At a general level, there are references to “measures” with respect to: “addressing climate change;”⁵⁶ taking action to “combat climate change;”⁵⁷ taking precautionary action “to anticipate, prevent or minimize the causes of climate change;”⁵⁸ and protecting the “climate system against human-induced change.”⁵⁹ Measures taken to combat climate change can be unilateral.⁶⁰ Measures taken to protect the climate system should be tailored to “the specific conditions of each Party” and be “integrated with national development programmes.”⁶¹ Additionally, for all measures undertaken pursuant to the UNFCCC, the COP is required to assess their overall effect, particularly “environmental, economic and social effects as well as their cumulative impacts and the extent to which progress . . . is being achieved.”⁶²

More specifically, measures are referenced in the context of specific actions. For example, measures adopted by Parties to “mitigate climate change” and to facilitate adaptation, “taking into account” national circumstances, must be included in the formulation, implementation, and publication of all Parties’ national or regional programs.⁶³ In implementing these measures, certain considerations, including “social, economic, and

Measures taken to protect the climate system should be tailored to “the specific conditions of each Party” and be “integrated with national development programmes.”

environmental policies,” must be taken into account in order to minimize adverse economic, health, and environmental effects of such measures.⁶⁴ Parties must also include details of these measures in their national communications.⁶⁵ In the specific context of AI mitigation, measures (in tandem with policies) are required on both national and regional levels.⁶⁶ AI Parties can jointly implement these measures.⁶⁷ Detailed information on these policies and measures must be included in national communications in accordance with relevant articles.⁶⁸ On mitigation generally, the COP can promote and guide comparable methodologies to evaluate the “effectiveness of measures to limit the emissions and enhance the removals of these gases.”⁶⁹

Measures can also apply to obligations of developed country Parties and other Parties in Annex II for the provision of financial resources and technology transfer.⁷⁰ Although measures are not explicitly referenced in respect of providing financial resources for developing country mitigation, adaptation, and technology transfer to developing countries when setting out Party obligations, Article 12.3 on inclusion of details in national communications specifically refers to such activities as “measures.”⁷¹ Thus, measures can be involved in the provision of financial resources and technology transfer.⁷²

Finally, “policies” and “measures” appear to have distinct meanings in the UNFCCC. Particularly in the context of mitigation, the provisions refer to “policies and measures,” which imply that there is a distinction between the two.⁷³ Thus, for the purposes of Article 7.2(c), the COP could facilitate coordination of activities that can be considered “measures” but not those that would constitute “policies.”

We further consider the context of “measures” by looking beyond the Convention context to the use of the term in the Kyoto Protocol. Under the Protocol, “measures” refers to adaptation and mitigation, for both AI and non-AI Parties.⁷⁴ Measures may be adopted by Parties, tailored to national circumstances, included in national communications, as well as included in the formulation, implementation, and publication of all Parties’ mitigation and adaptation measures.⁷⁵ Additionally, measures should minimize adverse effects, including social environmental and economic impacts, and can enable the COP to take further action, where appropriate.⁷⁶

In the specific context of AI mitigation, the scope of “measures” appears broad and in tandem with “policies,” includes, *inter alia*: enhancements of energy efficiency sectors, sinks, transport, and some ozone depleting substances; protection of sinks; promotion of sustainable forest management and agricultural practices, as well as of technologies; research for technologies; and public sector economic interventions, such as taxes, incentives, duties, and subsidies.⁷⁷ Specifically for AI Parties, the COP may consider the “ways and means” of mitigation measures based on a CMP decision that coordination is beneficial.⁷⁸

For all Parties, including non-AI Parties, measures can be included in national and regional programs that apply to certain sectors, such as energy, transport, industry, agriculture, forestry and waste management, as well as adaptation technologies and spatial planning.⁷⁹ Even those “measures” undertaken by specific

Parties can nevertheless involve cooperation to “enhance individual and combined effectiveness.”⁸⁰

In sum, “facilitate coordination of measures,” in this particular context, seems to refer to enabling and enhancing harmonious action to address mitigation and adaptation actions, potentially including ways and means such as financing and transfer of technology. As such, “measures” would seem to be most associated with the plain-meaning definition of a “course of action to achieve a specified goal. At the same time, the alternative plain meaning of “measures” as a legislative enactment may also be relevant given the need for “adoption” of measures. We now consider what “adopted” could mean.

Adopt

What does it mean to have “adopted” measures? In the UNFCCC, “adoption” can apply generally to the Parties⁸¹ and to the COP.⁸² For example, all Parties can adopt measures to address climate change and its effects.⁸³ However, in the context of AI mitigation, UNFCCC Article 4.2(a) mandates that AI Parties “adopt national policies and take corresponding measures,”⁸⁴ also known as mitigation commitments, which includes policies and measures adopted by regional economic integration organizations.⁸⁵ The UNFCCC also specifies when amendments to these specific mitigation commitments are permitted.⁸⁶

Further, the COP can adopt treaty-level text prior to further acceptance or ratification, such as: legal instruments related to the UNFCCC⁸⁷ to the extent that such instruments constitute a treaty; protocols, with specified procedures on adoption by voting if all efforts to reach consensus fail;⁸⁸ amendments to the UNFCCC, with procedures for voting if consensus fails;⁸⁹ and annexes, including amendments to those annexes, with procedures for voting if consensus fails.⁹⁰ Other items include: legal instruments that do not constitute treaty-level text;⁹¹ decisions on matters within its mandate;⁹² rules of procedure and financial procedures for itself and for any subsidiary bodies;⁹³ guidelines for national communications;⁹⁴ regular reports on the implementation of the Convention;⁹⁵ and rules of procedure for conciliation and arbitration in the context of dispute settlement.⁹⁶

We look to the Kyoto Protocol for additional context. First, similar to the UNFCCC, “adopted” can apply generally to the CMP as well as specifically to Parties, including at the national and international levels.⁹⁷ At the international level, the CMP may adopt future treaty text that has not yet entered into force, as well as amendments and annexes.⁹⁸ Note that treaty text can specify when adoption can impact future commitments.⁹⁹ Certain provisions must be adopted by undertaking amendment procedures such as a vote, but prior to ratification.¹⁰⁰

Other items beyond treaty-level text may also be adopted in the context of the Protocol. The CMP may adopt decisions, including adoption “under” or “pursuant to” treaty provisions.¹⁰¹ Other items the KP explicitly references in the context of “adopted” include commitment periods, guidelines for the preparation of information, and national communications.¹⁰² Finally, as already noted in this article, Parties may adopt measures to address climate change and its effects.¹⁰³

In sum, adoption is consistent with the plain meaning of a formal acceptance process. In this context, recognizing that the ordinary meaning of “measures” is either a course of action or legislative enactment, “adopt” functionally modifies “measures” to those on which formal action has been taken by Parties, whether specifically legislative in nature or otherwise.

BROADER CONTEXTUAL CONSIDERATIONS

In this section, we briefly examine contextual considerations relevant to the power as a whole.

In international law, “Parties” typically means those States for whom the treaty in question is in force.¹⁰⁴ Because the UNFCCC does not define Parties, we assume for the purpose of this analysis that “Parties,” in the context of the UNFCCC, means countries that have ratified the UNFCCC.¹⁰⁵ Thus, only countries that have consented to be bound (i.e. through formal ratification procedures) by the UNFCCC can invoke Article 7.2(c), and only measures adopted by those countries are eligible for coordination by the COP.¹⁰⁶

In the case of the Kyoto Protocol, “Party” means, unless the context otherwise indicates, a Party to this Protocol.¹⁰⁷ While the KP’s governing body (the CMP) is legally distinct from the UNFCCC’s COP, the Protocol does include provisions that apply to the UNFCCC’s AI Parties.¹⁰⁸ For KP Article 13.4(d), only “Parties,” as opposed to “Party included in Annex I,” is mentioned. Thus, unless the context indicates otherwise, “Parties” here means Parties to the Kyoto Protocol.

The second half of Article 7.2(c) shapes the power to facilitate coordination of measures by requiring the COP to take “into account the differing circumstances, responsibilities and capabilities of the Parties and their respective commitments under the Convention.”¹⁰⁹ It therefore follows that the COP has an obligation, in facilitating coordination of measures, to consider how those measures relate to differentiated responsibilities and national circumstances, as well as the specific commitments of different groupings of Parties within the UNFCCC.

Additional context is provided by the chapeau of Article 7.2:

The Conference of the Parties, as the supreme body of this Convention, shall keep under regular review the implementation of the Convention and any related legal instruments that the Conference of the Parties may adopt, and shall make, within its mandate, the **decisions** necessary to promote the effective implementation of the Convention.¹¹⁰

This demonstrates that the primary role of the COP is to promote effective implementation of the UNFCCC, thus any exercise of powers must contribute to achieving this goal. Further, the chapeau provides guidance on the form of action that the COP can take within its powers; the COP shall make the *decisions* necessary to implement the UNFCCC.

OBJECT AND PURPOSE

The primary objective of the UNFCCC is to “achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at

a level that would prevent dangerous anthropogenic interference with the climate system.”¹¹¹ This objective is guided by, *inter alia*: common but differentiated responsibilities and respective capabilities; the specific needs and circumstances of the particularly vulnerable; the need to take precautionary measures; the promotion of sustainable development; and promotion of an open international economic system.¹¹² The KP affirms the overall objective of the UNFCCC.¹¹³ These are all important considerations regarding the COP’s power to facilitate coordination of measures.

PROCEDURAL MATTERS AND ADDITIONAL CONSIDERATIONS

Although it is beyond the scope of this article to examine similar provisions in other Multilateral Environmental Agreements (“MEAs”), which could be helpful in determining the application of powers to facilitate coordination of measures, initial research shows that the explicit power to facilitate coordination of measures adopted by a subset of Parties is rare.¹¹⁴ Nevertheless, broadly speaking, there are examples of other conventions granting powers or creating bodies that have the effect of coordinating measures adopted by different subsets of parties.¹¹⁵ Analyzing these examples in the future might be helpful in informing what kinds of actions the UNFCCC COP could authorize under Article 7.2(c).

As noted above, there is a specific procedural requirement to invoke the COP’s power under Article 7.2(c): “at the request two or more Parties.” Typically, rules for this kind of procedural matter are contained in the rules of procedure of a convention’s governing body, however the UNFCCC COP to date has not formally adopted rules of procedure,¹¹⁶ due to an inability to reach consensus on draft rule of procedure 42, containing, *inter alia*, voting rules for substantive matters.¹¹⁷ Instead, the Parties provisionally apply draft rules of procedure, except for rule 42, at all COP and CMP meetings until the rules are formally adopted, which means that most procedural and substantive issues—unless specified in treaty text or outside of rule 42—must be decided by consensus.¹¹⁸ Therefore, at the moment, the draft rules of procedure as provisionally applied can provide guidance on the procedural elements of requesting facilitation of coordination measures.

The primary power of the COP is to take “the decisions necessary to promote the effective implementation of the Convention,” as stated in Article 7.2. These decisions are adopted at COP sessions, which are mandated to take place once every year with the possibility of extraordinary sessions if Parties so request.¹¹⁹ To ensure that an item is considered, it should be included in the agenda for the session. According to the draft rules of procedure, an item may be added to the agenda in one of three ways: before circulation of the provisional agenda; after circulation of the provisional agenda but before the opening of the session, which would then be included in a supplementary provisional agenda; or at the adoption of the agenda.¹²⁰ The Secretariat, in agreement with the President of the session, drafts the provisional and supplementary provisional agendas, which

include “as appropriate: [a]ny item proposed by a Party.”¹²¹ At adoption of the agenda, items can be added, deleted, deferred, or amended only if the COP *decides* to do so.¹²² Thus, to get an item on the agenda before adoption merely requires a proposal by a Party and the agreement of the President and cannot be deleted, deferred, or amended without consensus, whereas items introduced at the meeting must initially have consensus to be added to the agenda. Additionally, items can only be added at the meeting if the COP considers it urgent and important.¹²³

Considering all of these procedural matters, perhaps the most likely way that the COP would consider a request to facilitate the coordination of measures would be through a formal agenda item proposed prior to circulation of the provisional agenda. Presumably this could occur via a request from a single Party on behalf of two or more Parties, or as a joint proposal from multiple parties for inclusion as a COP agenda item of facilitating coordination of measures adopted by a group of Parties. Once the item is placed on the agenda, it would then become incumbent on the COP to consider it and to facilitate the coordination of measures, potentially through a COP decision (which, pursuant to the draft rules of procedure, would need to occur via consensus).

CONCLUSION

Following the Vienna Convention’s direction on treaty interpretation by looking at the ordinary meaning, context, objective, and purpose of a treaty, we begin to form a better understanding of the scope of activities that may be undertaken pursuant to UNFCCC Article 7.2(c).

Recognizing that the key operative component of Article 7.2(c) is “facilitate coordination of measures adopted,” we have considered the meaning of the specific phrase and its broader context. Both the Convention and the Kyoto Protocol contexts generally support the plain meaning of the terms, which collectively could be read as “making easier the harmonization of courses of action accepted by a formal process.” In simpler terms, we could say that a plain meaning interpretation of Article 7.2(c) supports the COP’s enabling the harmonization of formal national-level actions, whether legislative or otherwise.

What does this process of enabling harmonization of formal domestic actions mean in the specific context of the Framework Convention? To answer this question we look to the specific context of these terms as well as the broader context of the UNFCCC and its successor treaty, the Kyoto Protocol.

Based on an analysis of the context of the specific terms, it seems most helpful to consider Article 7.2(c), first based on the action taken by the COP: “facilitate” in the context of “coordination,” and then consider the activity undertaken by specific Parties: “measures adopted by them.” As such, we can piece together the ordinary meaning and context of the two operative clauses of Article 7.2(c): “facilitate the coordination” and “measures adopted by them.”

First, with respect to “facilitate the coordination,” we have seen that “facilitate” means enhancing or enabling “something” beyond promoting or financing, at various levels. That

“something” is better explained in the specific context of “coordinate” or “coordination” under the UNFCCC and KP, which includes the development of ways and means to undertake actions regarding, *inter alia*, “measures.” Putting these terms together, in light of their ordinary meaning, we can thus conclude that “facilitate the coordination” could be interpreted to mean enhancing or enabling the achievement of a goal, including through ways and means.

What is the specific goal we are seeking to achieve in the context of Article 7.2(c)? To answer this question we must define “measures adopted by them.” The ordinary meaning of “measures” is “course of action” or “legislative enactment,” which is informed by the UNFCCC and KP subset of actions and enactments to address mitigation and adaptation. In looking at the relevant treaties, we see that some specific measures connote specific mitigation actions by AI Parties, and, in some cases, other Parties associating under Convention Article 4.2(g), while other “measures” are relevant to all Parties, including AI and non-AI Parties. We also see that measures can broadly involve adaptation and mitigation, including enhancements, protections, and promotion of specific activities, research, and public sector interventions. We also see that these measures can apply at both national and regional levels.

Given the relatively broad scope of potential “measures” under the UNFCCC and KP, we focus on the meaning of the “adopted” modifier. In the context of Convention Article 7.2(c), “adopted” measures seem to be consistent with their plain meaning involving a formal acceptance process. As such, “measures adopted by them” means those measures to which formal action has been taken by Parties.

Putting these terms together, “facilitate coordination of measures,” in this particular context, would seem to refer to enabling and enhancing harmonious action to address mitigation and adaptation actions formally adopted by specific Parties, and potentially include ways and means such as financing and transfer of technology. Taking this phrase in light of the complete text of Article 7.2(c), we see that the COP has a mandate to take action, such as issuing decisions, to ensure effective implementation of the Convention’s objective of avoiding anthropogenic interference with the climate system in a manner that supports sustainable development and takes into account common but differentiated responsibilities.

Noting that the Kyoto Protocol has nearly identical language for facilitating the coordination of measures and affirms the same objective as the Convention, *either* or *both* the COP and CMP would have an affirmative obligation to act if two or more of their respective Parties issue a request pursuant to Convention Article 7.2(c) and/or Protocol Article 13.4(d). As such, it is certainly possible that a subset of Parties could request the COP and CMP to facilitate the coordination of formally adopted domestic measures, and in doing so obligate the COP or CMP to act on such a request. While in theory this could enable a subset of countries to act, due to the provisional rules of procedure, in practice the COP may find it difficult to fulfill its mandate given that any decision taken would need to be by consensus.

Nevertheless, real possibilities exist for enhanced coordination at the international level—potentially even between the COP and CMP as governing bodies—to work towards achieving the

ultimate objective of the Convention and avoiding dangerous human interference with the Earth's climate.



Endnotes: Exceptionalism United?: Unpacking UNFCCC Article 7.2(c)

¹ United Nations Framework Convention on Climate Change, May 5, 1992, 1771 U.N.T.S. 107, U.N. Doc. A/AC.237/18, available at <http://unfccc.int/resource/docs/convkp/conveng.pdf> [hereinafter UNFCCC].

² This last-minute effort revolved around securing adoption of the “Copenhagen Accord,” a document negotiated by roughly 30 heads of State that was forwarded to the COP. Because it was by a subset of parties, and represented that subset of Parties’ interests, there was significant objection to the Accord as well as the COP’s ability to formalize it. As a result, the Accord was not adopted as a decision, and was taken note of instead. See UNFCCC Website, Decisions taken at COP-15, available at http://unfccc.int/files/meetings/cop_15/application/pdf/cop15_cph_auv.pdf. The decisions from COP-15 are still in advanced unedited format.

³ UNFCCC, *supra* note 1, at art. 7.2(c) (emphasis added).

⁴ Kyoto Protocol to the United Nations Framework Convention on Climate Change, art. 13.4(d), Dec. 10, 1997, 37 I.L.M. 22 [hereinafter KP], available at <http://unfccc.int/resource/docs/convkp/kpeng.pdf>.

⁵ *Id.*

⁶ Vienna Convention on the Law of Treaties, May 23, 1969, 1155 U.N.T.S. 331 available at http://untreaty.un.org/ilc/texts/instruments/english/conventions/1_1_1969.pdf [hereinafter Vienna Convention].

⁷ *Id.* arts. 31, 32.

⁸ Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, 2004 I.C.J. 136 (July 9), ¶ 94, at 174; Case Concerning Legality of Use of Force (Serb. & Mont. v. U.K.), Preliminary Objections, Judgment, 2004 I.C.J. 1307 (Dec. 15), ¶¶ 98, 99, at 1345; Case Concerning Avena and Other Mexican Nationals (Mex. v. U.S.), Judgment, 2004 I. C. J. 12 (Mar. 31), ¶ 83, at 48.

⁹ See, e.g., Avena and Other Mexican Nationals, *supra* note 8 (providing an example of a case in which the Vienna Convention was applied, when the U.S. has accepted, but not ratified the treaty).

¹⁰ Vienna Convention, *supra* note 6, art. 31.1.

¹¹ *Id.* art. 31.2.

¹² *Id.* art. 31.3(a).

¹³ *Id.* art. 31.3(b).

¹⁴ *Id.* art. 31.3(c).

¹⁵ *Id.* art. 31.4. In this context, we consider any special meaning assigned to a term to be specific definitions provided in the UNFCCC, if any.

¹⁶ JOSE ALVAREZ, INTERNATIONAL ORGANIZATIONS AS LAW-MAKERS 82-92 (2005) (noting that institutional practice as context-setting is not undisputed, but that it is nevertheless commonly relied upon by treaty interpreters as context, insofar as the institution is acting within the purposes of the treaty).

¹⁷ Vienna Convention, *supra* note 6, art. 31.3(c).

¹⁸ UNFCCC, *supra* note 1, art. 7.2(c). We do not look at COP and CMP decisions, or other relevant rules of international law, which according to the Vienna Convention would provide additional context. See Vienna Convention, *supra* note 6.

¹⁹ UNFCCC, *supra* note 1, art. 7.2(c).

²⁰ The first half of the sentence in Convention Article 7.2(c) can be deconstructed to separate procedural and specific contextual considerations from the key terms requiring analysis: “at the request of” is a procedural issue relating to how matters can be brought before the COP and we address this in Part III; additionally, “to address climate change and its effects” speaks to the types of measures that can be coordinated and will therefore be included in the analysis of “measures.” The second half of the Convention Article 7.2(c) and the *chapeau* provide broader context, which are addressed below.

²¹ Vienna Convention, *supra* note 6, art. 31.1.

²² UNFCCC, *supra* note 1, art. 7.2(c).

²³ See UNFCCC, *supra* note 1, art. 1.

²⁴ WEBSTER’S NEW WORLD COLLEGE DICTIONARY 508 (4th ed. 2001).

²⁵ *Id.* at 320.

²⁶ *Id.* at 892.

²⁷ *Id.* at 19.

²⁸ Vienna Convention, *supra* note 6, art. 31.2.

²⁹ *Id.* art. 31.3(a).

³⁰ Though beyond the scope of this initial analysis, further consideration could be given to additional context such as COP decisions and CMP decisions, which would constitute subsequent practice to the extent that they establish agreement of the Parties on interpretation of UNFCCC provisions, as well as other relevant rules of international law.

³¹ UNFCCC, *supra* note 1, art. 4.1(b) (mandating Parties to undertake measures to “facilitate adequate adaptation to climate change”).

³² *Id.* art. 4.5.

³³ *Id.* arts. 7.2(b)-(c) (providing that the COP can facilitate exchange of information and coordination of measures taken to address climate change and its effects).

³⁴ *Id.* art. 6(a).

³⁵ *Id.* art. 6(a).

³⁶ *Id.* art. 7.2(b).

³⁷ *Id.* art. 7.2(c).

³⁸ *Id.* art. 8.2(c).

³⁹ *Id.* arts. 4.5, 6(a), 7.2(b).

⁴⁰ *Id.* art. 4.5.

⁴¹ KP, *supra* note 4, art. 10(b) (mandating Parties to undertake measures to “facilitate adequate adaptation to climate change,” including, inter alia, sectoral programs, adaptation technologies for spatial planning, mitigation, and adaptation measures).

⁴² *Id.* art. 13.4(c) (addressing “facilitate” in the context of CMP functions); see also *id.* 13.4(d)).

⁴³ See *id.* art. 10(c), (e).

⁴⁴ See *id.* art. 10(c).

⁴⁵ See *id.* art. 2 (mandating the CMP to facilitate cooperation with respect to Annex I Parties’ obligations to “enhance the individual and combined effectiveness” of measures, by sharing experiences; exchanging information; and improving comparability, transparency, and effectiveness; with a mandate to take into account all relevant information).

⁴⁶ Compare UNFCCC, *supra* note 1, art. 6(a), with KP, *supra* note 4, art. 10(e).

⁴⁷ See UNFCCC, *supra* note 1, arts. 4.2(e)(i), 7.2(b), 8.2(e).

⁴⁸ *Id.* art. 4.2(e)(i).

⁴⁹ *Id.* art. 8.2(e).

⁵⁰ See *id.* arts. 7.2(b), 7.2(c).

⁵¹ Compare *id.* art. 7.2(b), with *id.* art. 7.2(c).

⁵² See KP, *supra* note 4, art. 2.4 (referencing policies and measures regarding KP, *supra* note 4, art. 2.1(a)).

⁵³ See *id.* art. 2.4 (supporting coordination of measures via the elaboration of ways and means, taking into account national circumstances and potential effects); *id.* art. 9.1 (referencing UNFCCC reviews required by UNFCCC arts. 4.2(d) and 7.2(a) and requiring the CMP to “take appropriate action”); *id.* art. 8.2 (allowing the Secretariat to undertake coordination activities, such as coordinating review teams based on parties’/IGOs’ proposals based on CMP guidance).

Endnotes: Exceptionalism United?: Unpacking UNFCCC Article 7.2(c) continued on page 58

FSM vs. CZECH: A NEW “STANDING” FOR CLIMATE CHANGE?

by Paulo A. Lopes

In 2005, CEZ Power Company (“CEZ”) announced plans to completely rebuild a lignite (brown coal) fired power plant in Prunéřov, Czech Republic.¹ Shortly before the expected approval of CEZ’s Environmental Impact Assessment (“EIA”),² the Federated States of Micronesia (“FSM”) sent two letters to the Czech government.³ In December 2009, FSM requested the Czech government to conduct a Transboundary EIA,⁴ which was followed in January 2010, by an additional request for the government to review the Best Available Technology (“BAT”) on the proposed modernization of the Prunéřov II plant.⁵ FSM’s petition represents the first time that a Non-Member State of the European Union (“EU”) has brought a claim under EU Directive⁶ and Czech law requesting a review of the environmental impacts of an EU Member State project on a Non-Member State country.⁷ However, does FSM have standing to bring these claims?

FSM’s first claim is that CEZ’s EIA failed to consider the climate affects of Prunéřov II and evaluate all possible alternatives.⁸ FSM asked the Ministry of the Environment to issue a negative ruling on the EIA because it ignored transboundary impacts.⁹ Although FSM agrees with the modernization of the Prunéřov II plant, FSM takes issue with CEZ’s assertion that Prunéřov climate impacts are “entirely marginal and unprovable.”¹⁰ FSM proposes that the Czech government perform a Transboundary EIA, which is required under Czech law.¹¹

The 1991 Espoo Convention on Environmental Impact Assessment in a Transboundary Context addressed transboundary impacts on state parties¹² and EC Directive 85/337 integrated the Espoo Convention into EU law.¹³ In 2001, the Czech Republic ratified the Espoo Convention and implemented the EC Directive under the Czech legal Act No. 100/2001 Coll., on Environmental Impact Assessment.¹⁴ According to Greenpeace, FSM has standing under Czech Act No. 100/2001.¹⁵ The EC Directive indicates significant effects on the environment “in another Member State.”¹⁶ However, section 11(1)(b) of the Czech Act defined “affected state” as a state whose territory “can be affected by significant environmental impacts.”¹⁷ Greenpeace argues that, unlike the EU Directive, the Czech Transboundary EIA section includes states that reside outside the EU’s borders, which grants FSM standing to bring a claim.¹⁸

FSM’s second claim is that the Prunéřov II lignite fueled power plant violates the BAT¹⁹ required under the EU Integrated Pollution Prevention and Control (“IPPC”) Directive 2008/1/EC and Czech legal act No. 76/2002 Coll.²⁰ In two 2005 press releases, CEZ indicated that it will “completely rebuild” the Prunéřov II plant.²¹ Then,

in 2007, CEZ stated in a press release that the Prunéřov II plant would undergo a “comprehensive reconstruction.”²² The classification of a plant as “new” or “existing” matters since the BAT under the IPPC requires different levels of efficiency for each.²³

The Directive established that BAT is required for installations like the Prunéřov II plant.²⁴ The IPPC Reference Document on Best Available Techniques (“BREF”) for Large Combustion Plants emphasizes the importance of efficiency, which not only results in the efficient use of natural fuel resources but also reduces greenhouse gas emissions.²⁵ The thermal efficiency established by the Czech EIA estimates the proposed Prunéřov II lignite plant at 38%.²⁶ With CEZ’s ongoing attempts to classify the plant as a retrofit,²⁷ a 38% efficiency falls within the range established by the IPPC BREF for Large Combustion Plants.²⁸ However, FSM states that the Prunéřov II lignite plant is not a retrofit of an existing plant but a “completely rebuilt” plant.²⁹ Under the BREF BAT, a range from 42%–45% thermal efficiency is required for a new PC lignite plant.³⁰ FSM notes in their request that the Czech government asked CEZ to have a “new” power plant classification option reviewed in the EIA, but that CEZ failed to comply with that request in the EIA, even though it is required under both EU Directive and Czech law.³¹

After this setback, on January 26, 2010, the Czech Environmental Minister Jan Dusík, unexpectedly announced that the government will request an independent international assessment of the planned expansion of the Prunéřov II plant.³² The independent assessment would review CEZ’s planned use of BAT on Prunéřov II.³³ The minister also announced that the government would now classify the expansion as a “new” plant.³⁴ However, the minister did not address FSM’s concern that the EIA failed to consider and assess the climate affects of Prunéřov II and all possible alternatives.³⁵ Thus, although FSM has succeeded in preventing an approval of the current EIA, it is unclear if FSM has standing to sue and how the proposed independent assessment will review and rule on the “new” Prunéřov II plant concerning BAT, climate change, and possible alternatives.³⁶



Endnotes: FSM vs. Czech: A New “Standing” for Climate Change? *continued on page 59*

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ASSESSING OFFSET QUALITY IN THE CLEAN DEVELOPMENT MECHANISM

by *The Offset Quality Initiative**

INTRODUCTION

The Clean Development Mechanism (“CDM”), created under the Kyoto Protocol, generates offsets through investments in greenhouse gas (“GHG”) reduction, avoidance, and sequestration projects in developing countries (referred to as “non-Annex I Parties”). These offsets, called Certified Emission Reduction credits (“CERs”), are equivalent to a reduction in one metric ton of carbon dioxide (“CO₂”) emitted to the atmosphere. Developed countries (referred to as “Annex I Parties”) can use CERs to cost-effectively achieve their Kyoto Protocol GHG reduction targets.

Over the past several years, the CDM has been subject to a number of critiques, many of which call into question the program’s ability to generate high quality offsets. While the Offset Quality Initiative (“OQI”) neither endorses nor opposes the CDM, this paper seeks to provide an impartial description of the CDM and analyze its ability to ensure offset quality in the future. Specifically, this paper analyzes the CDM through the prism of the core criteria for offset quality outlined in OQI’s white paper titled *Ensuring Offset Quality: Integrating High Quality Greenhouse Gas Offsets Into North American Cap-and-Trade Policy*.² OQI considers the CDM process for addressing each criterion, assesses whether the process is sufficient to ensure quality, responds to related critiques of the CDM, and provides recommendations for improvement where appropriate.

Overall, OQI finds that the CDM’s processes perform sufficiently against most of our core offset quality criteria, and with further refinement should be capable of performing sufficiently against all criteria. The most significant quality issues in the CDM historically have had to do with additionality and the reliability of independent third party verification. These issues are common across all GHG offset programs and, in the case of the CDM, can be addressed through streamlining and standardizing the additionality tools and significantly restructuring the third party verification system. On all other criteria, OQI finds that the CDM, with some modification, can sufficiently ensure offset quality.

KEY OFFSET QUALITY CRITERIA

OQI’s “Offset Policy Design Principles and Recommendations”³ establishes a set of eight offset quality criteria. Offsets should (1) be additional, (2) be based on a realistic baseline, (3) be accurately quantified and monitored, (4) be independently validated and verified, (5) be unambiguously owned, (6) address leakage, (7) address permanence, and (8) do no net harm.

For each of these criteria, OQI has evaluated the CDM’s performance, related critiques, and future ability to satisfy the

criteria. The table at the end of this article summarizes the results of this analysis.

OQI CRITERIA #1: OFFSETS SHOULD BE ADDITIONAL

Emission reductions resulting from offset projects should be “in addition” to reductions that would have occurred without the incentives provided by the existence of the offset program. To determine if a project is “additional,” project developers, auditors, and regulators generally rely on a series of tests, which identify the regulatory, financial, technical, institutional, common practice, and/or other barriers to a project’s implementation.

CDM Process for Assuring Additionality

To ensure that offsets are additional, the CDM requires project participants to apply three additionality tests:⁴ (1) a Regulatory Test, (2) either a Barrier Test or an Investment Test, and (3) a Common Practice Test. Project participants must apply these tests on a project-by-project basis to assess the unique circumstances of each proposed activity.

The Regulatory Test identifies realistic and credible alternatives to the CDM project that are in compliance with all mandatory and enforceable legal and regulatory requirements, even if those laws and regulations have objectives other than GHG reductions. If the proposed project activity is the only viable alternative, amongst all the practical alternatives that comply with enforced regulations, then the proposed CDM project is not additional.⁵

The Barrier Test examines whether there are hurdles preventing the project’s implementation in the absence of the CDM. Barriers must be significant, realistic, credible, conservative, and based on transparent and documented evidence. Examples could

* *The Offset Quality Initiative consists of the following member organizations: The Climate Trust, founded to manage a portfolio of compliance-grade carbon projects as a result of Oregon’s leadership in passing the nation’s first legislation to limit carbon dioxide emissions, spearheads and leads the Offset Quality Initiative; The Pew Center on Global Climate Change, established in 1998 as a nonprofit, nonpartisan, and independent organization dedicated to providing credible information, straight answers, and innovative solutions in the effort to address global climate change; The Climate Action Reserve, a private nonprofit organization addressing climate change and bringing together participants from the government, environment and business sectors, directs the California Climate Action Registry, Climate Action Reserve and Center for Climate Action; The Environmental Resource Trust, co-founder of the American Carbon Registry, which in 2008 was the most widely used voluntary carbon market registry in the world; Greenhouse Gas Management Institute, a registered nonprofit organization, trains, certifies, and networks a global community of experts that account, audit and manage GHG emissions based on world-class training and professional standards; and The Climate Group, an independent nonprofit organization that works with government and business leaders to accelerate the transition to a low-carbon economy, founded in 2004 with offices in the United Kingdom, the United States, China, India, and Australia.*

include barriers related to securing investment or risk associated with unfamiliar technology.⁶ These same barriers must not affect, or must affect less strongly, reasonable alternatives to the project activity.

The Investment Test determines whether a CDM project would occur without offset revenue. In the CDM, project participants typically make investment-related additionality arguments based on the internal rate of return (“IRR”) of a project, both with and without CER income. If the project activity generates no revenue aside from the sale of CERs, then the project participant applies a simple cost analysis to document project costs and to demonstrate that there is at least one less expensive alternative to the project activity. If the activity *does* generate revenue in addition to CER sales, the project participant must apply either (1) an investment

comparison analysis, which uses a project-appropriate financial indicator to compare the project’s performance to alternative activities; or (2) a benchmark analysis, which compares a standardized market indicator to the CDM activity. If either analysis indicates that there is a more financially attractive option than undertaking the CDM project, the project passes this test. A Sensitivity Test is also required to ensure that the analytical assumptions used are robust.⁷

Finally, the Common Practice Test measures the sectoral and/or regional penetration of the proposed CDM activity (i.e., technology or practice). If activities similar to the CDM project activity are common, the project participant must demonstrate that the project-specific circumstances are somehow unique; otherwise, the project is not additional.⁸

If a project fails any of these tests (i.e., it is legally required, is the most economically attractive approach and/or barrier-free, or is common practice) the project is not additional and cannot generate offsets under the CDM.⁹

Critique: The CDM Does Not Adequately Ensure Additionality

A number of past critiques have questioned the effectiveness of these tests, or at least the consistency and adequacy of their application by regulators. Of these, perhaps the most well known critique was the November 2007 paper written by Lambert Schneider on behalf of the World Wildlife Fund, titled *Is the CDM Fulfilling its Environmental and Sustainable Development Objectives? An Evaluation of the CDM and Options for Improvement*.¹⁰ The media, academic literature, and trade press

cited Schneider’s paper widely for its assertion that up to twenty percent of CERs—representing forty percent of CDM projects—may have been non-additional.¹¹ Schneider’s paper also argued that the additionality guidance provided under the CDM with respect to barriers, investment, and common practice tests was too subjective and/or insufficiently specific.¹²

The 2008 paper by Stanford University Professors Michael Wara and David Victor titled *A Realistic Policy on International Carbon Offsets* is another notable critique of the CDM’s ability to ensure project additionality.¹³ Wara and Victor largely focused their criticism on the applications for CERs made by nearly all new Chinese renewable energy capacity at the time, despite the Chinese government’s national policy goals that focused on increasing investment in renewable energy.¹⁴ The

implication of their argument was that it would have been impossible for all these projects to meet the CDM’s additionality test, since at least some of the renewable energy capacity brought online at the time must have been attributable to China’s energy policy, not the CDM.¹⁵ They claimed that if the CDM’s additionality tests could not sift out the additional from non-additional projects in this example, then they could not sufficiently ensure offset quality.¹⁶

Wara and Victor also criticized the concept of offsets in general by asserting that increasingly burdensome tests would be required to sufficiently ensure additionality to an acceptable level of offset quality,

and that such stringency would make the CDM too cumbersome to function effectively.¹⁷ Ultimately, they declared that “enthusiasm [for offsets] is misplaced because any offset market of sufficient scale to provide substantial cost-control for a cap-and-trade program will involve substantial issuance of credits that do not represent real emissions reductions.”¹⁸

OQI Findings & Recommendations

Finding(s): OQI finds that there have been valid concerns about the efficacy of both the design and implementation of the CDM’s measures to ensure additionality. However, the recent rejection of a number of proposed Chinese renewable energy CDM projects by the Executive Board (“EB”) (the body responsible for oversight of the CDM) on additionality grounds indicates that CDM executive leadership and staff have begun to address at least some of the aforementioned quality critiques.

Furthermore, OQI believes that issues cited in the past concerning CDM additionality determinations are neither endemic

Overall, OQI finds that the CDM’s processes perform sufficiently against most of our core offset quality criteria, and with further refinement should be capable of performing sufficiently against all criteria.

nor irreparable. Improvements in the past few years include the introduction of both the Registration and Issuance Teams (“RITs”) and additional secretariat staff that provide multiple layers of project review, summarize submissions, and make recommendations, all of which facilitate the CDM Executive Board’s review and decision making process. The Executive Board review and rejection rate for projects has increased significantly over the past two years.¹⁹ As the Executive Board undertakes reforms to incorporate more objective, standardized criteria into additionality determinations, it will be possible to create a program that both ensures offset quality and is not overly burdensome or administratively complex.

Recommendation(s): Broadly speaking, CDM projects fall into one of two categories, which largely dictate how difficult it is to assess their additionality. For projects where CDM is the sole or primary source of revenue, additionality is less challenging to determine because there are no other expected economic incentives for the project besides the CDM.

Projects with multiple revenue streams are more challenging. For this category, the CDM could improve by implementing a more rigorous and standardized approach for determining additionality, consistent with the recommendations made by Lambert Schneider.

Standardized approaches determine additionality based on a set of objective eligibility criteria, which consider the regulatory, financial, institutional, and technical conditions for a particular project type. Generally, standardized approaches involve the establishment of performance benchmarks for both additionality and baselines. However, while a more standardized approach to additionality can also help to promote offset quality, an entirely standardized approach would be challenging, if not impossible, because of the diversity of developing country contexts. Therefore, “hybrid” additionality assessments, which combine elements of the current tests-based approach with more project-type-specific standardized criteria, can help balance the strengths and weaknesses of these respective processes. As the CDM grows to meet increased global demand for international offsets, a hybrid approach to additionality can help streamline the project cycle, increasing efficiency while maintaining quality.

Providing more detailed guidance to both project participants and independent third party project auditors (referred to as “Designated Operational Entities,” or “DOEs”) about how to determine additionality for each project type, and providing standardized investment and analysis tools, will improve the quality of the CDM while also reducing transaction costs and administrative burden. As the first large-scale GHG offset program in the world, the CDM is already incorporating some of these recommendations as program administrators and participants learn through experience.

OQI CRITERIA #2: OFFSETS SHOULD BE BASED ON A REALISTIC BASELINE

High quality offsets should be measured against a realistic baseline in order to achieve a transparent and conservative

estimation of a project’s GHG emission reduction, avoidance, and/or removal. A baseline is an estimate of the GHG emissions that would occur in the absence of the offset project. Whereas additionality involves demonstrating that a project activity would not have occurred in the absence of the CDM, baselines establish the plausible GHG emissions scenario without the project.

CDM Process for Establishing Baselines

Under the CDM, project participants establish baselines according to guidelines set forth in an approved project methodology. A methodology defines the likely emissions sources and sinks in the absence of a project. The CDM specifies the following three approaches for establishing baselines:

1. Determining that the most likely activity in the absence of the project would be continuance of the existing activity.
2. Determining if an economically attractive alternative exists that is neither the existing activity nor the CDM project. In this case, the emissions associated with the most economically attractive alternative to the CDM project would constitute the baseline.
3. In the absence of a clear economically attractive alternative, the baseline is based on the average emissions of other commonly implemented and high performing projects in the sector. Projects must have been undertaken in the past five years and have similar geographic, economic, environmental, political, social, and other characteristics.²⁰

For example, the baseline scenario for a CDM project that proposes to capture and flare landfill gas might involve a plausible expectation that the landfill owner would normally take no action to reduce or capture methane at the site.²¹ In this case, baseline emissions would equal the amount of methane released from the site without any gas capture. However, this is a fairly straightforward example and it is possible that a given project will have multiple plausible baseline scenarios from which the project participant must choose.

Critique: CDM Project-by-Project Baseline Determinations Are Administratively Burdensome

Some market participants believe the CDM’s approach to baseline determination is inadequately streamlined and deem the process to be overly burdensome. Project participants have argued that a more efficient alternative approach would be to establish generic benchmarks or default emission factors for particular project types, which would allow for streamlined estimation of baseline emissions.

Recently, the CDM has begun to address this concern by moving away from project-specific baseline scenarios, towards a hybrid approach that combines both project-specific and standardized evaluations. For example, the Executive Board approved a methodology in 2008 for the manufacture of energy-efficient refrigerators, which takes a benchmarked approach to establishing project baselines. As opposed to other methodologies that would require direct measurement of energy

consumption, this methodology (“AM0070”) sets the baseline as the manufacturing of “refrigerators with the specific electricity consumption corresponding to the calculated benchmark for the respective storage volume class.”²² In other words, the methodology provides a standardized baseline with a default factor for calculating the energy savings of various refrigeration devices. A degree of standardization is also underway for renewable energy and energy efficiency projects, through the compilation of standard baseline emission factors for electricity grids in several developing countries, such as India and South Africa.

OQI Findings & Recommendations

Finding(s): OQI finds that the CDM’s approach to baseline establishment is generally sufficient to ensure offset quality, although a transition towards more standardized, benchmarked baselines, where appropriate, could help increase administrative efficiency. At the same time, OQI acknowledges that developing benchmark baselines requires a significant amount of data, research, and work, particularly to ensure that they are current, as well as contextually and regionally appropriate.

Recommendation(s): Standardization of baselines through benchmarking for some types of projects may be appropriate and more efficient in the CDM moving forward. The CDM trend towards benchmarking baselines—as in the case of the AM0070 with efficient refrigerators—can streamline the project development process and reduce transaction costs and investor risk.

Similar to additionality, standardized baselines are not appropriate for activities and/or regions with heterogeneous characteristics that make accurate generalization difficult. Disadvantages to standardized baselines can include the significant time and cost associated with developing rigorous benchmarks across a broad range of project types, limits to the amount of appropriate project types, and difficulties in accounting for different technological and market conditions across regions and regulatory systems. In other words, while standardized baseline scenarios may be appropriate in certain countries or sectors and for certain project types, they may be inappropriate for those with substantial project-specific considerations.

OFFSET CRITERIA #3: OFFSETS SHOULD BE ACCURATELY QUANTIFIED & MONITORED

Offsets should be accurately quantified and monitored to ensure that only real, high-quality emission reductions receive credits. To achieve accuracy, projects should have monitoring plans that define how, when, and by whom data will be collected and emissions quantified, using established standards.

CDM Process for Offset Quantification and Monitoring

The CDM requires that an approved monitoring plan for each project be included in its Project Design Document (“PDD”).²³ CDM methodologies lay out detailed rules and guidance on quantification and monitoring requirements for each project type. Each project’s monitoring plan must specify monitoring and quality control procedures, necessary data for collection, measurement accuracy and calibration procedures, the type

of measurement instruments, and who is responsible for monitoring. Plans must also address the monitoring of leakage and be available to the public online.²⁴ Prior to project registration, independent auditors must validate monitoring plans.

Critique

In certain instances, there have been individual technical issues or other problems with methodologies. However, revisions to methodologies have corrected these issues and, broadly speaking, there have been no significant critiques of the CDM’s ability to ensure quality offset quantification and monitoring, to date.

OQI Findings & Recommendations

Finding(s): OQI finds that the CDM has strict criteria for emission quantification and monitoring that sufficiently ensures offset quality. Indeed, the CDM has served as a model for emissions quantification and monitoring procedures in subsequent GHG offset programs and standards.

Recommendation(s): The CDM has a strong existing library of methodologies that include accepted monitoring and quantification formulas, and that have preceded most other regional and international standards. In certain instances, requiring the application of internationally recognized technical standards to CDM monitoring plans could support greater standardization of data across projects and project types. Explicit references to these standards also will give project participants and auditors greater clarity on the requirements for project implementation.

OFFSET CRITERIA #4: OFFSETS SHOULD BE INDEPENDENTLY VALIDATED & VERIFIED

An independent and qualified third party, free from conflicts of interest, should audit (i.e., validate projects or verify project performance) all offset projects to ensure accuracy and impartiality. To avoid conflicts of interest, auditor compensation should not depend on whether the project receives CER credits. Regulatory offset systems should have accredited auditors and procedures in place to review and re-accredit, suspend, or disqualify audit organizations on an ongoing basis.

CDM Process for Offset Validation and Verification

Independent third party auditors in the CDM are called Designated Operational Entities (“DOEs”) and are accredited by the CDM Executive Board based on criteria relating largely to size, technical competency, and management ability. DOEs are subject to random spot-checks and periodic review by the Executive Board, and substandard work can lead to fines, suspension, or revocation of a DOE’s accreditation.²⁵

An independent auditor must validate the PDD (i.e., project validation) prior to registration of the project by the CDM. Prior to CER issuance by the CDM, an independent auditor must verify the emission reductions based on *ex post* data on project performance. Project participants contract DOEs to perform these audits, and pay the DOEs for services directly. The use of different DOEs²⁶ at the validation and verification stages in the

project cycle is intended to ensure that the second audit is not biased by findings of the earlier audit.²⁷

Critique: Some Independent Third Party Verifiers (DOEs) Have Not Sufficiently Evaluated, Validated, and Verified Projects to Date

Some third party verifiers under the CDM have been criticized for a lack of capacity and competency to undertake the level of quality checks required to ensure offset quality. In addition, because DOEs compete with one another for business, there has been concern that they could be driven to lower the quality of their audits to remain competitive and profitable. Questions surrounding potential conflicts of interest for DOEs also exist, because project participants hire and then pay DOEs themselves.

One example of the issues surrounding third party verification emerged in November 2008, when the largest CDM project auditor, Norway's Det Norske Veritas ("DNV"), had its accreditation suspended by the Executive Board for five alleged non-conformities related to its validation and verification practices.²⁸ The suspension meant that DNV could not submit projects for registration or request issuance of CERs for clients. At least in part, the suspension reflected a move by the Executive Board to tighten rules and ensure that CDM projects meet more stringent offset quality standards. A second verifier suspension, this time of the firm SGS United Kingdom Limited ("SGS"), signifies continued vigilance by the Executive Board.

OQI Findings & Recommendations

Finding(s): DNV's suspension and later reinstatement, as well as SGS' recent suspension, indicate that procedures for spot-checks and periodic evaluation as well as oversight of DOEs by the Executive Board is improving. However, more training, guidance, experience, and the development of standardized protocols for auditing are needed, as well as consensus on what constitutes validation and/or verification best practices. Some progress has been made in this regard, with the adoption of the Validation and Verification Manual ("VVM") by the CDM Executive Board in 2008.²⁹

Recommendation(s): Significant reforms are needed to better train DOE staff, to align the incentive structures of third party validation and verification, and to ensure greater oversight of DOEs by the Executive Board.

Individuals employed by DOEs should be required to meet a minimum level of training, modeled after the existing training program for Expert Review Team members that review national inventories submitted under the United Nations Framework Convention on Climate Change and the Kyoto Protocol. To be on a verification team, individual auditors should have to complete this training and pass an exam, supplementing this training with their own training on internal systems and procedures.

To align incentives and avoid potential conflicts of interest, a neutral party could assign DOEs to projects instead of project participants hiring DOEs themselves. For example, the Executive Board could assign DOEs, operating under a predetermined fee structure, to projects.

In addition, the ability of the CDM Accreditation Panel (which oversees DOEs) to assess whether DOEs have the capacity and competency to justify accreditation could be strengthened through mandatory training and testing for Accreditation Panel members and support personnel. To accomplish this, employees must be specifically hired and trained to achieve this goal.

Finally, continual updates and improvements to the Validation and Verification Manual are essential to ensure that DOEs, project participants, and the Executive Board have a clear understanding of the materiality of each requirement to the quality of a project's validation and verification.³⁰

OFFSET CRITERIA #5: OFFSETS SHOULD BE UNAMBIGUOUSLY OWNED

Offsets should have a single owner with clear rights to the credits so that the emission reductions they represent are not claimed twice. "Double-counting" can be further prevented by ensuring credits are serialized and accounted for in a registry where transfer of ownership can be clearly documented.

CDM Process for Ensuring Unambiguous Ownership

Before any offset project activity can move forward, the Designated National Authority ("DNA")³¹ of the host country must approve the project on behalf of that nation's sovereign government. The DNA is thereby responsible for assigning unambiguous ownership rights to emission reduction credits to project participants.

Furthermore, all CDM credits have individual serial numbers and a UN registry that meets international best practice standards for accounting and transactions, like those used in financial banking systems. The registry uses unique account numbers for all participants, and participants may hold each CER in one account at a time. Information in the registry is publicly available on the Internet.³²

Critique

No significant critiques exist to date on the CDM's ability to ensure unambiguous ownership.

OQI Findings & Recommendations

Finding(s): OQI finds that the CDM is generally sufficient to ensure that offset credits are unambiguously owned. In particular, because the CDM gives developing countries the ultimate power to approve offset issuance, the system is structured to respect domestic sovereignty and ensure clear ownership under domestic law, while simultaneously ensuring that international ownership transactions are clear and credible. Furthermore, the serialization and registry accounting system promotes unambiguous ownership by allowing credit transfers and retirements in a transparent fashion.

Recommendation(s): Requiring host country recognition of CER ownership creates a robust mechanism for establishing unambiguous credit ownership and for prevention of double-counting. Improving national-level governance structures through training and capacity-building would help DNAs do an even better job of avoiding any ambiguous ownership issues that may occur in the future.

OFFSET CRITERIA #6: OFFSETS SHOULD ADDRESS LEAKAGE

Leakage is an increase in emissions outside of an offset project's boundaries that occurs as a direct result of the project's implementation. To account for leakage, methodologies should define a "project boundary" which specifies the GHG sources and sinks for which project participants are responsible. Methodologies also should explain how the project will quantify any significant changes in emissions outside the project boundary. Offset programs should require that project participants evaluate potential leakage effects, and that monitoring plans account for actual effects over the life of a project.

CDM Process for Addressing Leakage

In general, project participants must either demonstrate that leakage is unlikely to occur, or monitor and quantify unavoidable leakage and deduct it from the total credited emission reductions by using procedures and formulas prescribed by the project methodology. For example, projects that use wood waste instead of fossil fuel in thermal boilers can cause leakage if wood waste is in short supply, and other local wood-fired boilers switch back to fossil fuels. The CDM methodology ("AM-0036") for this kind of project requires project participants to demonstrate that wood waste is abundant. If such a demonstration is not possible, project participants must calculate the increase in fossil fuel emissions likely to occur at other boilers as a result, and must deduct this from the total creditable reductions.³³

Critique

No significant critiques exist to date on the CDM's ability to address leakage.

OQI Findings & Recommendations

Finding(s): OQI finds that the CDM has methodologies that estimate leakage conservatively for most project types, and its approach to addressing leakage is generally sufficient to ensure offset quality.

Recommendation(s): OQI recommends that the CDM continue to use a conservative approach in identifying and mitigating leakage issues, that it require all project types to address leakage, and that it provide methodological guidelines for estimating leakage at a level commensurate with the project type's complexity and risk.

OFFSET CRITERIA #7: OFFSETS SHOULD ADDRESS PERMANENCE

For certain project types, there is a risk that emission reductions generated are subject to reversal, and therefore could fail to offset emissions permanently. For example, a forest fire, weather event, or pest attack could release into the atmosphere carbon stored by a forestry project. Therefore, regulatory regimes should address permanence to ensure the minimization of loss in the event of a reversal.

CDM Process for Addressing Permanence

In the case of afforestation/reforestation ("AR") projects, the CDM addresses permanence concerns by issuing temporary

credits that expire at a predetermined time. Once a credit expires, the owner must replace it with another valid credit or emission allowance unit.³⁴ For example, if a country uses a reforestation credit to comply with its obligations under the Kyoto protocol in 2010 and the credit expires in 2020, the country will have to submit a replacement credit or allowance in 2020 to remain in compliance with its 2010 obligations. A significant disadvantage of temporary crediting is that it treats all forestry carbon as short-lived, even where reversals may not have occurred. The result is increased financial risk and uncertainty for buyers, which creates a disincentive for project participants to invest in forestry projects.

Critique

No significant critiques exist to date on the CDM's ability to ensure permanence. However, critiques do exist about the efficacy of temporary crediting with respect to promoting investment in carbon sequestration projects.

OQI Findings & Recommendations

Finding(s): OQI finds that, while temporary crediting is sufficient to ensure offset quality, the CDM's current approach may be overly conservative, as it creates investor uncertainty and has led to minimal investments in forestry projects under the CDM to date.

Recommendation(s): OQI recommends investigating alternate ways to address permanence. For example, policy mechanisms that address reversal risk could provide more market certainty than temporary crediting mechanisms. Some GHG programs in voluntary and pre-compliance markets are exploring and testing buffer pools and the use of insurance and other financial products as alternatives to temporary crediting. Buffer pools, for instance, address reversal risk by evaluating the risk profile of a project, and then requiring project participants to set aside a portion of the offsets, based on the results of applying a methodology to determine risk and buffer size, into a shared buffer pool. In the event of a reversal, project participants use credits from this pool to account for negated sequestered tons. As another example, insurance products work much like other traditional types of insurance, addressing risk by making the project whole by guaranteeing a replacement price for offsets equivalent to the loss. Although applying these mechanisms in many developing countries may be challenging, from a market and investment perspective they could provide a more efficient, certain, and cost-effective approach than temporary crediting.

OFFSET CRITERIA #8: OFFSET PROJECTS SHOULD DO NO NET HARM

Offset projects should not cause or contribute to adverse effects on human health or the environment, and should seek to provide health and environmental co-benefits whenever possible.

CDM Process for Ensuring No Net Harm

To ensure that offset projects do no net harm, the CDM requires project participants to sponsor a stakeholder consultation process during the project design phase. During the consultation

process, submissions of public comments on the project activity must be solicited, and in-person stakeholder meetings must be held in the local community.³⁵ Project participants are required to undertake good faith efforts to publicize the event and make materials available in the language of local constituents. The PDD must include a summary of any stakeholder comments received during the public comment period and describe any anticipated environmental, economic, and/or social impacts. The project must then be approved by the host country government and be found consistent with its sustainable development goals, as well as environmental and other regulations.³⁶

Critique: CDM Projects Sometimes Cause Local Environmental and/or Social Harm, and/or Fail to Promote Sustainable Development

A small number of CDM projects have come under criticism for causing local environmental or social harm. For example, a number of environmental non-governmental organizations (“NGOs”) including International Rivers, the Center for Biological Diversity (“CBD”), and the Natural Resources Defense Council (“NRDC”) submitted comments to oppose the validation of a hydroelectric project in Panama sponsored by AES Corporation. The NGOs claimed the project would have threatened a biologically rich World Heritage Site and the indigenous Ngobe tribe.³⁷

Another related critique frequently levied against the CDM is that it has failed to meet one of its primary objectives: to assist developing countries in achieving sustainable development. While failing to promote sustainable development is not necessarily equivalent to doing net harm, it is worth mentioning in this paper because of the prevalence of this criticism in debates over the CDM to date.

According to Schneider:

The actual impact of CDM projects on sustainable development is difficult to assess because it depends on the definition of sustainable development which is defined by most countries in very broad terms. Many countries have established and published criteria to assess whether a project contributes to sustainable development. However, they are often very general . . . [F]ew [projects] comply with criteria that are related to the achievement of the Millennium Development Goals. For example, many CDM projects, directly or indirectly, reduce air pollution or contribute to the diffusion of environmentally sound technologies, whereas only very few projects directly contribute to poverty alleviation.³⁸

OQI Findings & Recommendations

Finding(s): OQI finds that the CDM’s approach to preventing net harm is generally sufficient to ensure offset quality by creating opportunities for public participation and giving host countries recourse to reject projects if they fail to consider and incorporate stakeholder concerns and sustainable development goals. However, OQI acknowledges that ensuring absolute no net harm of all offset projects is difficult, since in all cases some

trade-offs are likely to exist. For example, a landfill gas capture system may reduce a number of trace pollutants that can cause unpleasant odor and smog due to ground-level ozone. However, it may also displace impoverished people who rely on scavenging the landfill as the basis of their livelihood.

On the question of whether the CDM sufficiently contributes to sustainable development, OQI generally concurs with Lambert Schneider that such a determination is difficult to make because definitions of sustainable development differ significantly between countries, and are often broad, vague, or multifarious.

Recommendation(s): The CDM Executive Board should continue to work towards ensuring that offset projects do no net harm. Programs to engage and educate local stakeholders so they understand the purpose and impacts of offset projects will improve the CDM’s ability to prevent net harm. Improving national-level governance structures, through training and capacity-building, would further help DNAs develop and apply their own sustainable development criteria and evaluation processes.

CONCLUSION

OQI finds that, with some improvements, the CDM can provide an acceptable assurance of project additionality and baselines. Recent trends towards standardization and benchmarking of both additionality and baselines should continue to improve quality. It is important to note that while standardized approaches are often advocated in principle, in reality some project types are less amenable to standardization, and variations across regions and contexts require consideration and flexibility. OQI notes that expert judgment will remain an important complement to standardized approaches.

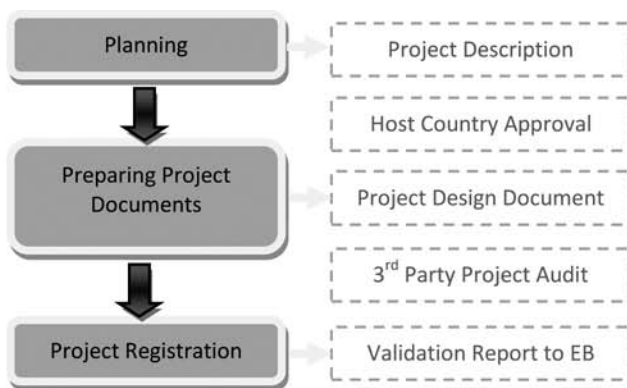
There are still challenges to address and further improvements to make. Project-by-project additionality determinations remain administratively burdensome and susceptible to subjectivity and inconsistency; as such, movement towards a hybrid approach would help streamline the process and increase efficiency while maintaining quality. Significant improvements to the third party verification process are needed, and potential conflicts of interest could be minimized if DOEs are not selected by project participants. New policy mechanisms that address reversal risk can ensure permanence without constraining the market.

On the whole, based on the assessment criteria established in *Ensuring Offset Quality: Integrating High Quality Greenhouse Gas Offsets Into North American Cap-and-Trade Policy*,³⁹ OQI finds that the CDM is generally able to ensure sufficient offset quality. As our recommendations continue to be addressed, particularly those regarding additionality determination and third party validation/verification, the CDM could provide quality international offset credits for use in a future U.S. cap-and-trade program.

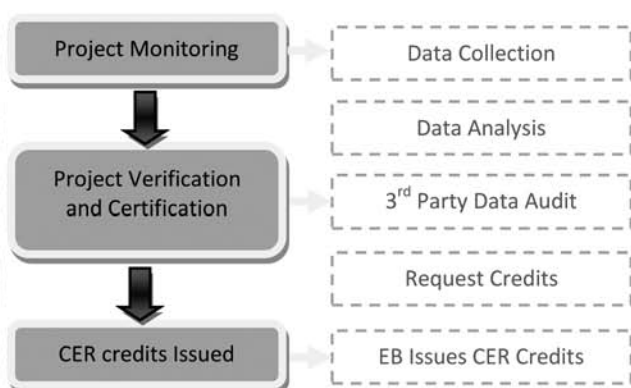
APPENDIX 1: The CDM Project Cycle

The CDM process involves two stages: project design and project implementation. The CDM requires a number of documents at various points in both stages to demonstrate that a project meets the CDM's requirements.

Stage I: Project Design



Stage II: Project Implementation



Stage I begins with the project planning phase, where project participants prepare a document describing the project, and get written approval from each country involved.⁴⁰ Among other things, the written approval must show that the CDM project supports the host country's sustainable development goals.

In the project document preparation phase, project participants complete a Project Design Document ("PDD"). The PDD is a comprehensive document that explains how the project meets the CDM's additionality tests for the activity in question. The PDD also describes the project's geographic boundary, how the GHG reductions will be monitored and estimated, and the period of time the project participant seeks to receive credits.⁴¹ Further, the PDD summarizes any stakeholder comments received during the public comment period, describes any anticipated environmental, economic, and/or social impacts, and shows the average annual reductions and total CER volume expected over the project's creditable lifetime. In general, project participants develop projects according to standardized project "methodologies," or blueprints, which the CDM Executive Board approves. These methodologies outline the steps for undertaking a variety of creditable GHG reducing activities.

Before the project can be officially "registered" by the Executive Board ("EB"), an independent third party auditor, called a Designated Operational Entity ("DOE"),⁴² must review

the project activity and documentation against the requirements of the CDM. The DOE checks all information in the PDD to ensure transparency and rigor in data, calculations, and additionality arguments, and may come back to the project participant with requests for clarifications. The DOE also conducts a site visit to the project to ground-truth the project documentation, and if they find that the project meets all established requirements, they submit a validation report to the EB, which may register or reject the project, or request clarifications if necessary.

Once the EB registers the project, the implementation stage begins with the monitoring phase. Project participants must collect and analyze data from the project, according to standardized procedures established in the project's methodology. The project participant must continually monitor the project over its creditable lifetime and calculate the GHG reductions the project has achieved to successfully receive CER credits.

In the verification and certification phase, project participants again retain a DOE, this time to verify the project's GHG reductions as documented by the data acquired during the project monitoring process. Once the DOE reviews and verifies the data, they submit paperwork certifying the accuracy of the GHG reductions to the EB, and request issuance of CER credits to the project participant.



Table 1: Summary of Analysis Results

OQI Quality Offset Criteria	CDM PROCESS	CRITIQUES OF CDM	OQI FINDINGS	OQI RECOMMENDATIONS
<p>1. <i>Offsets Should Be Additional</i></p>	<p>Regulatory, Barrier or Investment, and Common Practice Tests</p>	<p>Does not ensure offset quality</p> <ul style="list-style-type: none"> • Additionality guidance too subjective and vague; applied inconsistently 	<p><i>Processes for determining additionality in projects where there are multiple revenue streams should be improved</i></p> <ul style="list-style-type: none"> • Valid concerns exist about the design and implementation of measures to ensure additionality • Recent rejection of certain project types indicate improvement in implementing these measures • It is possible to modify the CDM so that it ensures sufficient offset quality, while not also being overly burdensome or administratively complex • It is easier to determine additionality where CDM is the sole/primary source of revenue to the project 	<p><i>Streamline existing process, standardize tools, provide more detailed guidance</i></p> <ul style="list-style-type: none"> • For projects with multiple revenue streams, implement a more rigorous and standardized approach to determining additionality • For all projects, provide more detailed guidance to project participants and independent third party project auditors • Provide standardized investment and analysis tools • Develop “hybrid” additionality assessments, which combine elements of the current tests-based approach with more project-type-specific benchmarks, to help balance the strengths and weaknesses of the standardized processes recommended above
<p>2. <i>Offsets Should Be Based on a Realistic Baseline</i></p>	<p>Transparent/conservative project-specific assessment</p>	<p>Inadequately streamlined; administratively burdensome</p>	<p><i>Generally sufficient to ensure offset quality</i></p> <ul style="list-style-type: none"> • Administrative burden is being reduced where possible, but more streamlining is necessary • Development of benchmark baselines requires a significant amount of data, research, and work to ensure they are current as well as contextually and regionally appropriate 	<p><i>Benchmark baselines in appropriate sectors</i></p> <ul style="list-style-type: none"> • Transitioning towards more standardized, benchmarked baselines, where appropriate, would streamline project development and promote administrative efficiency

OQI Quality Offset Criteria	CDM PROCESS	CRITIQUES OF CDM	OQI FINDINGS	OQI RECOMMENDATIONS
3. <i>Offsets Should Be Accurately Quantified & Monitored</i>	Monitoring plan must be included in Project Design Document (“PDD”)	No significant critiques	<p><i>Generally sufficient to ensure offset quality but could be improved</i></p> <ul style="list-style-type: none"> • CDM has strict criteria for emission quantification and monitoring • The CDM predates, and has served as a model for, emission quantification and monitoring under other offset programs 	<p><i>In certain instances, monitoring could be improved by requiring application of recognized technical standards to CDM monitoring plans</i></p> <ul style="list-style-type: none"> • Monitoring and quantification requirements must retain some degree of flexibility and diversity across different methodologies • In certain instances, requiring the application of internationally recognized technical standards to CDM monitoring plans could improve data quality • Explicit references to recognized technical specifications and standards will also reduce ambiguity for project participants and auditors
4. <i>Offsets Should Be Independently Validated & Verified</i>	Independent third party auditors called Designated Operational Entities (“DOEs”) are contracted to validate and verify all projects	<p>To date, DOEs have not sufficiently audited projects due to:</p> <ul style="list-style-type: none"> • Lack of capacity • Conflicts of interest • Competition 	<p><i>Validation and verification processes should be significantly restructured to ensure offset quality</i></p> <ul style="list-style-type: none"> • Procedures for spot checks and periodic evaluation have been taken seriously and oversight of DOEs by the CDM Executive Board (“EB”) is progressing, but still needs improvement • Standardized protocols on the practice of auditing are needed. Adoption of the Validation and Verification Manual (“VVM”) marks progress in this regard 	<p><i>Align incentive structure, improve training for auditors, and improve Executive Board oversight</i></p> <ul style="list-style-type: none"> • Require a mandatory training and testing program for individuals employed by DOEs • Auditors could be assigned to projects instead of selected and contracted by project participants • Train and test DOE accreditation assessors before they evaluate the capabilities of an audit organization • Enhance resources for DOE oversight under the CDM • Continual updates and improvements to the VVM are essential to ensure DOEs, project participants, and the CDM Executive Board have a clear understanding of what is material to the quality of PDD validation and verification

OQI Quality Offset Criteria	CDM PROCESS	CRITIQUES OF CDM	OQI FINDINGS	OQI RECOMMENDATIONS
5. <i>Offsets Should Be Unambiguously Owned</i>	Serialization on registry; offset tons issued approved by Designated National Authority (“DNA”), i.e., the host country	No significant critiques	<p><i>Generally sufficient to ensure quality</i></p> <ul style="list-style-type: none"> The system is structured to respect domestic sovereignty and ensure clear ownership under domestic law, while simultaneously ensuring that international ownership transactions are clear and credible Serialization and a registry accounting system promote unambiguous ownership by allowing credits to be transferred and retired in a transparent fashion 	<p><i>Improve national level governance structures through training and capacity-building to help DNAs do an even better job of addressing any ambiguous ownership issues that may occur</i></p>
6. <i>Offsets Should Address Leakage</i>	Project boundary, description, and monitoring of potential leakage required in PDD and deducted from issuable credits	No significant critiques	<p><i>Generally sufficient to ensure offset quality but could be improved</i></p> <ul style="list-style-type: none"> Methodologies to estimate leakage are conservative for most project types 	<p><i>Continue to use conservative approach in estimating leakage</i></p>
7. <i>Offsets Should Address Permanence</i>	Temporary credits issued for afforestation/ reforestation (“AR”) projects	“Temporary” designation creates investment uncertainty	<p><i>Generally sufficient to ensure offset quality, but possibly too stringent</i></p> <ul style="list-style-type: none"> Temporary nature of credits discourages investment in forestry projects 	<p><i>Explore possible alternative approaches to address reversal risk</i></p> <ul style="list-style-type: none"> Decrease use of temporary crediting to encourage investment in forestry projects Allow for a range of policy mechanisms (e.g., pooled risk in a buffer account, project insurance) to address reversal risk, which will help promote greater certainty and avoid constraining the market
8. <i>Offsets Should Do No Net Harm</i>	Required public comment period; description of potential environmental/social economic/social impacts in PDD	Some projects do harm; not all projects contribute to CDM goal of promoting sustainable development	<p><i>Generally sufficient to ensure offset quality</i></p> <ul style="list-style-type: none"> Trade-offs mean achieving 100% no net harm is difficult in practice National sustainable development goals can be varied and/or vague It is difficult to determine whether CDM sufficiently contributes to sustainable development 	<p><i>Various approaches exist to ensure more projects contribute to sustainable development</i></p> <ul style="list-style-type: none"> Improve national-level governance structures through training and capacity-building to help DNAs develop their own sustainable development criteria and evaluation processes Educate local stakeholders to promote empowerment and understanding of offset projects Provide clearer guidance on how to meet sustainable development requirements

Endnotes: Assessing Offset Quality in the Clean Development Mechanism

¹ The Kyoto Protocol applies to five other greenhouse gases besides CO₂, each with a different “warming power.” So that all the gases can be represented by a common unit, each is converted into a “carbon dioxide equivalent.” For example, methane (CH₄) has a global warming potential 21 times that of CO₂ over a 100-year time horizon.

² OFFSET QUALITY INITIATIVE, ENSURING OFFSET QUALITY: INTEGRATING HIGH QUALITY GREENHOUSE GAS OFFSETS INTO NORTH AMERICAN CAP-AND-TRADE POLICY 1 (2008) [hereinafter ENSURING OFFSET QUALITY], http://www.offsetqualityinitiative.org/pdfs/OQI_Ensuring_Offset_Quality_Exec_Sum_7_08.pdf.

³ *Id.*

⁴ United Nations Framework Convention on Climate Change, Clean Development Mechanism–Executive Board, *Methodological Tool: Tool for the Demonstration and Assessment of Additionality* 1, EB 39 Annex 10 v.5.2.5 (2008) [hereinafter *Methodological Tool*], available at <http://cdm.unfccc.int/methodologies/PAMethodologies/tools/am-tool-01-v5.2.pdf>.

⁵ *See id.*

⁶ *See id.*

⁷ *See* INSTITUTE FOR GLOBAL ENVIRONMENTAL STRATEGIES, CDM IN CHARTS 84, V.7.0 78 (2009), <http://enviroscope.iges.or.jp/modules/envirolib/upload/970/attach/charts7.0.pdf> (last visited Mar. 1, 2010).

⁸ *See Methodological Tool, supra* note 4, at 10.

⁹ *Id.* at 11.

¹⁰ LAMBERT SCHNEIDER, IS THE CDM FULFILLING ITS ENVIRONMENTAL AND SUSTAINABLE DEVELOPMENT OBJECTIVES? AN EVALUATION OF THE CDM AND OPTIONS FOR IMPROVEMENT (Öko-Institut 2007), available at <http://www.oeko.de/oekodoc/622/2007-162-en.pdf>.

¹¹ *Id.* at 44.

¹² *Id.* at 45.

¹³ Michael W. Wara & David G. Victor, *A Realistic Policy on International Carbon Offsets*, (Program on Energy and Sustainable Development at Stanford University, Working Paper No. 74, 2008), available at http://iis-db.stanford.edu/pubs/22157/WP74_final_final.pdf.

¹⁴ *Id.* at 12-14.

¹⁵ *See id.* at 14.

¹⁶ *See id.*

¹⁷ *See id.* at 16-17.

¹⁸ *Id.* at 17.

¹⁹ *See* LAMBERT SCHNEIDER & LENNART MOHR, A RATING OF DESIGNATED OPERATIONAL ENTITIES ACCREDITED UNDER THE CLEAN DEVELOPMENT MECHANISM: SCOPE, METHODOLOGY, AND RESULTS 14 (Öko-Institut 2009), available at http://assets.panda.org/downloads/wwf_doe_rating_scope_methodology_and_results_final.pdf.

²⁰ *See* RAM M. SHRESTHA ET AL., UNITED NATIONS ENVIRONMENT PROGRAMME, BASELINE METHODOLOGIES FOR CLEAN DEVELOPMENT MECHANISM PROJECTS 20-21 (Myung-Kyoon Lee ed., UNEP Riso Center 2005), available at http://cd4cdm.org/Publications/UNEP_CDM%20Baseline%20Meth%20Guidebook.pdf.

²¹ *Id.*

²² United Nations Framework Convention on Climate Change, Clean Development Mechanism–Executive Board, *Approved Baseline and Monitoring Methodology AM0070: Manufacturing of Energy Efficient Domestic Refrigerators* 3, AM0070/V. 01, EB 42 (2008), available at http://cdm.unfccc.int/UserManagement/FileStorage/CDMWF_AM_R9YH4PM0RKNA5RGIF0TUMO47IGZIS2.

²³ *See* Appendix for explanation of CDM Project Cycle and definition of Project Design Document (“PDD”).

²⁴ *See generally* United Nations Framework Convention on Climate Change, Monitoring Reports, <http://cdm.unfccc.int/Issuance/MonitoringReports/index.html> (last visited Feb. 8, 2010) (providing an online listing of all the Monitoring Reports for the issuance of CDRs and addressing the monitoring of leakage).

²⁵ *See* United Nations Framework Convention on Climate Change, Clean Development Mechanism–Executive Board, *Procedure For Accrediting Operational Entities by the Executive Board of the Clean Development Mechanism* 4, EB 34, Annex 1, V. 08 (2007), available at http://cdm.unfccc.int/EB/034/eb34_repan01.pdf.

²⁶ This is true except in the case of small-scale projects, where the same DOE may be used for both validation and verification.

²⁷ DOEs and their subcontractors must be able to demonstrate that they have no existing or potential conflict of interest concerning the project for which they have a contract to provide validation and/or verification services to the project participant (i.e., having consulted for the project participant, having a financial interest in the project, etc.).

²⁸ An Assessment Team assembled by the CDM Accreditation Panel found five nonconformities relating to DNV’s competence in technical areas, deficiencies in internal audits procedures, lack of evidence of actions considered on the nonconformities identified in the internal audits, and a sample of five project activities revealed discrepancies, as did the assessment of the technical review process based on a sample of project activities. *See* United Nations Framework Convention on Climate Change, Clean Development Mechanism–Executive Board, *Annex 2: List of Non-Conformities of DNV* EB 44, ANNEX 2 (2008), available at http://cdm.unfccc.int/EB/044/eb44_repan02.pdf.

²⁹ The VVM is a guide designed to assist DOEs with their validation and verification work, by promoting quality and consistency in all DOE reports, and to ensure that each project meets all the relevant requirements of the CDM.

³⁰ Materiality is based on the concept that there are certain omissions or errors in data that are not relevant to the decision of whether or not to issue CERs to a project.

³¹ A Designated National Authority (“DNA”) is the national agency that is responsible for approving CDM projects. For any CDM project to move forward, the DNA from each country involved in the project must give their written approval in the form of a Letter of Approval (“LoA”).

³² *See* Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol, Montreal, Can., Nov. 28–Dec. 10, 2005, *Appendix D: Clean Development Mechanism Registry Requirements* 27, FCCC/KP/CMP/2005/8/Add.1 (March 30, 2006) [hereinafter Conference of the Parties], available at <http://cdm.unfccc.int/Reference/COPMOP/08a01.pdf#page=27>.

³³ *See* United Nations Framework Convention on Climate Change, Clean Development Mechanism–Executive Board, *Approved Baseline and Monitoring Methodology AM0036*, V. 3 (2009), available at <http://cdm.unfccc.int/UserManagement/FileStorage/CUOTDYZSL8EV3F0WR96MXKJIA271BQ>.

³⁴ *See* Conference of the Parties, *supra* note 32, at 61.

³⁵ *See id.* at 14 (exemplifying the stakeholder consultation process).

³⁶ *See id.*

³⁷ *See* Press Release, Center for Biological Diversity, AES Corporation Participating in the Demise of the Ngobe Tribe of Panama and La Amistad Biosphere Reserve (Apr. 23, 2009), available at http://www.biologicaldiversity.org/news/press_releases/2009/la-amistad-04-23-2009.html.

³⁸ *See* SCHNEIDER, *supra* note 10, at 46.

³⁹ *See* ENSURING OFFSET QUALITY, *supra* note 2.

⁴⁰ Projects must be in countries that have approved the Kyoto Protocol.

⁴¹ Under the CDM, projects are eligible for either a seven-year crediting period with the option to renew up to three times, or one ten-year crediting period with no option for renewal.

⁴² DOEs are private companies, such as auditing and accounting firms, capable of conducting credible and independent assessments (i.e., without any conflicts of interest) of emission reduction projects.

CLIMATE CHANGE AND THE REGIONAL HUMAN RIGHTS SYSTEMS

by Megan S. Chapman*

In last year's *Climate Law Reporter*, Staff Writer Anne Parsons laid out the fundamental case for using a human rights framework to shift the burden for protecting individuals from the negative impacts of climate change to the state.¹ The impetus for that piece was the UN Human Rights Commission's adoption of Resolution 7/23.² In the last year, with the flurry of preparation for the December 2009 round of UN Framework Convention on Climate Change negotiations in Copenhagen ("UNFCCC COP-15"), a number of institutions have joined the call for developing the nexus between human rights and climate change.³ The nexus is meaningful because demonstrating climate change's numerous negative impacts on human rights, particularly for already vulnerable populations, is a way of measuring the harm.⁴ It is also meaningful because it connects this harm to obligations which the state has already undertaken.⁵ Thus, it reveals the potential for using developing supranational human rights legal systems to impose a duty on states to prevent further climate change and protect individuals from its negative impacts.⁶ This piece aims to briefly explore this latter angle on the human rights-climate change nexus: the likelihood that international human rights bodies, particularly the regional human rights systems, will in the foreseeable future hold states accountable for climate change.

International environmental law and climate change negotiations tend to be based on notions of state-to-state consensus and cooperation.⁷ However, there is nothing like the build-up of hopes and ultimate disappointment of the most recent UNFCCC COP-15 negotiations⁸ to leave individuals wishing for some club to hold over the heads of states. Aside from democratic processes or domestic legal remedies, where they exist, regional human rights systems may offer the best forum for individuals to confront states that fail to come to consensus or otherwise take steps to combat climate change.

This is not to say that regional human rights systems have been perfected. The European Court of Human Rights, the Inter-American Court of and Commission on Human Rights, and the African Commission on and newly operational Court of Human and Peoples' Rights each face their own challenges: certain states that accept only limited jurisdiction or no jurisdiction at all;⁹ absence of regional enforcement mechanisms other than diplomatic or political pressure;¹⁰ and consequent reliance on states for compliance with recommendations and execution of binding judgments. Nevertheless, each regional system has developed a mechanism by which individuals may bring complaints against states for failing to respect, protect, or fulfill regionally guaranteed human rights.¹¹

In evaluating the potential fate of a petition based on human rights violations resulting from climate change, each of the three

established systems has its own strengths. Unlike the foundational documents of the other two systems, the African Charter on Human and Peoples' Rights actually recognizes a right to environment.¹² Moreover, the African Commission on Human and Peoples Rights ("ACHPR") has entertained petitions based on violations of this right and found states in violation of their associated obligations.¹³ In a resolution on human rights and climate change issued just prior to COP-15, the ACHPR referenced this "right of all peoples to an environment favourable to their development" under the Banjul Charter, along with other international instruments binding of member states of the African Union ("AU").¹⁴ Using this right as a basis, it expressed concern that the COP-15 negotiations would unlikely incorporate human rights considerations and urged the heads of AU member states to ensure that human rights standards, particularly protections for vulnerable populations, be included in any climate change agreement resulting from the negotiations.¹⁵ The only indication of the ACHPR's inclination to hold states accountable for climate change, however, was in noting that "climate change is principally the result of emissions of greenhouse gases, which remain relatively high in developed countries."¹⁶

The Inter-American Commission on Human Rights ("IACHR") is the only of the regional bodies that has squarely faced a petition based on the human rights consequences of climate change. In 2005, Sheila Watt-Cloutier of the Inuit Circumpolar Conference filed a petition with the IACHR on behalf of "all Inuit of the arctic regions of the United States of America and Canada who have been affected by the impacts of climate change."¹⁷ The petition alleged that the United States, the leading greenhouse gas ("GHG") emitter in the world, is the greatest contributor to climate change, which threatens the enjoyment of numerous human rights guaranteed by the American Declaration of the Rights and Duties of Man¹⁸ to the Inuit living in the arctic regions.¹⁹ The specific rights identified include their rights "to the benefits of culture, to property, to the preservation of health, life, physical integrity, security, and a means of subsistence, and to residence, movement, and inviolability of the home."²⁰ The petitioners argued that U.S. government should be held accountable for these violations to the extent that they result from both its acts—enabling or contributing disproportionately to GHG emissions—and its omissions—failing to take meaningful steps to reduce GHG emissions and otherwise counteract climate change.²¹

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This petition faced several notable challenges. First, because the United States has not accepted the jurisdiction of the Inter-American Court of Human Rights, the petition could only be brought before the IACHR, which may issue recommendations but not binding judgments.²² Secondly, as would be the case with any lawsuit relating to responsibility for climate change, it faced the tremendous burden of proving legally sufficient causation between the harm resulting from climate change and the acts and omissions of the U.S. government. The petition did an admirable job of laying out the scientific evidence for the connection between GHG emissions and climate change, the U.S. contribution to GHG emissions, the effects of climate change on the arctic environment, and the complete dependence of Inuit peoples on the arctic environment.²³

Despite these efforts, the IACHR dismissed the petition without prejudice on November 16, 2006.²⁴ Nevertheless, the IACHR did invite the petitioners, along with the Center for International Environmental Law (“CIEL”) and Earthjustice to a thematic hearing on the issue of global warming and human rights in the Americas on March 1, 2007.²⁵ This hearing offers perhaps the best indication of the challenges that future litigation over human rights violations as consequence of climate change will face before a regional human rights body. The questions from three commissioners addressed (1) how to attribute or divide responsibility among states in the region or even states that are not members of the OAS;²⁶ (2) how the rights violations suffered by the Inuit could be tied more closely to concrete acts or omissions of specific states;²⁷ (3) whether the petitioners had exhausted domestic remedies, a requirement for admissibility in any of the regional human rights systems;²⁸ and (4) what examples of good practices undertaken by states could guide the Commission in making recommendations.²⁹

Counsel for the three organizations responded to each of the questions deftly. To the first, they explained the principle of “common but differentiated responsibility,” as a key component of state responsibility under international economic law.³⁰ To the third, the question of exhaustion of domestic remedies, they explained why there is no comparable legal remedy available in the United States or Canada that would require the government to pay compensation for human rights violations associated with climate change.³¹ To the fourth question, counsel from CIEL pointed to good practices to counteract global warming in several states in the Americas, particularly Brazil.³²

The second question, as articulated by Commissioner Victor Abromovich, seemed to remain most unresolved at the end of the hearing:

Is there a precise form in which the impact you have described very well on fundamental rights can be tied to the actions or omissions of the particular states? . . . [I]n all cases . . . considered by the Inter-American system, there have existed direct actions . . . or the failure to act by the state in the face of a concrete situation, for example . . . forestry in an indigenous territory. Now, the problem you are laying out, without doubt, links to state and non-state actors, but the relationship is much . . . less direct. So, I would like clarification about how there can be a relationship—not just any relationship, a legal relationship, a relationship of responsibility—of the states for violations of the rights that you have very clearly described.³³

This causal connection question presents the greatest gap between precedent cases on environmental damage that have been accepted by the regional human rights bodies and the issue of climate change and resulting human rights violations. Like other current frontiers in regional human rights law, resolution of this question might require either meeting a nearly impossible quantum of proof or bringing a petition against several or all states in a region.

One possible way forward may lie in the approach taken by the European Court on Human Rights (“ECtHR”) in a series of precedents recently identified in a Council of Europe (CoE) report on climate change and human rights. Although the European (Rome) Convention on Human Rights does not affirmatively guarantee a right to the environment,³⁴ the ECtHR has held states accountable for human rights violations resulting from environmental damage in a number of cases.³⁵ Most often, these cases hold the state accountable for failure to protect individuals from actions of third parties, often corporations, and tie the environmental damage to violations of Article 8 (right to family and private life), Article 2 (right to life), and Article 1 (right to property), although other rights have also been implicated.³⁶ As the CoE report pointed out, these cases demonstrate a state’s positive obligation where “inaction would exacerbate [a threat to human rights]” of which the state is aware.³⁷ This obligation could also attach in the climate change context, even though the causal connection between GHG emissions and human rights may be difficult to prove.³⁸



Endnotes: Climate Change and the Regional Human Rights Systems

¹ Anne Parsons, *Human Rights and Climate Change: Shifting the Burden to the State?*, SUSTAINABLE DEV. L. & POL’Y, Winter 2009, at 22.

² UN Human Rights Council Res. 7/23, Human Rights and Climate Change, Mar. 28, 2008, available at http://ap.ohchr.org/documents/E/HRC/resolutions/A_HRC_RES_7_23.pdf.

³ See e.g. Council of Europe, T-PVS/Inf (2009) 4: Human Rights and Climate Change, Document Presented at the 4th Meeting of the Group of Experts on Biodiversity and Climate Change, Apr. 8, 2009 [hereinafter Council of Europe]; UN Human Rights Council Res. 10/4, Human Rights and Climate Change,

Mar. 24, 2009 (basing its recommendations on a report by the Office of the UN High Commissioner for Human Rights on the relationship between climate change and human rights); African Commission of Human and Peoples’ Rights, ACHPR/Res153(XLVI)09: Resolution on Climate Change and Human Rights and the Need to Study its Impact in Africa, Nov. 25, 2009 [hereinafter ACHPR Resolution].

Endnotes: Climate Change and the Regional Human Rights Systems *continued on page 60*

INDUSTRY CRIES FOUL TO EPA'S ATTEMPT TO REGULATE GHG EMISSIONS USING THE CLEAN AIR ACT

by William J. Walsh, Mark A. Erman, & Jane C. Luxton*

INTRODUCTION

The U.S. House of Representatives passed a comprehensive, albeit flawed, climate change bill, the Waxman/Markey bill, in June 2009,¹ and the Senate Environment Committee voted to bring a similar, but measurably more demanding, bill, the Kerry/Boxer bill, to the floor of the Senate.² The House and Senate bills cover the same greenhouse gases (“GHGs”) and facilities, require an eighty three percent reduction in emissions between 2005 and 2050, and create a GHG emission allowance trading program, which lowers the cost of compliance, generates funds to provide incentives for the use of carbon capture and sequestration, and encourages use of more energy-efficient buildings, among other things.³ The Senate bill: (a) requires covered sources to reduce their GHG emissions twenty percent below 2005 levels by 2020, as opposed to the House bill’s seventeen percent reduction; (b) codifies the Environmental Protection Agency (“EPA”) Clean Air Act (“CAA”) GHG rule (ensuring the worst of both worlds (cap-and-trade and command and control CAA regulation)); (c) imposes a lower offset limit, which will increase the price of allowances and the cost of the program, according to the EPA; (d) reduces the total amount of free allowances, primarily to reduce the national deficit, and (e) provides a \$28 price cap on GHG emission allowances, lower than the House bill’s cap.⁴ After this strong beginning, both bills stalled, however, and prospects for passage remain uncertain.

As the year wore on, the climate change spotlight moved dramatically from the legislative arena and complementary international efforts⁵ to the development of EPA’s CAA regulations that will impose GHG-related requirements on industry. In particular, EPA’s proposed Prevention of Significant Deterioration (“PSD”) tailoring rule (“PSD Tailoring Rule”) will require the installation of “best available control technologies” (“BACT”) on new or modified “major” sources that exceed certain GHG thresholds.⁶ Even if—as some believe—the Obama Administration’s motivation in proposing to use the CAA to reduce GHG emissions is to provide leverage for a legislative solution, now that EPA has proposed the PSD Tailoring Rule, industry has had no choice but to comment on it. This article provides an overview of these industry comments regarding the merits of the CAA PSD Tailoring Rule.⁷

BACKGROUND AND SUMMARY OF THE PROPOSED PSD TAILORING RULE

In 2007, the Supreme Court in *Massachusetts v. EPA* held that carbon dioxide (“CO₂”), the most common GHG, was a “pollutant” under the CAA, and, although the Court did not compel regulation of GHGs, it did require an evaluation of whether GHG

emissions from all sources were causing an endangerment to public health and the environment, whether automobile emissions were contributing to that endangerment, and whether regulation of mobile sources was required.⁸ The Court also directed EPA to “ground its reasons for action or inaction in the statute.”⁹

The CAA requires PSD permits in attainment areas (areas that comply with air quality standards) when a new or modified major source causes a significant net emissions increase, but this only applies for “each pollutant subject to regulation.”¹⁰ Once GHGs are “subject to regulation” under the CAA, the regulatory authority must assess if a technology that meets the definition of BACT exists for GHGs and, if so, must mandate installation of such BACT as part of the PSD permitting process.¹¹

EPA’s pre-2009 interpretation was that only a pollutant that is *presently* subject to a statutory requirement or regulatory provision that requires actual control of a pollutant is “subject to regulation” under the new source review (“NSR”) program described above. Under this interpretation, CO₂ is not “subject to regulation” because EPA has not established a National Ambient Air Quality Standard (“NAAQS”) or New Source Performance Standard (“NSPS”) for CO₂, classified CO₂ as a Title VI substance, or otherwise regulated CO₂ under any other provision of the Act.¹²

In response to the remand in *Massachusetts v. EPA*, EPA discussed its options in an Advance Notice of Proposed Rulemaking (“ANPR”) in June 2008,¹³ and the new Administration proposed on September 28, 2009, to regulate GHG emissions from light-duty vehicles (based on EPA’s proposed endangerment finding).¹⁴ On December 7, 2009, EPA found that GHG emissions from all sources endanger public health and welfare and that mobile source emissions contributed to that endangerment.¹⁵

On October 27, 2009, EPA proposed its PSD Tailoring Rule to address industrial stationary sources of GHG emissions.¹⁶ EPA felt that such a rule was necessary because, once the light-duty vehicle rule is final, GHGs will be “subject to regulation,” and, therefore, the GHGs from stationary sources will also immediately be “subject to regulation” under the PSD program.¹⁷

For criteria pollutants (i.e., nitrogen oxides, sulfur oxides, particulates, lead, ozone, and carbon monoxide), the CAA PSD and Title V programs define “major” sources as those that emit more than 100 tons per year for applicability and 250 tons per year

*Pepper Hamilton LLP. The authors assisted several clients (including trade associations) in preparing their comments on the Environmental Protection Agency Prevention of Significant Deterioration Tailoring Rule discussed in this article.

for PSD significance. If these thresholds are applied to GHGs, hundreds of thousands, if not millions, of companies (including many small businesses) will be, in EPA's words, "burdened by the costs of individualized PSD control technology requirements and permit applications State permitting authorities would be paralyzed."¹⁸ To avoid this, EPA invoked the judicial doctrines of avoiding absurd results and administrative necessity¹⁹ in a two-phase approach. First, EPA proposed establishing applicability thresholds of 25,000 tons per year of CO₂ equivalents ("CO₂e") and a PSD significance level of between 10,000 and 25,000 tons per year of CO₂e. Then, EPA proposed that it would issue a rule within six years that will either confirm the first-phase permitting levels or establish revised levels or other streamlining techniques.²⁰

COMMENTS ON THE PROPOSED PSD TAILORING RULE

The Proposed PSD Tailoring Rule has the potential to adversely affect millions of plants from an extremely diverse range of industries and of widely differing sizes. All industry comments concluded that the rule, if issued as written, will significantly impact industrial operations in the United States. More than 5,800 comments (many from individual companies, trade associations, and industry coalitions representing thousands of companies) were filed on the PSD Tailoring Rule.²¹ These comments express an interesting diversity of views, as well as some clear and consistent messages.

CONGRESS DID NOT INTEND TO REGULATE GHG EMISSIONS USING THE CAA

Virtually every industry comment stated the obvious and irrefutable fact that Congress simply did not have GHG emissions in mind when it originally drafted the CAA in 1970 or subsequently amended it in 1977 to include the PSD program.²² The nature of GHG emissions (i.e., a global, very long-term impact on climate) and their control are fundamentally different from the criteria pollutant emissions intended to be addressed by the original CAA (i.e., protection of local or regional ambient air quality). Thus, the square peg of GHG emissions does not fit the round hole of the CAA. This is precisely the reason why Congress has devoted so much time to considering climate change legislation and why the presidential candidates from both parties in the last election favored legislation during the campaign.

REGULATION OF GHG EMISSIONS PURSUANT TO THE CAA IS *NOT* REQUIRED BY THE SUPREME COURT

Most industry comments argued persuasively that regulation of GHG emissions pursuant to the CAA is *not* required by *Massachusetts v. EPA* (see discussion above). Some comments, but by no means all, argued that climate change regulation was so important that it should be addressed by Congress, but such comments naturally provided little detail concerning what such legislation might include. In essence, some argue that GHG is a political issue of global impact that should be decided by Congress. Congress, however, could decide to take no action.

INDUSTRY SPLIT CONCERNING WHETHER THE ABSURD RESULTS AND ADMINISTRATIVE NECESSITY DOCTRINES APPLIED

Interestingly, the industry comments split concerning whether, on one hand, the "absurd results" and "administrative necessity" legal doctrines applied to GHG emissions at all. Thus, some comments concluded that, if EPA was required to regulate stationary sources, EPA was compelled to regulate every source emitting more than 250 tons per year, arguably an absurd result to be avoided. This legal argument also provides an incentive for Congress to intervene by amending the CAA to bar or at least delay use of the CAA to regulate GHG emissions, and proposed legislation along those lines has already been introduced. The question remains whether there are enough votes in the House and Senate to pass legislation barring use of the CAA, no less override an anticipated Presidential veto.

On the other hand, some industry comments argued not only that these doctrines applied but that they dictated that EPA must delay application of the CAA until a regulatory scheme crafted to address the unique challenges presented by GHG emissions was developed.

INDUSTRY OPPOSED ACTING BEFORE A MORE REASONED SCHEME COULD BE DEvised

Many of the comments argued that EPA should delay any regulation—or at least its effective date—for three to six years. This delay will prevent or minimize *ad hoc* industry-by-industry and plant-by plant determinations of whether BACT exists and will otherwise avoid inadvertently establishing a regulatory program without assessing whether it will accomplish the desired ends, will be cost-effective, or may otherwise result in unintended adverse consequences.

Such an *ad hoc* approach to regulating GHG emissions through permit challenges and enforcement actions presents several problems. For coal-fired electric-generating plants, converting to oil and gas means using more expensive and less reliable alternative fuels. Forcing the relocation of a coal-fired plant to another location fails to reduce GHG emissions and may actually increase them, because of the inefficiency involved in transmitting power over distance. There has not been a successful large-scale demonstration of the technical, economic, and environmental performance of geological carbon sequestration, which is considered to be one of the most promising GHG emission reduction technologies.²³ Immediate application of the PSD applicability threshold and triggers will result in unacceptable delays in permitting and, therefore, in the construction of new industrial plants and major modifications of existing plants, a cost not advocated by Congress.²⁴ Such delays will have a direct and significant adverse economic impact (including a disincentive to convert to "green" technologies, which would also need permits).

This concern about delay is more than theoretical. Environmental groups have filed administrative or legal challenges in more than 166 existing coal-fired electric plant permit proceedings, with 113 claimed "victories" (which includes remands, delays, and other non-final determinations).²⁵ In fact, the Sierra

Club settled one lawsuit in exchange for the utility “voluntarily” agreeing to add a legally enforceable permit provision that requires capture and sequestration of fifty eight percent of the CO₂ generated by the plant.²⁶

Also, as some comments noted, there is precedent in EPA’s implementation of the CAA for delaying implementation of aspects of the PSD program in order to avoid administrative impracticability. For example, the 1980 PSD regulations contained a number of transition provisions that delayed applicability to certain classes of sources. EPA, in effect, has deferred application of PSD provisions based on PM_{2.5} emissions, despite adoption of National Ambient Air Quality Standards for PM_{2.5} in 1997, relying on PM₁₀ (larger-sized particulate matter) instead because of problems measuring and modeling PM_{2.5} emissions.²⁷ As a practical matter, delaying any regulatory decision would provide Congress a reasonable amount of time to act.

ONE SIZE DOES NOT FIT ALL EMITTERS

Some industries argued that EPA should not use a one-size-fits-all approach but rather should tailor the trigger to each industry (i.e., apply an industry-specific applicability and GHG emission trigger). A plant-by-plant BACT determination is cost-ineffective and, in any case, either will inevitably result in a determination that there is no BACT, as discussed below. However, the mere existence of such a process creates uncertainty in planning, obtaining capital, and reacting nimbly to new business opportunities (such as expanding the production of renewable energy and more energy-efficient products).

Similarly, some industries argued that the global nature of endangerment required EPA to take into account on an industry-by-industry basis, not the percentage of U.S. emissions covered, but the percentage that each facility within each industry represents compared to worldwide GHG emissions from all sources in all countries.

Many industries noted that EPA simply had not performed even the bare minimum level of evaluation needed to promulgate a regulation of this magnitude and import. Various comments demanded that EPA gather sufficient information to tailor its rules to the circumstances of each industry before issuing a rule. In evaluating the significance of the GHG emissions from an individual industry, the EPA should take into account the larger quantities of GHGs emitted compared to other CAA-regulated pollutants, the level of significance compared to total GHG emissions, the effectiveness on a global scale of such regulation (e.g., the carbon leakage issue) for a particular industry, and the other issues discussed in the various comments.

HIGHER THRESHOLDS SHOULD APPLY

Many industries²⁸ argued for higher thresholds than 25,000 tons per year because the PSD program was intended to regulate only the “major” emitters, such as electric generating plants, which are financially able to bear the regulatory costs of PSD and are collectively responsible for most of the nation’s air pollution. One industry, in effect, recommended changes that result in a threshold of 777,000 tons per year.²⁹ PSD was not designed to cover the small- and medium-sized emitters that form a substantial

portion of the nation’s core manufacturing base, but the proposed rule would do so.³⁰

EPA estimated that if the major source threshold is set at 25,000 tons per year, 13,661 facilities would exceed this threshold, which would cover sixty-eight percent of national stationary source emissions.³¹ At 100,000 tons per year, 4,850 facilities would be covered, corresponding to sixty-four percent of national GHG emissions.³² Thus, increasing the threshold from 25,000 to 100,000 tons per year would reduce the number of “major emitters” by almost two-thirds but would only decrease the GHG emissions subject to regulation by four percent. This marginal incremental benefit is not consistent with the intent of the PSD program. One solution presented by an ethanol industry trade group is to subject plants to PSD for GHGs only if the plant is already covered by BACT requirements for other regulated pollutants such as nitrous oxides or sulfur oxides.³³

The Small Business Administration’s Office of Advocacy also took issue with the 25,000 tons per year threshold by arguing that EPA improperly certified that the Tailoring Rule would not harm a substantial number of small businesses, thus evading the Regulatory Flexibility Act’s requirement that a special Small Business Regulatory Enforcement Act (“SBREFA”) panel be convened.³⁴ Under EPA’s Regulatory Flexibility Act Guidance, rules cause a significant economic impact when the compliance cost for a small business is one to three percent of operating revenues. If less than 1,000 small entities are significantly affected, the rule is presumed to be ineligible for a SBREFA panel.³⁵ The Small Business Administration asserted that, had EPA thoroughly analyzed the potential reach of the GHG permitting requirements on small entities, it would have learned that the Tailoring Rule would adversely affect much more than 1,000 small businesses; therefore, EPA would have to convene a SBREFA panel prior to promulgating its rule.³⁶

PROCESS EMISSIONS SHOULD BE EXCLUDED

Those industries that utilize intense heat to process raw materials naturally containing carbonate (e.g., the cement industry, the limestone mineral processing industry, and the glass manufacturing industry) will release CO₂, and there simply is no BACT for these process emissions. Typically, there are no substitutes for these raw materials and nothing as a practical measure can be implemented to reduce these emissions. Moreover, some of these industries meet new tough energy efficiency requirements or make products that will reduce GHG emissions when utilized in other energy-saving applications downstream. Nothing in EPA’s administrative record to the PSD Tailoring Rule demonstrates that GHG emissions from process emissions can be significantly reduced with any existing technology. Put simply, there is nothing meaningful that can be required at this time. Attempting to regulate these industries will be a useless act.

THE TAILORING RULE SHOULD NOT APPLY TO PLANTS THAT MIGHT RESULT IN CARBON LEAKAGE

Several industries and industry coalitions noted that so called carbon leakage is almost certain to increase the net global GHG emission if the PSD Tailoring Rule prompts regulated entities

to move operations abroad. Many manufacturing industries are energy-intensive and trade-sensitive, according to EPA,³⁷ industry groups' testimony to Congress,³⁸ the General Accountability Office,³⁹ and the comments provided in this rulemaking.

The costs (direct transactional costs, delay costs, and the regulatory uncertainty's effect on ability to raise capital) will increase at U.S. plants in regulated industries. Additional costs will be imposed if costly BACT is required by states (with little reduction in GHG emissions). Since no comparable costs will be imposed on such energy-intensive industries in developing countries, their U.S. counterparts will suffer a competitive disadvantage. EPA's and virtually every other analysis has found that such competitive disadvantage moves production from the United States to other countries with less stringent GHG controls.⁴⁰ Thus, carbon "leakage" occurs and, in reality, the total global emissions increase, not decrease, thereby increasing the endangerment, not reducing it. The law should not (and does not) require such a truly absurd result.

THERE ARE NO BACTS

None of the traditional air pollution controls are designed to control CO₂ since it has not yet been regulated. Industry comments could not identify any BACTs for any industry. Even carbon capture and sequestration ("CCS") has not been implemented in the United States at a large coal-fired electric generating plant. In fact, the Department of Energy is offering billions of dollars in research to establish whether such technology can be implemented. The smaller the GHG emission source, the less likely that such a technology will be considered BACT under EPA's "top-down" analysis, which eliminates technologies that may have a high removal efficiency, but low cost-effectiveness. Finally, the EPA CAA regulations do not include GHG emission allowances. As a result, unlike the House and Senate bills, free GHG emission allowances cannot be provided to utilities as incentives to offset the enormous cost of CCS.

THE RULE SHOULD PROVIDE INCENTIVES TO INDUSTRIES THAT PRODUCE PRODUCTS THAT REDUCE GHG EMISSIONS OR USE RENEWABLE ENERGY

Some comments urged EPA to provide an incentive to industries that initiate modifications and produce products to support other GHG emission reduction programs like manufacturers of

components or assemblers of renewable energy sources (e.g., solar cells, wind power, and biomass energy), materials that meet energy efficiency standards for buildings, and other energy efficiency standards. Thus, EPA should consider the net GHG emission impact of the entity's project and the purpose for which it was conducted.

CONCLUSION

In summary, addressing climate change is a scientific, economic, and political challenge that raises equity issues within nations and regions, and between developed and developing nations. The inherent complexity is reflected in the fact that it took more than 1,400 pages to address all of these climate change issues in the House bill.

EPA's "regulatory fix," although elegantly simple, is also fundamentally unworkable. The CAA is a technology-forcing statute that EPA is attempting to use in a situation where there is little likelihood that GHG reduction technologies will be developed in the foreseeable future. The rigid command and control approach is in stark contrast to the market-based cap and trade approach of legislative measures, which is anticipated to lower the cost of compliance.

Most of industry (including some companies and industries that support comprehensive federal climate change legislation) oppose utilizing the CAA to regulate GHG emissions. The tone and even anger expressed in many of these comments is extraordinary for comments in a rulemaking, which may be due to the frustration faced by industry. These comments demonstrate that the proposed PSD GHG Tailoring Rule is not only broken, but seems unfixable, at least in the short- to medium- term.

Legal challenges to the rule are already in the works. Senator Murkowski has proposed a bill that vetoes the endangerment finding, thereby preventing the EPA from regulating GHGs using the CAA. Senator Rockefeller has offered a more moderate bill that will simply delay the effective date of the tailoring rule requirements for two years. In reaction to the industry comments and Congressional interest, EPA Administrator Jackson announced that EPA intends to use a threshold substantially higher than the 25,000-ton limit that EPA originally proposed and perhaps as high as 75,000 tons. The future of this regulation is uncertain.



Endnotes: Industry Cries Foul to EPA's Attempt to Regulate GHG Emissions Using the Clean Air Act

¹ H.R. 2454, 111th Cong. (2009).

² S. 1733, 111th Cong. (2009).

³ See H.R. 2454; S. 1733.

⁴ See S. 1733.

⁵ See Conference of the Parties Fifteenth Session, Copenhagen, Den., Dec. 7-18, 2009, *Copenhagen Accord* U.N. Doc. FCCC/CP/2009/L.7 (Dec. 18, 2009), available at http://unfccc.int/files/meetings/cop_15/application/pdf/cop15_cph_auv.pdf (encouraging nations to commit to GHG emission goals

by "tak[ing] note of the Copenhagen Accord"). See generally United Nations Framework Convention on Climate Change, 1771 U.N.T.S. 107, S. Treaty Doc No. 102-38, U.N. Doc. A.AC.237/18(Part II)/Add.1, 31 I.L.M. 849 (1992), available at <http://unfccc.int/2860.php> (providing other United Nations administered environmental agreements and texts).

Endnotes: Industry Cries Foul to EPA's Attempt to Regulate GHG Emissions Using the Clean Air Act *continued on page 61*

SEC INTERPRETIVE GUIDANCE FOR CLIMATE-RELATED DISCLOSURES

By Nickolas M. Boecher*

On January 27, 2010, the Securities and Exchange Commission (“SEC”) provided public companies with interpretive guidance for climate change related disclosure requirements.¹ In light of recent legislation and investor demand,² the SEC acted prudently because the interpretive guidance will probably encourage more complete disclosure of the risks and opportunities faced by publicly traded businesses. In turn, increased disclosure should foster greater transparency, provide incentive for cleaner technologies,³ and facilitate dialogue concerning the effects of climate change on the business world.⁴

Established disclosure requirements oblige publicly traded companies to report the reasonably likely material costs of complying with environmental statutes and regulations.⁵ The newly issued interpretive guidance highlights four areas where climate change may trigger disclosure requirements: Legislation and Regulation; International Accords; Indirect Consequences of Regulation or Business Trends; and Physical Impacts of Climate Change.⁶ The interpretive guidance does not create new legal requirements or change established ones, but rather it clarifies what public companies need to disclose.⁷

The release of the interpretive guidance has received criticism from within the SEC.⁸ One commissioner has argued that the physical risks of climate change are not relevant for disclosure because they are not reasonably foreseeable and often only occur over the course of decades or centuries.⁹ She has also pointed out that climate change concerns are outside the expertise of the SEC, which was established to ensure investor protection.¹⁰

Investors have submitted reports suggesting that current climate-related disclosure is insufficient.¹¹ A 2008 report, submitted by an institutional investor, surveyed over six thousand annual filings by Standard & Poor’s 500 companies and found that 76.3% of 2008 filings failed to mention climate change.¹² In January 2010, the world’s largest investors, holding over thirteen trillion dollars in assets, released a statement demanding action by world leaders in regard to climate change.¹³ Among their demands was a request that the SEC require greater climate-related disclosure.¹⁴

In addition, numerous examples, both domestic and international, suggest a changing legislative and regulatory space requiring more complete disclosure.¹⁵ Recent requirements from the Environmental Protection Agency as well as legislation in state and local governments regulating greenhouse gas emissions constitute active legislation that may require disclosure.¹⁶ Additionally, Congress is considering a national cap-and-trade system for the regulation of emissions.¹⁷ Furthermore, the Kyoto Protocol and the related European Union Emissions Trading System, which many SEC registrants operating in international business must follow, also may have material effect.¹⁸

Commentators have suggested that legal problems could arise if disclosure requirements are extended.¹⁹ Hostile shareholders could file frivolous lawsuits by taking advantage of imperious disclosure requirements.²⁰ Additionally, businesses may have trouble accurately disclosing the outcome of pending litigation resulting from climate change.²¹ Legal disclosure requirements could also weaken legal positions in pending litigation, undermining the attorney-client privilege and the work product doctrine.²²

By limiting itself to providing interpretive guidance on climate change disclosure, the SEC has likely avoided these types of legal problems. SEC Rule 10b-5 permits individual shareholders an action against companies failing to make required disclosures.²³ Rule 10b-5 actions provide companies an incentive to comply with disclosure requirements and to reduce activity that would be unfavorable to share value if publicly disclosed.²⁴ Successful 10b-5 actions require a duty to disclose, something which the SEC has never expressly required for environmental issues.²⁵ Thus, while the interpretive guidance provides some further basis for insufficient disclosure arguments under rule 10b-5, the fact that it does not create an express duty to disclose should work to limit the number of frivolous lawsuits.²⁶ Additionally, the interpretive guidance does not require detailed reporting of pending litigation.²⁷ Moreover, as a policy matter, the interpretive guidance probably will not be interpreted as obliging companies to compromise pending litigation by disclosing pertinent information.

The SEC acted evenhandedly in its release of the interpretive guidance. Although companies may have difficulty in predicting the physical effects of climate change,²⁸ legislative, regulatory, and investment trends suggest a need for more complete disclosure.²⁹ The interpretive guidance suggests that the SEC will be more likely to enforce disclosure on climate-related issues than it has in the past.³⁰ However, by stopping short of creating an express duty to disclose, the SEC has limited potential abuse of Rule 10b-5 litigation.³¹ Increased disclosure can provide more information to investors and also create an incentive for companies to invest in cleaner technology as an alternative to disclosing damaging information.³² Increased disclosure might also provide legislators with a feedback mechanism for evaluating the effects of climate change legislation. The new interpretive guidance should help stream the flow of information concerning climate-related matters and facilitate ongoing dialogue in this area of increasing attention.³³

Endnotes: SEC Interpretive Guidance for Climate-Related Disclosures *continued on page 62*

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READILY DEPLOYABLE APPROACHES TO GEOENGINEERING: COOL MATERIALS AND AGGRESSIVE REFORESTATION

by Max G. Bronstein*

INTRODUCTION

Humans have been disrupting the Earth's climate for hundreds of thousands of years.¹ Burning a piece of wood for warmth, cutting down a tree to build shelter, or even planting a crop are all ways that humans have interacted with and fundamentally altered the climate and the environment. New research has indicated that breakthroughs in agriculture as long as 8,000 years ago have played a major role in greenhouse gas emissions and may have even reversed a trend toward global cooling.² The widespread cultivation of rice in Asia, which first began 5,000 years ago, was followed by unnatural increases in methane concentration that some scientists believe may have averted another ice age.³ Today, rice paddies cover 130 million hectares of the Earth's surface, emitting between 50 and 100 million metric tons of methane per year.⁴ In addition, ruminants produce a significant amount of methane and, when combined with the emissions from rice, account for nearly half of the world's methane output.⁵ Hence, human behavior that originated thousands of years ago continues to alter the climate today albeit on a much larger scale.

Deforestation was first recorded in 1086 AD when a survey of England indicated that humans had cleared upwards of 90 percent of the forests to make way for agriculture.⁶ Between 2,000 and 3,000 years ago, humans also deforested wide swaths of fertile land near rivers in China and India to support quickly growing and increasingly dense settlements.⁷ The scale of this deforestation deprived the planet of major carbon sinks.⁸ Forestlands were often burned and then subsequently flooded to provide irrigation; both activities produce significant greenhouse gas emissions.⁹ Today, forests are being destroyed at an unprecedented rate—every year, human activities destroy an area the size of Panama.¹⁰ At this rate, the world's rain forests, the most bio-diverse portions of the planet, could disappear entirely in less than 100 years.¹¹ A recent study found that decreasing the rate of deforestation by 50 percent and maintaining that level for 100 years would reduce global fossil fuel emissions by the equivalent of six years.¹² These occurrences demonstrate that humans have historically caused significant climate disruptions and even modest changes in behavior—such as decreasing the rate of deforestation—can have a marked impact on carbon emissions.

Most people believe erroneously that humans did not begin to significantly alter the climate until the second half of the 19th century, which marked the start of the second Industrial Revolution.¹³ Rather, the Industrial Revolution acted as

a carbon multiplier by automating and scaling up the carbon-intensive activities that humans had already undertaken for thousands of years. The new technologies and innovations of this age required carbon-based fuels to power factories, automobiles, and the industrial machines that automated agriculture and deforestation. In fact, from 1850 to 1863, total world carbon emissions nearly doubled from 54 million metric tons (“MMT”) per year, to 104 MMT. By 1900, world emissions had reached 534 MMT.¹⁴ By 2006, the world was emitting 8230 MMT, an increase of 259 MMT from the previous year.¹⁵

For thousands of years, humans have been altering the climate and fundamentally remaking the environment at a local and planetary scale.¹⁶ The behaviors driving such changes, like agriculture, deforestation, and transportation, are deeply ingrained hallmarks of civilization and are a core component of traditional development and economic progress. It should come as no surprise that policymakers have been struggling for over a decade to create a viable framework for limiting emissions and mitigating climate change.¹⁷ Meanwhile, as our understanding of the impacts of climate change has sharpened, it is increasingly evident that failure to limit emissions will result in massive and irreparable damage to the environment and human welfare.¹⁸ This realization has been one of the factors driving research and debate around geoengineering¹⁹—a “Plan B”—should policymakers fail to create a viable framework for mitigating climate change.²⁰

However, the geoengineering solutions put forth by scientists are often untested, expensive, difficult to deploy, and ignorant of the non-technological barriers to implementation, such as policy and politics. Many of the so-called geoengineering “solutions” are overly reliant on advanced technologies that do not exist today and may require decades to deploy, which could only have a significant impact on the climate at an enormous financial cost. Effectively implementing such technologies on a meaningful scale would require an international framework and cost-sharing scheme that could be as complex and politically sensitive as the current climate treaty negotiations. If the nations of the world struggle even to reach an agreement to limit climate

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emissions in a timely manner, a future international resolution on geoengineering will face similar obstacles.

Rather than relying on untested and poorly understood geoengineering interventions, scientists and policymakers need to look toward tested and readily deployable mechanisms for regulating climate and mitigating the impacts of carbon emissions.

Many proposed geoengineering solutions aim to deflect the sun's energy, including proposals ranging from space-based mirrors to cloud whitening and cloud seeding using aerosol particles.²¹ The goal of these approaches is to control the amount of solar energy striking the Earth by deflecting more of this energy into space.²² If ultimately successful, the climate will cool because energy is being reflected rather than absorbed by the Earth and the atmosphere.²³ While these are intriguing approaches, some are exorbitantly expensive (e.g. space mirrors) and, although others are more affordable, they are relatively untested and could result in other irreversible, unintended consequences.²⁴ However, there are more affordable and practicable methods for increasing the Earth's global albedo or reflectivity. What follows is a low-cost, low-tech, low-risk, geoengineering plan that can be implemented on a local, regional, or national level without the need for a complex international treaty, which makes it more politically feasible than other proposed solutions.

COOL MATERIALS COOL THE WORLD

The U.S. Secretary of Energy, Nobel Laureate Dr. Steven Chu, has frequently avowed the virtues of white roofs.²⁵ The theory underlying this solution is quite simple; lighter colors reflect more sunlight and therefore increase the planet's reflectivity, which, on a large scale, can result in global cooling.²⁶ This intervention would be most effective in urban areas, which only account for about one percent of the Earth's land surface, but if implemented on a large scale, could equate to a 63 kg CO₂ offset for every square meter of white roof.²⁷ Estimates have also shown that a "cool roofs" initiative could offset about 24 billion gigatons of CO₂—the equivalent of total annual global CO₂ emissions—over the course of the roofs' lives.²⁸

In addition to increasing global albedo, white roofs keep buildings cooler. Cooler buildings reduce energy costs and in turn lower CO₂ emissions. Lower energy costs and a smaller carbon footprint help to minimize the "heat island" effect. The heat island effect is an increase in temperature in urban areas caused by warming of absorptive surfaces and infrastructure.²⁹

Temperature differences are most marked when compared to non-urban areas, which are 1-3 degrees Celsius cooler and on a clear, windless night the temperature difference can be as much as 12 degrees Celsius.³⁰ These higher urban temperatures result in an increased demand for electricity for energy intensive air conditioning.³¹ In fact, one study estimates that the heat island effect alone accounts for 5-10 percent of the peak electricity demand for cooling buildings in cities.³² Hence, mitigating the heat island effect through simple interventions like white roofs can be an effective way of reducing energy demand, cutting CO₂ emissions, and increasing global albedo.

In addition to roofs, roads are another component of urban infrastructure that can play a significant role in global reflectivity and mitigation of the heat island effect. Cool pavements, as they are commonly called, work on the same principle as white roofs. Urban pavement accounts for 35 percent of urban surface area whereas roofs only account for 25 percent.³³ Some calculations have indicated that a cool pavements initiative could offset as much as 38 kg CO₂ per square meter.³⁴ If extrapolated to account for all

urban areas, cool pavements could offset up to 20 billion gigatons of CO₂.³⁵ Aside from the reflectivity and energy savings benefits, cool pavements can also enhance nighttime visibility and reduce the amount of street lighting needed during the evening hours, thereby further reducing energy demand.³⁶

What is most appealing about these "cool" solutions is that there are low barriers to implementation, as they are largely cost competitive with existing approaches and the underlying technology is relatively mature.³⁷ Hence, these approaches have already been deployed in various urban areas across the United States³⁸ and have been shown to actually increase albedo regardless of color.³⁹ Cool roofs do not necessarily have to be white, but must contain composite materials that increase solar reflectance and thermal emittance.⁴⁰ In addition, experiments have even begun to test newly developed paints for cooler cars, which also cover much of the land surface in urban areas.⁴¹ When combined, these "cool" approaches present a relatively low-risk, low-cost, and politically viable approach to geoengineering. Even simple policy interventions at the local or state level could have a marked impact on reducing the heat island effect, lowering energy demand, and ultimately decreasing CO₂ emissions. While this is an important approach to mitigating climate change, increasing the global albedo is only part of the

Meanwhile, as our understanding of the impacts of climate change has sharpened, it is increasingly evident that failure to limit emissions will result in massive and irreparable damage to the environment and human welfare.

solution. The planet also needs a strategy to sequester the vast concentrations of CO₂ already in the atmosphere.

AGGRESSIVE REFORESTATION

Forests serve as an enormous carbon sink and store more than double the amount of carbon than is present in the atmosphere.⁴² In addition, forests store 45 percent of all terrestrial carbon.⁴³ However, deforestation is releasing that stored carbon on an unprecedented scale; every year a forest area the size of Panama is lost.⁴⁴ Deforestation can occur naturally through wildfires—which have been increasing in number with global warming—but deforestation is more commonly driven by the need for agricultural and grazing space.⁴⁵ In 2004, deforestation and decay of biomass accounted for 17.3 percent of total greenhouse gas emissions.⁴⁶ Hence, forests can act as both a sink and a source of carbon. The fate of the carbon in forests, however, largely depends on how humans interact with them.

There are several ways in which forests can increase uptake of CO₂: through reforestation that increases the carbon density of existing forests; through use of fuels from biomass; and by limiting deforestation and degradation. Calculations done by Canadell et al. have shown that, if all deforested land was converted back to forests, the sequestration potential would be 1.5 Pg C (petagrams of carbon) per year, which would reduce atmospheric CO₂ by 40-70 parts per million (“ppm”) by 2100 (CO₂ concentration in 2008 was estimated to be 385 ppm).⁴⁷ Even reducing deforestation by 50 percent (a laudable goal), would offset 50 Pg C.⁴⁸ While reducing deforestation is socially and politically difficult, individual nations can take the initiative to reforest or increase the carbon intensity of existing forests. For example, in 2000, China used 24 mega hectares (“Mha”) of new and old forest re-growth to offset 21 percent of emissions in 2000.⁴⁹

However, it is important to point out that creating new forests is only the first step in this process. In order for such offsets to be permanent, the forests must have proper protection and stewardship to prevent future deforestation or degradation that can lead to carbon emissions. Hence, in order for reforestation to create a viable carbon sink, it requires not only a short-term planting period, but also a continued investment in forest stewardship. Stewardship is especially challenging in light of the negative impacts associated with climate change. The frequency and intensity of forest fires is expected to continue to rise as is the number of insect outbreaks that can destroy healthy forests.⁵⁰

Reforestation not only alters carbon concentrations, but can also have a significant impact on global albedo.⁵¹ On one hand, dense forest canopies can actually decrease albedo, thereby absorbing more solar radiation, which can cause an increase in temperature.⁵² On the other hand, forests also play an important role in the water cycle through evapotranspiration, the migration of water from roots, through leaves, and into the atmosphere.⁵³ This moisture can ultimately seed clouds that can increase global albedo and therefore lower the amount of solar radiation warming the planet.⁵⁴ The extent of the impact of these competing forces is unclear and varies by region. For example, as forest canopies substitute for snow-covered ground in boreal regions, this would result in a net decrease in albedo.⁵⁵ However, in tropical regions, more forests would result in increasing cloud formation, which would have a positive impact on albedo.⁵⁶ This evidence suggests that tropical regions would be most suited for reforestation and stewardship programs.⁵⁷

POLICY IMPLICATIONS & IMPLEMENTATION MECHANISMS

Compared to other proposed methods of climate engineering such as space mirrors, artificial trees, or ocean fertilization, reforestation and albedo management

are two simple, relatively inexpensive, and effective methods for mitigating climate change. Reforestation not only increases albedo in certain regions, but more widespread and healthy forests act as a natural carbon sink, provide innumerable ecosystem services, and create new habitation space in areas that have traditionally been threatened by human development. Using novel roofs and roads provides a cost-effective mechanism for deflecting the sun’s energy and decreasing the heat island effect, which can ultimately lower energy usage and the requisite carbon emissions. But, for these solutions to

be viable, they must be implemented on regional and national scales and must involve a variety of stakeholders. The following recommendations outline a U.S. reforestation and albedo management program.

The President should establish an office of Climate Change Mitigation within the Environmental Protection Agency (“EPA”) by executive order. Establishing this office via executive order would bypass Congress, because this program needs to be implemented as soon as possible in order to maximize impact and effectiveness. The office would be responsible for drafting, implementing, and enforcing best practices for developers and civil engineers to mitigate climate change through

Estimates have also shown that a “cool roofs” initiative could offset about 24 billion gigatons of CO₂—the equivalent of total annual global CO₂ emissions—over the course of the roofs’ lives.

the use of reflective materials. Specifically, the office would establish requirements and regulations for using reflective materials in the construction of civil infrastructure. Roads are constantly being repaved or maintained and, as a result, it would be relatively straightforward and expedient to phase in the use of reflective and cooling materials. Developers in the private sector need incentives to implement these best practices in both new buildings and existing structures.

While this initiative could be effectively seeded at the federal level, proper implementation and execution would require trained agents working at the state and local levels. This would require buy-in from these stakeholders and could be achieved through additional training. A brief educational program should be developed that illustrates the benefits of cool materials for energy consumption and mitigation of climate change. This material could then be disseminated to state and local departments of transportation and to public planners.

In addition to establishing a new office at the EPA, the federal government should fund more research into development of cost-competitive advanced materials that can have an even greater impact on reflectivity and global albedo. Recently, the Technology Innovation Program at the National Institute of Standards in Technology (“NIST”) released a call for proposals.⁵⁸ One of the topic areas was in civil infrastructure, but it made no mention of reflective or cool materials that could replace current infrastructure and mitigate the impacts of climate change.⁵⁹ The fiscal year 2010 solicitation should call for research and development proposals on cool materials and should give funding priority to proposals that demonstrate potential for commercialization. Emphasizing development could enable late-stage projects to become viable in the market and ultimately be sold to meet the increased demand that could be expected to follow the release of new EPA regulations and best practices.

Throughout U.S. history, wide swaths of the country’s forest have been cleared to make way for development or harvested as a natural resource. As a consequence, there are vast areas of vacant and uninhabited rural land that could be reforested with relatively little investment. Over time and with periodic maintenance, these areas could give way to new, healthy forests. The U.S. Forest Service has the expertise to take the lead on such an initiative, but lacks sufficient resources to have an impact on a

scale that would significantly offset emissions. As the climate bill is currently being discussed in the Senate,⁶⁰ this is an opportune time to lobby for a reforestation provision that could spearhead a nationwide initiative. The costs of the program could be funded through revenues generated by the cap-and-trade scheme and a nationwide program would assist the United States in reaching its emissions targets.

Recently, Agriculture Secretary Tom Vilsack announced the recipients of a grant program that aims to revitalize urban areas through community forestry grants.⁶¹ While this is a relatively modest program in terms of its funding (\$900,000) and scope,⁶² programs like this should be expanded to urban areas around the country. As a consequence of the current economic downturn, there are many former business and industrial centers in urban areas (“brownfields”)⁶³ that could be re-purposed as green spaces or as constructed wetlands. The benefits of urban green spaces are widely known and constructed wetlands have been shown to provide valuable ecosystem services at a lower cost than traditional methods.⁶⁴ Ultimately, these improvements could act as an urban carbon sink, provide local and global ecosystem services, and enhance the aesthetic appeal of previously abandoned areas.

CONCLUSION

While these initiatives may appear overly ambitious or unlikely, they present a more pragmatic approach to addressing one of the most profound and complex challenges of our time. Other proposals for geoengineering are more expensive, less reliable, non-deployable, and likely to stir political controversy. In contrast, reforestation and albedo management are relatively apolitical policies that are readily deployable. Furthermore, with the climate bill currently pending in the U.S. Senate,⁶⁵ the nation has a unique opportunity to enact new domestic initiatives that could have both national and global benefits. While it is undoubtedly important to conduct further research and continue to debate the effectiveness and risks associated with geoengineering, we do possess effective methods for sequestering carbon and managing planetary albedo. But every day of inaction and lack of leadership brings the world closer to the harsh consequences and realities of a planet in great peril.



Endnotes: Readily Deployable Approaches to Geoengineering: Cool Materials and Aggressive Reforestation

¹ See William F. Ruddiman, *How Did Humans First Alter Global Climate?*, *SCI. AM.*, Mar. 2005.

² *Id.*

³ *Id.*

⁴ K.L. Denman, et al., *Couplings Between Changes in the Climate System and Biogeochemistry*, in *CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS* 542 (S. Solomon, et al. (eds.), Cambridge Univ. Press 2007), available at http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Ch07.pdf.

⁵ *Id.*

⁶ Ruddiman, *supra* note 1, at 51.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*

¹⁰ National Geographic, *Facts, Deforestation Information, Effects of Deforestation*, <http://environment.nationalgeographic.com/environment/global-warming/deforestation-overview.html> (last visited Feb. 10, 2010).

Endnotes: Readily Deployable Approaches to Geoengineering: Cool Materials *continued on page 63*

U.S. CLIMATE CHANGE POLICY V. INTERNATIONAL TRADE RULES: COMPLYING WITH GATT

by Tina R. Goel*

The Copenhagen negotiations did not result in the global environmental treaty desired by many, but, instead, in plans to reduce greenhouse gas (“GHG”) emissions or carbon intensity from fifty-five nations, including China, India, and the United States.¹ The U.S. pledge, to reduce emissions by seventeen percent, came with a catch: Congressional action.² Enacting federal climate change legislation in the United States has been difficult because policymakers fear that increased regulation may place domestic industry at a competitive disadvantage, and that production facilities will relocate, thereby causing carbon leakage—the movement of emissions to a less regulated country—and associated U.S. job losses.³ Manifesting these fears, the Senate resolved, in 1997, that the United States should not consent to an international agreement that does not limit emissions from developing countries.⁴

Monumentally, in June 2009, the U.S. House of Representatives passed H.R. 2454, the American Clean Energy and Security Act (“ACES”):⁵ legislation designed, in part, to reduce GHG emissions by placing a cap on emissions and issuing a certain number of permits, or allowances, for the release of the emissions.⁶ One measure, intended to alleviate carbon leakage, grants to eligible domestic sectors allowance rebates, and another, the International Reserve Allowance Program (“IRAP”) requires importers of foreign goods to submit international reserve allowances (“IRA”).⁷ Although Congress is unlikely to enact ACES, due in part to a similar Senate bill, future legislation is likely to contain comparable language.⁸

Domestic rebates and importer allowance requirements, such as those in ACES, are likely to violate U.S. obligations under the General Agreement on Tariffs and Trade (“GATT”).⁹ GATT prohibits the use of trade-restrictive measures, i.e., taxes, laws and regulations, to protect domestic industry, but it allows their use to achieve legitimate environmental goals.¹⁰ In particular, Article I prohibits discrimination by member nations between “like” products from different nations, and Article III prohibits discrimination between “like” imported and U.S. goods.¹¹ These rules are tempered by the Article XX General Exceptions, pursuant to which member nations may employ measures violating substantive provisions for the achievement of limited policy goals, including the “conservation of exhaustible natural resources.”¹²

The importer allowance requirement in ACES is likely to violate GATT Articles I and III because it treats “like” products dissimilarly. IRAP requires importers to submit IRAs based upon a “general [calculation] methodology” to ensure that imported and U.S. goods are subject to similar GHG emissions requirements.¹³ The calculation is likely to violate Article I if it treats “like” foreign goods from two countries dissimilarly based upon

non-product specific factors such as sector or economy-wide GHG emissions.¹⁴ Five exceptions to IRAP largely exclude imported goods from the program based upon factors that indirectly indicate if the imported goods are regulated similarly to “like” U.S. goods, e.g., whether the imported goods originate in countries with a binding emissions agreement, rather than whether fewer emissions were actually released during the manufacture of the product.¹⁵ These exceptions are also likely to treat “like” domestic and imported products differently, violating Article III.

ACES is also likely to violate Article III by failing to provide equality of competitive conditions for “like” U.S. and imported goods by providing domestic actors avenues to lower compliance costs unavailable to foreign producers. Domestic actors may demonstrate compliance by holding international and domestic allowances, offset credits, and compensatory allowances; banking and borrowing allowances; submitting allowances received for “free;” or paying a penalty for non-compliance, while importers may only submit and bank IRAs.¹⁶ As a result, only domestic actors may determine whether it is cost-effective to violate ACES and pay a penalty or invest in forestry projects to earn offsets rather than buy allowances, while importers do not have such options.¹⁷

Nonetheless, GATT Article XX permits certain trade-restrictive environmental measures and arguably should permit the use of measures that “accurately assess carbon leakage and competitiveness losses” and impose a “fair” price upon imported products.¹⁸ To ensure that U.S. legislation is covered by the Article XX exception, IRAP and its implementing regulations should require importers to submit allowances based upon a methodology that accurately accounts for emissions. To avoid disparate treatment between “like” products of two countries or between “like” imported and domestic products, IRAP should calculate allowance requirements based upon product-specific GHG emissions rather than economy-wide or sector-specific emissions. In addition, importers should be permitted to submit offset credits, as well as other allowances, and borrow allowances to equalize competitive conditions between “like” domestic and imported products. Moreover, to further the goals of ACES, exceptions should only be granted when an imported product is manufactured with fewer emissions than a “like” U.S. product, thereby challenging domestic actors to reduce emissions.



Endnotes: U.S. Climate Change Policy v. International Trade Rules: Complying with GATT *continued on page 64*

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EQUITABLE BUT INEFFECTIVE: HOW THE PRINCIPLE OF COMMON BUT DIFFERENTIATED RESPONSIBILITIES HOBBLER THE GLOBAL FIGHT AGAINST CLIMATE CHANGE

by Mary J. Bortscheller*

INTRODUCTION

Scientists now predict that despite global efforts to reduce greenhouse gas emissions, climate change effects like long-term droughts and significant sea-level rise are inevitable.¹ Consequently, the climate change crisis demands a comprehensive international response, with meaningful participation by all the major greenhouse gas (“GHG”) emitters.² The current climate regime embodied in the Kyoto Protocol distinguishes between developed and developing countries in a way that maintains an invidious inertia in the international fight against climate change.

China is a major GHG emitter that does not have any obligations to reduce emissions under the Kyoto Protocol, the current binding international climate change regime.³ The international community took a fresh look at the Protocol at the 15th Conference of the Parties (“COP”) in Copenhagen in December 2009. A critical question at that time was whether China would agree to reduce its GHG emissions; China’s position impacts the global community’s ability to combat climate change because other major GHG emitters (most notably the United States) have used China’s lack of binding commitments to justify their non-participation in the Kyoto Protocol.⁴ Positive signs were evident during and in the wake of the Copenhagen COP, however, when China played a key role in drafting the Copenhagen Accord, and further acknowledged the need for all countries to take action to fight climate change.⁵ Notably, China agreed to international verification of domestic mitigation measures, a significant step towards increased transparency in the regime.⁶

The fight against climate change is necessarily a global one, and China’s full participation in the United Nations’ Framework Convention on Climate Change (“UNFCCC”) is especially crucial in the short term.⁷ And although the Copenhagen COP did not produce a binding document, future COPs will. In so doing, the international community must reassess the application of the principle of common but differentiated responsibilities (“CDR”), which divides countries into two primary categories—developing and developed—and determines obligations accordingly.⁸

This article examines China’s unique situation within the UNFCCC and argues that the current interpretation of CDR is politically and practically flawed because it leaves out emerging economies that are major GHG emitters. The principle of CDR, as currently applied, does not distinguish among developing nations

in a way that recognizes the critical importance of emerging economies like China.⁹ China and other large emerging economies, no longer fit comfortably in the CDR’s existing developing country category.¹⁰ A third category is therefore necessary to encompass emerging economies like China. The international climate regime’s failure to actively engage China presents a problem for the entire international community.¹¹ Indeed, as an emerging economy and a major GHG emitter, and as an international actor whose participation in the climate regime impacts other major emitters’ compliance, it is essential that China actively participates in the successor agreement to the Kyoto Protocol.¹² Current incentives in the Protocol are not sufficient to persuade China to accept emission reduction commitments; consequently, the next protocol requires a combination of extra-legal incentives to convince China to take a more active role.¹³ Further, while China has made statements about working together within the UNFCCC structure, the United States and other developed countries have not yet succeeded in persuading China to accept binding commitments in a climate change regime.¹⁴

COMMON BUT DIFFERENTIATED RESPONSIBILITIES

In recognition of the daunting environmental problems it faces, China is shifting toward increased domestic environmental responsibility, making resource conservation and environmentalism major policy goals.¹⁵ China’s commitment to the international fight against climate change, however, is not on par with other major emitters like the United States and Europe because it does not involve any GHG emissions reductions.¹⁶ This situation results from the application of CDR in the international climate change regime.¹⁷ The presence of the principle of CDR, in turn, is the result of a complex negotiation process between developing and developed countries.

During the UNFCCC negotiations in 1992, both developed and developing countries had concerns about who would be the first to reduce GHG emissions, and who would finance the associated costs.¹⁸ Developed countries wanted an inclusive international agreement for maximum effect and legitimacy.¹⁹ Developing countries hesitated to commit themselves to reduction targets when they had historically not contributed to global

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greenhouse gas stocks, nor benefited from such emissions in the form of elevated standards of living.²⁰ Thus, in order to reach a comprehensive international agreement that brought all the necessary players to the table, the first COP used the principle of CDR to strike a political compromise with continuing legal implications.²¹

The principle makes developed countries the first actors in reducing emissions, and allows developing countries to follow over time. The notion of common but differentiated responsibilities is not new: it reflects general principles of equity in international law.²² The principle was present in nascent form in the 1987 Montreal Protocol, which acknowledged the “special situation” of developing countries by allowing them to delay their compliance with Protocol control measures for ten years.²³ The UNFCCC has attempted to duplicate this successful model in a climate change context.²⁴

CDR DISTINGUISHES BETWEEN DEVELOPED AND DEVELOPING COUNTRIES

The principle of CDR now embodied in the UNFCCC means that two factors determine a nation’s obligations concerning climate change. The first factor is a particular nation’s contribution to climate change through GHG emissions; the second is its economic and technological capacity to reduce emissions.²⁵ The CDR is primarily backward-looking, as it focuses on past contributions to existing stocks of emissions and lays out responsibilities intended to have remedial effects.²⁶

Based upon the two central considerations of CDR, the UNFCCC distinguishes between member countries, with the primary division occurring between developed and developing country parties.²⁷ Though the developed/developing paradigm dominates in the Convention, there is also intra-group differentiation between types of developed countries and types of developing countries.²⁸

In practice, the principle of CDR means that developed countries are subject to binding commitments to cut GHG emissions.²⁹ Further, certain developed countries are responsible for money and technology transfer to aid developing countries in adapting to and mitigating the effects of climate change.³⁰ In contrast, the UNFCCC does not require developing countries to reduce emissions or contribute funding, because of their minor contribution to existing GHG stocks and their reduced economic and technological capacity.³¹ Moreover, the Convention pays special attention to the plight of so-called “least developed countries,” as well as countries that will be especially harmed by climate change.³²

Country designation as Annex I or II is self-imposed.³³ In other words, the Conference of the Parties to the UNFCCC is not vested with the power to determine which countries are developed and which are developing. Rather, any country desiring to be included in Annex I or II “may” notify the Secretary-General of the United Nations that it “intends to be bound” by developed country commitments.³⁴ There are no further provisions in the UNFCCC or the Kyoto Protocol that elaborate on the process of categorizing member nations.³⁵ This makes the international law-making process on climate change especially vulnerable

to political horsetrading, as entering into binding agreements is entirely voluntary for countries designated under the UNFCCC as “developing.”

As the first measure arising from the UNFCCC with binding commitments carrying the force of law, the Kyoto Protocol set specific emission reduction commitments for each developed country party.³⁶ To date, 183 nations and the European Community have ratified the instrument; the United States is the only developed country party that has not.³⁷ Developing countries have no binding commitments under the Kyoto Protocol but do agree to monitor emissions, promote sustainable development, and cooperate with the Conference of the Parties in mitigating and adapting to the impacts of climate change.³⁸ China is designated a developing country party, and therefore did not commit itself to any emissions targets when it signed and ratified the UNFCCC and subsequent Kyoto Protocol.³⁹ The highly-anticipated December 2009 Copenhagen COP did not produce a binding successor-instrument to the Kyoto Protocol, but instead resulted in the Copenhagen Accord.⁴⁰

CHINA’S UNIQUE SITUATION IN THE INTERNATIONAL CLIMATE CHANGE REGIME

CDR guides China’s official position with respect to the international climate change regime.⁴¹ As a self-designated developing country party, China’s current obligations under the Kyoto Protocol extend only to soft commitments like GHG monitoring and information-sharing, promoting sustainable development, and enhancing carbon-absorbing resources, like forests.⁴² A key contributor to the drafting of the Copenhagen Accord in December 2009 at the Copenhagen COP, China nonetheless remains among the group of countries which is not legally obligated to reduce GHG emissions.⁴³

One of China’s chief strategies for addressing global climate change is to “uphold” the principle of CDR, which currently allows China to avoid emissions reduction commitments.⁴⁴ In support of its position, China advances several arguments, noting the nation’s relative poverty, its relatively low per capita emissions, and low level of responsibility for the existing stock of GHG emissions.⁴⁵ Moreover, China argues that it would not be fair to deprive a developing nation of the right to emit freely in the course of its development, as developed countries have already done.⁴⁶

Although China underscores its low development status, recent history shows that the country is unique among developing nations, as it has rapidly gained stature in the international community.⁴⁷ Starting in 1979 with its Reform and Opening Policy, China has implemented an ambitious plan to modernize the once-marginalized nation.⁴⁸ An illustration of China’s remarkable success at modernization is the 2008 Beijing Olympic Games, which engaged the world with China in an unprecedented way. The last decade has made it clear that China is an increasingly dominant player on the global stage.⁴⁹

Even as China gains prominence in the international community, its GHG emissions and air pollution problems are mounting; stark statistics detailing the situation abound.⁵⁰ Perhaps most

importantly, China now leads the world in annual GHG emissions.⁵¹ Further, a recent World Bank report estimated that air pollution causes about 750,000 deaths per year in China.⁵² The World Bank also reported that the nation is home to sixteen of the world's twenty most-polluted cities.⁵³ Atmospheric brown clouds, produced by automobile emissions and coal-fired power plants, have reduced sunlight and interfered with crop yields in several cities.⁵⁴

In light of these facts, the Chinese government has given more attention to environmental issues.⁵⁵ Because environmental degradation has emerged as an increasingly popular cause of citizen activism, China's leadership will not be able to ignore the issue in the future.⁵⁶ With an eye on its own continued legitimacy, the Chinese Communist Party ("CCP") is concerned with the delicate balancing of continued economic growth against the domestic and international imperatives for environmental protection.⁵⁷

A SOUND PRINCIPLE, WITH FLAWED APPLICATION

In its stated terms, CDR is sound and equitable; it has widespread acceptance in the international community, and will continue to play a central role in climate negotiations.⁵⁸ Although some scholars find the principle objectionable, their opposition arises out of a different interpretation of what is equitable for developed and developing country parties.⁵⁹ Critics argue that it is too difficult to predict the differentiated needs of developing countries in light of scientific uncertainty about the specifics of adverse climate change impacts.⁶⁰ While it is true that some scientific uncertainty remains about the impacts of climate change, widespread agreement exists that developing countries will bear a disproportionate amount of damages from climate change.⁶¹ Therefore, the principle of CDR correctly seeks to bridge the divide.

Detractors also find it questionable that multi-lateral environmental agreements should hold developed countries accountable for their historic emissions stocks, finding it unjust to ask modern-day citizens to make amends for pollution emitted generations ago.⁶² This argument fails to acknowledge the benefits that current generations have derived and continue to derive from living in a developed country. For example, a high standard of living, solid infrastructure, and economic strength are all after-effects of development and industrialization achieved through significant pollution.⁶³ Because citizens of developed countries currently enjoy the fruits of past GHG emissions, it is only fair to require those nations to bear a greater burden in solving the climate change problem.

THE PRINCIPLE OF CDR IN APPLICATION IS POLITICALLY INEFFECTIVE

Notwithstanding the soundness of CDR, the principle is problematic because it has created a paradigm that, if it persists, will not allow the nations of the world to effectively combat global warming.⁶⁴ The current interpretation of CDR in the Kyoto Protocol is politically ineffective because its exception of emerging economy, major-emitter countries like China has a chilling effect on global climate change negotiations.⁶⁵ Because of its status as the leading GHG emitter and its rising prominence

in the international community, China's participation is especially crucial to a multilateral climate change agreement. Within the United States, the fact that the Kyoto Protocol did not include obligations for China was advanced by President Bush and prominent congressional leaders as a reason for refusing to ratify the document.⁶⁶ This is a direct result of the vague construction of the principle of CDR in the current climate regime.

For example, the regime does not sufficiently distinguish between developing countries like China and Botswana.⁶⁷ The closest it comes to distinguishing between developing country parties is to emphasize the need to help developing countries that are "particularly vulnerable" to the adverse impacts of climate change.⁶⁸ Accordingly, China frames its policy statements on climate change to fit this characterization; indeed, a recent government White Paper echoes the UNFCCC's provision distinguishing the especially susceptible developing countries.⁶⁹ By describing itself as a country that is "particularly vulnerable" to climate change, China seeks to fit its increasingly square reality into the round hole of the developed country category of the UNFCCC.⁷⁰ Unfortunately, the language of the UNFCCC is not sufficiently specific to prevent such subtle mischaracterizations, which then lead to an undesirable result.⁷¹

China's willingness to accept increased responsibility under a more nuanced interpretation of the CDR could contribute significantly to the success of a post-Kyoto regime.⁷² On the other hand, without at least some corresponding commitments by China, the United States is unlikely to commit to the Kyoto Protocol's successor.⁷³ The interpretation of the CDR and the concomitant assignment of obligations, therefore, have major political implications for the success of a multilateral climate regime.

THE PRINCIPLE OF CDR IN APPLICATION IS PRACTICALLY INEFFECTIVE

Any climate change agreement that excludes China and other emerging economies from emission reduction targets will not have practical utility because these countries' rates of emissions are increasing rapidly. Although China leads the world in GHG emissions, it is in complete compliance with the Kyoto Protocol under the current interpretation of CDR.⁷⁴ Indeed, emissions from China and other developing nations are growing so fast today that even if all developed countries reduced their emissions to zero, emissions from developing countries will cause global concentrations of GHGs to increase by over eighteen percent in sixty years.⁷⁵ This would be a dramatic increase, as GHG concentrations have increased by thirty-five percent in the last 200 years, and this comparatively gradual shift has set in motion the current climate change crisis.⁷⁶ These facts illustrate the present danger in failing to engage developing countries—particularly China—in more concrete efforts at long-term GHG emissions reduction.⁷⁷ A continued application of CDR in a way that allows major-emitter, developing countries to avoid reduction targets will result in a considerable amount of GHG emissions left unregulated.⁷⁸

Moreover, because CDR is chiefly backward-looking, it does not provide any mechanism to adapt to the evolving global reality.⁷⁹ The principle is now focused on the existing stocks of

emissions that were produced when the major economies of the United States and Europe industrialized and thus does not account for the current and future emissions of emerging economies.⁸⁰ The remedial nature of the principle of CDR in the UNFCCC is necessary, as developed nations emitted the majority of the current stock of greenhouse gases in the atmosphere, and they are comparatively well-situated to reduce emissions.⁸¹ Nevertheless, it is not sufficient for the principle to be merely backward-looking because China and other developing countries are making significant current contributions to the global stock of emissions, and will continue to do so in increasing proportions.⁸² Without consideration for future emissions, the current application of CDR excludes major portions of emissions from regulation and therefore hinders the overall effectiveness of the climate change regime.⁸³

NO CATEGORY CURRENTLY EXISTS TO PROPERLY ADDRESS EMERGING ECONOMIES LIKE CHINA

The current division of obligations created by the principle of CDR in the Kyoto Protocol lacks a proper category to encompass China, an emerging economy and major-emitter that continues to develop rapidly.⁸⁴ The Protocol adopts the language of CDR from the UNFCCC, and does not further differentiate among the group of developing country parties.⁸⁵ Rather, it re-emphasizes the distinctions of the UNFCCC, calling on the Annex I developed country parties to implement policies that minimize the adverse effects of climate change, including the adverse impacts on other developing country parties and “especially” those types of developing countries listed in Article 4.8 of the UNFCCC.⁸⁶

Despite China’s efforts to depict itself as one of the developing countries that is “particularly vulnerable” to adverse climate change impacts, economic data does not support that characterization.⁸⁷ Further, recent history—from the Beijing Olympics to China’s influence on global financial issues—also contradicts the idea that China is a developing country by demonstrating its relatively advanced level of development and sophistication.⁸⁸ Plainly China does not fit into the same developing country category as the least developed countries in Africa or especially-vulnerable small island nations, and thus should not have similar rights and obligations.⁸⁹

Furthermore, it is highly relevant that China recently passed the United States as the leading global emitter of GHGs because it demonstrates the shifting realities of the climate change crisis.⁹⁰ China may well want to maintain the current unnuanced construction of CDR, which allows it to self-categorize as a developing country without binding reduction commitment targets. If the world were not in such a precipitous position with regard to climate change—as most scientists agree it is—under basic principles of equity China would not be required to take the measures the moment now demands of them.⁹¹ Consequently, a set of differentiated responsibilities that allow a major-emitting country like China to go unregulated is fundamentally flawed.⁹²

Although China does not fit into the current developing country category, neither does it fit in with the developed countries of Annex I and Annex II.⁹³ For all of its recent progress, China

has not yet fully industrialized and continues to develop both its physical infrastructure and its economy.⁹⁴ A useful metaphor is to envision China as consisting of a set of relatively developed islands located in a sea of people living in developing country conditions.⁹⁵ Indeed, hundreds of millions of Chinese remain in poverty, a characteristic China distinctly does not share with the developed nations in Europe or the United States.⁹⁶ According to the 2008 World Development Index, all of the Annex I and Annex II countries qualified as highly developed; China, by contrast, has only medium development.⁹⁷ Neither a developed, nor a least developed country, China does not fit into either category under the current application of the principle of CDR.⁹⁸

THE UNFCCC NEEDS A NEW CATEGORY OF EMITTER TO ENSURE GREATER PARTICIPATION

Although member countries must agree to be bound by the protocols of the UNFCCC, there is no clear mechanism in the Convention to determine the degree to which each country will be bound.⁹⁹ Therefore, the regime relies upon individual actors’ sense of responsibility for damage done to a common good—the climate—and provides little else as incentive to commit to reducing emissions. The UNFCCC as a legal instrument relies on self-designation and elective commitments made in the global public interest.¹⁰⁰

China and other emerging economies are unlikely to undertake the costly and burdensome task of reducing GHG emissions solely in the interest of an international common good.¹⁰¹ Therefore, because it lacks both the teeth to impose binding commitments upon parties and sufficient incentives to draw parties to voluntarily commit, the UNFCCC has very few legal tools at its disposal to obtain increased commitments out of unwilling parties.

THE INTERNATIONAL COMMUNITY MUST USE A VARIETY OF INCENTIVES IN CLIMATE NEGOTIATIONS

To many observers and participants, the 2009 Copenhagen COP ended rather disappointingly, without a binding successor to the Kyoto Protocol.¹⁰² The international community, however, retains the opportunity, and in fact the imperative, to create a more effective climate change agreement in the near future. The division of responsibilities under the CDR is one area that must be revised.

China could be persuaded by a combination of extra-legal incentives to participate in a future international climate regime that entails binding commitments.¹⁰³ The incentives include the prospect of increased global stature and an opportunity to efficiently solve an international problem that domestically poses great dangers, as well as pressure from internal and external sources.¹⁰⁴

The first key incentive for China to accept binding commitments in a successor to the Kyoto Protocol would be to mitigate the serious threats that climate change impacts pose to Chinese public health.¹⁰⁵ As China’s GHG emissions increase, it will become more difficult for the Chinese government to ignore the link between outdoor air pollution and mortality.¹⁰⁶ Significantly reducing GHG emissions could deliver important improvements in public health while also contributing to the global effort to

fight climate change.¹⁰⁷ Second, greater participation in the post-Kyoto regime would provide a corresponding opportunity for China to influence the design of the next international climate change agreement to their national benefit.¹⁰⁸ Because successful international regimes distribute net benefits to participating countries, if China takes the lead among developing nations in fighting global climate change, its position at the negotiating table will be enhanced and benefits flowing to China from the structure of the plan would reflect that position.¹⁰⁹ Finally, greater participation in the fight against climate change would further enhance China's reputation as an international leader and indicate to the world that China envisions a leadership role that involves greater global responsibility.¹¹⁰

In addition to the incentives directly derived from greater commitment to fighting climate change, China faces pressure to act from domestic as well as foreign sources.¹¹¹ Within China, intense GHG emissions have translated to incredible air pollution, which in turn has caused a corresponding public health problem.¹¹² This situation poses a threat to the legitimacy of the CCP, which has thus far focused on rapid development at the expense of environmental quality.¹¹³ Further, the danger of widespread civil unrest over climate change impacts is real.¹¹⁴ China may need to take more aggressive action on air pollution and climate change and deliver tangible results in order for the CCP to maintain control over the country.¹¹⁵

Finally, China may face increasing pressure to reduce emissions from developing countries that are not enjoying a similar economic boom.¹¹⁶ For example, small island developing countries and those countries the UNFCCC designates as least developed may resent that China lacks binding commitments yet is a major GHG emitter.¹¹⁷ Likewise, developing countries that are not experiencing rapid economic development should take a more aggressive and vocal role in negotiations. Developing nations, on average, will suffer greater costs than developed countries in the wake of significant climate change.¹¹⁸ These actors must rally support during the international climate negotiations for all major emitters to take responsibility in reducing emissions.


Although the UNFCCC does not include many legal tools, the COP could pursue other strategies to obtain greater Chinese participation. If engaged in a general appeal to enlightened pragmatism, China may agree to some binding commitments in the successor to the Kyoto Protocol so long as it can expect both global and domestic net benefits.¹¹⁹

A NEW CATEGORY FOR HIGH-EMITTING, EMERGING ECONOMIES

If China can be persuaded to commit to reducing emissions in an international climate change regime, this could involve the creation of a category creating obligations at a level somewhere in between those of developed and developing countries parties. Because the principle of CDR applied in the Kyoto Protocol already has created distinctions within both the developed and the developing country categories, the post-Kyoto regime could carry the differentiation one step further to take into account emerging economies.

Specifically, one option would be to create a third distinct category for China and other similarly-situated countries like India and Indonesia.¹²⁰ This category would require emerging economies to reduce emissions to a lesser degree than developed nations, but their commitments would increase over time as the emerging economies attain developed nation status. In a converse construction to the relationship between Annex I and Annex II countries, emerging economies would commit to some binding emission reduction targets, and would continue to receive the benefit of money and technology transfer from developed countries in Annex I.¹²¹ China would certainly fall into an emerging economy category and thus could be subject to a set of commitments occupying the middle ground between developed countries and developing countries.¹²²

CONCLUSION

Climate change is a complex, daunting problem requiring a high degree of international cooperation for any effective solution. Thus far, the nations of the world have agreed on the existence of a problem, but a functional solution remains elusive.¹²³ The Copenhagen Accord represents a step in the right direction, as major-emitting, emerging economies like China and India have signaled their intent to engage in the UNFCCC in the future.¹²⁴ Going forward at subsequent COPs, China and the rest of the world must reexamine the current interpretation of CDR, and realize that a more nuanced categorization model is necessary. China can and must be persuaded—perhaps through an appeal to Chinese pride and pragmatism—to accept binding emissions-reduction quotas in a revised application of the principle of common but differentiated responsibilities.¹²⁵ Although achieving such goals will be difficult, it is nevertheless incumbent upon the global community to seek out a feasible international regime to fight the adverse impacts of climate change. 

Endnotes: Equitable But Ineffective: How the Principle of Common But Differentiated Responsibilities Hobbles the Global Fight Against Climate Change

¹ See Juliet Eilperin, *Long Droughts, Rising Seas Predicted Despite Future CO2 Curbs*, WASH. POST, Jan. 27, 2009, at A4 (reporting the results of an international study showing that such impacts could persist for as long as 1,000 years).

Endnotes: Equitable But Ineffective: How the Principle of Common But Differentiated... *continued on page 65*

LEGAL FOUNDATIONS FOR NGO PARTICIPATION IN CLIMATE TREATY NEGOTIATIONS

by Winfield J. Wilson*

During the Copenhagen climate change negotiations in December 2009,¹ as the talks concluded tensely for government representatives,² coalitions of environmental groups were disappointed because their efforts to play a participatory role had been frustrated.³ The silencing of the nongovernmental organization (“NGO”) perspective runs counter to established international principles of broad participation in multilateral environmental agreements (“MEAs”),⁴ and is particularly troubling in light of the global challenge climate change poses to humanity.

At the beginning of the second of two weeks of the negotiations, as pressure mounted for the talks to produce a meaningful and binding treaty, logistics and site-management broke down at the conference center and the UN suspended observer registration, leaving thousands literally standing in the cold.⁵ On a broader level, the lockout prompted NGO leaders to invoke international principles on public involvement in MEAs in a letter to political leaders, which cited the 1992 Rio Declaration and the UN Commission on Sustainable Development’s Agenda 21 language that “non-governmental organizations play a vital role in the shaping and implementation of participatory democracy.”⁶ More pointedly, NGOs considered the lockout a Danish violation of the Aarhus Convention,⁷ which provides for public participation in MEA decision-making as vital for accountable governance and effective environmental protection.⁸


NGOs could claim a violation of the Aarhus Convention’s Articles 6, 7, or 8, on public participation in environmental decision-making.⁹ The challenge for NGOs, however, is that only Parties are bound by these articles and can enforce them, and NGOs are not Parties.¹⁰

While the Convention provides negotiation and arbitration between Parties as enforcement mechanisms, additional measures for compliance have been further outlined in subsequent Convention Decisions made during Meetings of the Parties at Lucca, Italy and Almaty, Kazakhstan.¹¹ Notably under these Convention Decisions, members of the public including NGOs may submit formal communications to the Compliance Committee and allege a violation, subject to some procedural requirements.¹² Based on the Lucca and Almaty Decisions, NGOs could petition for a compliance action against Denmark for the administrative actions that led to the exclusion of observers at the conference center in Copenhagen. Ultimately, however, compliance rests with the Parties when they decide whether to take action at Meetings of the Parties, although they do take into

account the reports from the Compliance Committee.¹³ Even though NGOs would not be able to force Denmark to comply with the Convention, such an action could create publicity and ongoing pressure on future hosts of the United Nations Framework Convention on Climate Change (“UNFCCC”).

However, invocation of participatory requirements of the Aarhus Convention is also limited in geographic scope, as only some European and Eurasian countries are Parties, and does not include many of the largest nations and greenhouse gas emitters, for example, the United States or China.¹⁴ Notably, the next Conference of the Parties (“COP”) of the UNFCCC is in Mexico, also not a party to Aarhus, leaving open the possibility of exclusion of NGOs from that meeting.¹⁵

The UNFCCC has draft rules of procedure that could serve as the basis for greater public participation, but it has not adopted them, even though it, in effect, operates under them.¹⁶ These draft rules do include provisions on public participation, but are not nearly as inclusive and ambitious as the goals set out in the Aarhus Convention.¹⁷ The draft rules, which allow for observers to attend and participate without any voting privileges,¹⁸ should be adopted by the UNFCCC as a first step to ensuring NGO participation.

In order to be more comprehensive and consistent with the Rio Declaration, Agenda 21, and the Aarhus Convention, the UNFCCC should further create procedures providing the opportunity for meaningful public participation at all climate meetings, regardless of location. At a minimum, the UNFCCC should write and adopt new rules that specifically address the logistics of observer participation at every meeting. Ideally, affirmative rights to petition for public participation, which embrace the principles of MEAs and create a progressive and democratic process, will also be created.¹⁹ The universal problem of climate change impacts every person on the globe and climate negotiations must provide legal protection for public participation to ensure an inclusive and effective solution. 

Endnotes: Legal Foundations for NGO Participation in Climate Treaty Negotiations *continued on page 69*

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BOOK REVIEW

BOOK REVIEW: STORMS OF MY GRANDCHILDREN: THE TRUTH ABOUT THE COMING CLIMATE CATASTROPHE AND OUR LAST CHANCE TO SAVE HUMANITY

by James Hansen

Reviewed by Lauren Trevisan*

In the recently released *Storms of My Grandchildren*,¹ NASA physicist James Hansen presents analyses that have led the majority of the global scientific community to conclude that climate change is not only real, but also a danger to posterity. The book, which is Hansen's first, chronicles the last eight years of his journey as a government scientist interacting with policymakers and increasingly, with the public. He describes how his growing concern about the hazards of inaction led him to leave the comfort of the laboratory and enter the public sphere. Despite disappointing interactions with politicians, censorship by the Bush administration, and criticism for his tenacity, Hansen has maintained his unyielding and optimistic view that humanity can avert the most extreme consequences of climate change. However, he makes it very clear: we must act now to do so.

Hansen's story begins on his sixtieth birthday, March 29, 2001, the day he was invited to attend the first meeting of the Vice President's Climate Task Force. Hansen was optimistic going into the meeting, taking his invitation as a sign that the Bush administration planned to make good on its campaign promises to reduce carbon dioxide. However, this meeting, and several other cabinet-level presentations, proved to be disappointments; Hansen's urgent recommendations were cherry-picked or ignored completely. Evidencing his bipartisan approach to politics, Hansen does however give credit where credit is due. After his initial meetings with the Bush administration, the White House did take steps to reduce methane emissions and regulate soot from cars and trucks; however, the administration dismissed Hansen's urgent call for carbon dioxide reductions.

In part, Hansen attributes the Bush administration's inaction to simultaneous presentations given by Dr. Richard Lindzen, whom Hansen calls the "dean of global warming contrarians." Hansen's difficulty in being pitted against Lindzen in those meetings seems to epitomize the broader environmental

and scientific communities' difficulties in confronting climate skeptics. Hansen explains that "Lindzen makes qualitative statements that sound reasonable, and he raises technical matters that a layperson cannot assess, making it sound like there is an argument among theorists." Hansen addresses and clarifies these perceived inconsistencies and identifies them as part of the motivation behind political inaction.


Although the perceived divide among scientists has lent itself to slow-to-nonexistent policy changes, Hansen devotes a large portion of his book to decry the role of special interests in policy making. Hansen argues that the short-term, profit-driven focus of special interests, in particular the fossil fuel industry, fundamentally conflicts with the long-term solutions needed to deal with climate change. The impact of special interests is part of what drove Hansen to enter the public sphere. He states that "[t]he public, if well informed, has the ability to override the influence of special interests Scientists can play a useful role if they help communicate the climate change story to the public in a credible, understandable fashion." While seemingly straightforward and logical, Hansen's reasoning proved to be highly controversial.

Hansen details his numerous public appearances and the almost instantaneous pushback he received. Despite threats from Bush-era NASA Office of Special Counsel, Hansen went ahead with several presentations on climate change, speaking as a public citizen and not a government employee. Hansen entered the public sphere after being widely quoted in the press for comments about Bush administration censorship of scientific data and disregard for scientific results that went against its prerogatives. Hansen's description of his 2006 *60 Minutes* interview and others gives an insight into the impact his outspoken approach to

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climate change had within NASA, even prompting the removal of a portion of its mission statement that Hansen used to begin his talks: “to understand and protect our home planet.”

Hansen presents his journey from laboratory scientist, to government advisor, to public advocate, while simultaneously using science to explain the history, differing theories, and alternative future scenarios of climate change. To address climate change effectively, knowledge is key; Hansen endeavors and succeeds in presenting this knowledge in his book. He acknowledges the complexity of the issue, but refuses to allow that to be an obstacle. In the later portion of the book, Hansen provides

recommendations for advocacy: namely increased renewable energy production and energy efficiency, an end to the use of coal, and the use of nuclear energy. For these objectives to be realized requires widespread, active public involvement. Hansen does not disparage politicians or public office; rather, he emphasizes the importance of citizens engaging in the political process and making their voices heard. *Storms of My Grandchildren* is at its core, a call to well-informed action. In the final pages, Hansen juxtaposes photographs of his grandchildren with his urgent and direct message that “[y]ou will need to be a protector of your children and grandchildren . . . [i]t is our last chance.” 

Endnotes: Book Review

¹ JAMES HANSEN, *STORMS OF MY GRANDCHILDREN: THE TRUTH ABOUT THE COMING CLIMATE CATASTROPHE AND OUR LAST CHANCE TO SAVE HUMANITY* (2009).

ENDNOTES: IMPLICATIONS OF THE COPENHAGEN ACCORD FOR GLOBAL CLIMATE GOVERNANCE *continued from page 15*

¹⁸ For more on the issues facing the Obama Administration with respect to Copenhagen, see David Hunter, *International Climate Negotiations: Opportunities and Challenges for the Obama Administration*, XIX DUKE ENVTL. L. & POL'Y FORUM 247 (2009).

¹⁹ Barack Obama, President-Elect, Address to the Global Climate Summit: A New Chapter on Climate Change (Nov. 17, 2008) [hereinafter Obama Climate Speech], available at <http://www.youtube.com/watch?v=hvG2XptIEJk>.

²⁰ Juliet Eilperin, *Developing Nations Plan Emission Cuts*, WASH. POST, Dec. 12, 2008, at A10, available at <http://www.washingtonpost.com/wp-dyn/content/article/2008/12/11/AR2008121103822.html>; see also Raymond Colitt, *Brazil Pledges to Cut Amazon Destruction in Half*, REUTERS, Dec. 1, 2008, <http://www.reuters.com/article/environmentNews/idUSTRE4B04G420081201> (discussing Brazil's commitment to decrease its deforestation rate); Vanessa Gera, *Mexico Pledges 50 Percent Cut in Greenhouse Gases*, ABC NEWS, Dec. 11, 2008, <http://abcnews.go.com/Business/wireStory?id=6439878> (discussing Mexico's commitment to reduce its emissions); Sheryl Gay Stolberg, *Richest Nations Pledge to Halve Greenhouse Gas*, N.Y. TIMES, July 9, 2008, at A1, available at <http://www.nytimes.com/2008/07/09/science/earth/09climate.html> (discussing G-8 leaders' commitment to cut greenhouse emissions in half by 2050 and South Africa's minister of environmental affairs' being vocal about not wanting to support efforts that result in a “regression from what is required to make meaningful change”); Justin Gerdes, *Poznan Edition, Week 2: CCC Councilor Steve Chu Looks to be Next U.S. Energy Secretary*, COPENHAGEN CLIMATE COUNCIL, Dec. 12, 2008, <http://www.copenhagenclimatecouncil.com/get-informed/news/poznan-edition-week-2-ccc-councillor-steve-chu-looks-to-be-next-u-s-energy-secretary.html> (discussing the Mexican Environmental Secretary's statement regarding Mexico's vow to halve emission rates).

²¹ *Natural Res. Def. Council, Inc. v. EPA*, 464 F.3d 1, 4 (D.C. Cir. 2006).

²² UNFCCC, *Draft protocol to the Convention prepared by the Government of Australia for adoption at the fifteenth session of the Conference of the Parties*, U.N. Doc. FCCC/CP/2009/5 (June 6, 2009), available at <http://unfccc.int/resource/docs/2009/cop15/eng/05.pdf>.

²³ UNFCCC, *Draft implementing agreement under the Convention prepared by the government of the United States of America for adoption at the fifteenth session of the Conference of the Parties*, U.N. Doc. FCCC/CP/2009/7 (June 6, 2009), available at <http://unfccc.int/resource/docs/2009/cop15/eng/07.pdf>.

²⁴ See, e.g., Suzanne Goldenberg & Jonathan Watts, *US Aims for Bilateral Climate Change Deals with China and India*, THE GUARDIAN (Oct. 14, 2009), available at <http://www.guardian.co.uk/environment/2009/oct/14/obama-india-china-climate-change>.

²⁵ Press Release, The White House, President to Attend Copenhagen Climate Talks (Nov. 25, 2009), available at <http://www.whitehouse.gov/the-press-office/president-attend-copenhagen-climate-talks>.

²⁶ *EU climate package explained*, BBC, Nov. 26, 2009, <http://news.bbc.co.uk/2/hi/europe/7765094.stm>.

²⁷ For further discussion of the legal status of the Accord, see Jacob Werksman, “Taking Note” of the Copenhagen Accord: What It Means, World Resources Institute, Dec. 20, 2009, available at <http://www.wri.org/stories/2009/12/taking-note-copenhagen-accord-what-it-means>; Jacob Werksman & Kirk Herbertson, *The Legal Character of National Actions and Commitments In a Copenhagen Agreement: Options and Implications* (World Resources Inst., Working Paper), available at http://pdf.wri.org/working_papers/legal_character_of_national_actions_and_commitments_in_a_copenhagen_agreement.pdf; Jacob Werksman & Kirk Herbertson, *The Aftermath of Copenhagen: Does International Law have Role to Play in a Global Response to Climate Change?* (Mar. 22, 2010) (unpublished manuscript, on file with the Sustainable Development Law & Policy Publication).

²⁸ Bali Action Plan, *supra* note 11, dec. 1/CP.13.1(a).

²⁹ UNFCCC, *supra* note 1, art. 2.

³⁰ UNFCCC, *Copenhagen Accord*, ¶ 1, available at http://unfccc.int/files/meetings/cop_15/application/pdf/cop15_cph_auv.pdf.

³¹ *Id.*, ¶ 2.

³² *Id.*, ¶ 12.

³³ *Id.*, ¶ 4.

³⁴ *Id.*

³⁵ *Id.*, ¶ 5.

³⁶ *Id.*

³⁷ *Id.*

³⁸ For a full list of country commitments and other information submitted under the Copenhagen Accord, see <http://unfccc.int/home/items/5262.php>. The Climate Action Network is also maintaining information about country commitments to the Accord, see <http://www.usclimatenetwork.org/policy/copenhagen-accord-commitments>.

³⁹ This chart is adapted from CHRIS WOLD, DAVID HUNTER & MELISSA POWERS, *Updates and Supplement to Climate Change and the Law* (2009), Chapter 9 bis, available at <http://www.lclark.edu/livewhale/download/?id=3828>.

⁴⁰ Kelly Levin & Rob Bradley, *Comparability of Annex I Emission Reduction Pledges 2* (World Resources Inst.: Feb. 2010); *Copenhagen Pledges Fall short of 2C Target, Says UN Climate Chief*, THE GUARDIAN, Feb. 2, 2010, <http://www.guardian.co.uk/environment/2010/feb/02/climate-change-target-copenhagen-un>.

⁴¹ See, e.g., Copenhagen Accord, *supra* note 29, ¶ 5 (“Those mitigation actions [identified by non-Annex I countries] in national communications or otherwise communicated to the Secretariat will be added to the list in appendix II”).

⁴² 350.org, <http://www.350.org> (last visited Mar. 17, 2010).

⁴³ Copenhagen Accord, *supra* note 29, ¶ 5.

⁴⁴ *Id.*

⁴⁵ *Id.*

⁴⁶ *Id.* ¶ 4.

⁴⁷ Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries, Draft Decision -/CP.15, FCCC/AWGLCA/2009/L.7/Add.6, available at <http://unfccc.int/resource/docs/2009/awglca8/eng/l07a06.pdf>.

⁴⁸ Copenhagen Accord, *supra* note 29, ¶ 6.

⁴⁹ For a thorough treatment of the many issues surrounding climate finance in the lead-up to Copenhagen, see Athena Ballesteros, Smita Nakhooda & Jacob Werksman, *Power, Responsibility, and Accountability: Re-Thinking the Legitimacy of Institutions for Climate Finance*, (World Resources Inst. Working Paper).

⁵⁰ Copenhagen Accord, *supra* note 29, ¶ 8; see also Suzanne Goldenberg, *US bids to break Copenhagen deadlock with support for \$100bn climate fund*, THE GUARDIAN (Dec. 17, 2009), available at <http://www.guardian.co.uk/environment/2009/dec/17/us-copenhagen-100bn-climate-fund>.

⁵¹ Copenhagen Accord, *supra* note 29, ¶ 8.

⁵² World Resources Institute, Summary of Climate Finance Pledges Put Forward by Developed Countries, http://pdf.wri.org/climate_finance_pledges_2010-03-04.pdf.

⁵³ Copenhagen Accord, *supra* note 29, ¶ 9.

⁵⁴ *Ban unveils new high-level advisory group to spur action on climate change*, UN NEWS CENTRE, Feb. 12, 2010, available at <http://www.un.org/apps/news/story.asp?NewsID=33748>.

⁵⁵ See, e.g., Ballesteros, et al, *supra* note 49, at 10-11 (summarizing various proposals leading up to Copenhagen).

⁵⁶ Copenhagen Accord, *supra* note 29, ¶ 10.

⁵⁷ *Id.* ¶ 8.

⁵⁸ *Id.* ¶ 11.

⁵⁹ *Id.* ¶ 8.

⁶⁰ *Id.*

⁶¹ *Id.* ¶ 10.

⁶² See generally Juliet Eilperin & Anthony Faiola, *Climate Deal Falls Short of Key Goals*, WASH. POST, Dec. 18, 2009, available at <http://www.washingtonpost.com/wp-dyn/content/article/2009/12/18/AR2009121800637.html> (describing the last minute negotiations of the Accord).

⁶³ For more on climate finance, see Ballesteros, et al, *supra* note 49; BENEDICT KINGSBURY, BRYCE RUDYK & RICHARD STEWART, EDs., CLIMATE FINANCE: REGULATORY AND FUNDING STRATEGIES FOR CLIMATE DEVELOPMENT (2009).

⁶⁴ See generally www.worldbank.org/climatechange.

⁶⁵ For a more thorough analysis of the implications of the Copenhagen Accord, see Jakob Werksman, Program Dir., Inst. and Governance Program, World Resources Inst., Address at the American University Washington College of Law Environmental Law Society Symposium: Climate Change in a Changing Economic Environment (Mar. 4, 2010).

⁶⁶ Kyoto Protocol, *supra* note 2.

ENDNOTES: STANDARDIZATION OF REDD MONITORING TECHNOLOGY TO LEVEL THE PLAYING FIELD *continued from page 16*

¹ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CONTRIBUTION OF WORKING GROUP III TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE: TECHNICAL SUMMARY 27 (2007), available at <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-ts.pdf>. See Conference of the Parties Fifteenth Session, Copenhagen, *Copenhagen Accord*, ¶ 6, U.N. Doc. FCCC/CP/2009/L.7 (Dec. 18, 2009) [hereinafter *Copenhagen Accord*], available at http://unfccc.int/files/meetings/cop_15/application/pdf/cop15_cph_auv.pdf.

² See *Copenhagen Accord*, *supra* note 1, ¶¶ 5-6.

³ See Australian Government Department of Climate Change, International Forest Carbon Initiative, <http://www.climatechange.gov.au/government/initiatives/international-forest-carbon-initiative.aspx> (last visited Feb. 16, 2009) [hereinafter Australian International Forest Carbon Initiative]; GREGORY P. ASNER, CARNEGIE INST. FOR SCI. & ENVTL. DEF. FUND, MEASURING CARBON EMISSIONS FROM TROPICAL DEFORESTATION: AN OVERVIEW 9 (2009), available at http://www.edf.org/documents/10333_Measuring_Carbon_Emissions_from_Tropical_Deforestation—An_Overview.pdf.

⁴ See CONSERVATION INT’L ET AL., TECHNICAL FEASIBILITY OF REDD MAPPING AND MONITORING, http://www.edf.org/documents/10536_Technical_Feasibility_of_REDD_Mapping_and_Monitoring.pdf (last visited Feb. 16, 2010) [hereinafter TECHNICAL FEASIBILITY]; Rhitu Chatterjee, *An Eye in the Sky Watching Forests Disappear*, SCI. & DEV. NETWORK, July 8, 2009, <http://www.scidev.net/en/features/an-eye-in-the-sky-watching-forests-disappear-1.html> (last visited Feb. 19, 2010).

⁵ E.g., Carnegie Institution for Science, Carnegie Landsat Analysis System, <http://claslite.ciw.edu/en/index.html> (last visited Feb. 16, 2009); Global Observation of Forest and Land Cover Dynamics, Overview, <http://www.fao.org/gtos/gofc-gold/overview.html> (last visited Feb. 16, 2009); Global Terrestrial Observing System, <http://www.fao.org/gtos/index.html> (last visited Feb. 16, 2009); NASA Land-Cover and Land-Use Change Program, <http://lcluc.umd.edu/index.asp> (last visited Feb. 16, 2009) [hereinafter NASA]; U.S. Geological Survey, USGS Global Visualization Viewer, <http://glovis.usgs.gov/> (last visited Feb. 16, 2009); Colorado State University, Natural Resource Ecology Labora-

tory, Agriculture and Land Use National Greenhouse Gas Inventory Software, <http://www.nrel.colostate.edu/projects/ghgtool/software.php> (last visited Feb. 16, 2009); Australian Government, Department of Climate Change, National Carbon Accounting Toolbox, <http://www.climatechange.gov.au/government/initiatives/ncat.aspx> (last visited Feb. 16, 2009).

⁶ UNFCCC, REDD Web Platform—Methodologies and Tools—Remote Sensing, http://unfccc.int/methods_science/redd/methodologies/remote_sensing/items/4540.php (last visited Feb. 16, 2009); UNFCCC, REDD Web Platform—Technical Assistance—Data Collection, http://unfccc.int/methods_science/redd/technical_assistance/data_collection/items/4533.php (last visited Feb. 16, 2009); UNFCCC, REDD Web Platform—Technical Assistance—Training Activities, http://unfccc.int/methods_science/redd/technical_assistance/training_activities/items/4534.php (last visited Feb. 16, 2009); UNFCCC, REDD Web Platform—Technical Assistance—Other Technical Assistance, http://unfccc.int/methods_science/redd/technical_assistance/other/items/4535.php (last visited Feb. 16, 2009) [hereinafter UNFCCC Other Technical Assistance].

⁷ See TECHNICAL FEASIBILITY, *supra* note 4; Chatterjee, *supra* note 4.

⁸ UNFCCC Other Technical Assistance, *supra* note 6.

⁹ See *id.* Agriculture and Land Use National Greenhouse Gas Inventory Software, Software Description, <http://www.nrel.colostate.edu/projects/ghgtool/software.php> (last visited Feb. 16, 2009).

¹⁰ UNFCCC Other Technical Assistance, *supra* note 6.

¹¹ *Id.*

¹² See Australian International Forest Carbon Initiative, *supra* note 3.

¹³ See ASNER, *supra* note 3, at 6.

¹⁴ See *Copenhagen Accord*, *supra* note 1, ¶¶ 6, 8.

¹⁵ See, e.g., Chatterjee, *supra* note 4 (discussing Carnegie, *supra* note 5).

¹⁶ See International Organization for Standardization, ISO’s Global Relevance Policy, http://www.iso.org/iso/global_relevance_policy (last visited Feb. 16, 2009).

¹⁷ See, e.g., sources cited *supra* note 5.

¹⁸ See Chatterjee, *supra* note 4.

⁵⁴ See UNFCCC, *supra* note 1, art. 6(b); KP, *supra* note 4, art. 2.1(b).
⁵⁵ UNFCCC, *supra* note 1, at pmb.; KP, *supra* note 4, art. 2.4 (mandating consideration of effects/impacts of actions as well as national circumstances, and referencing KP art. 2.1(a)) & 8.2(referring to reviews conducted pursuant to Article 7).
⁵⁶ UNFCCC, *supra* note 1, arts. 3.4, 7.2(b), 7.2(c).
⁵⁷ *Id.* art. 3.5.
⁵⁸ *Id.* art. 3.3.
⁵⁹ *Id.* art. 3.4.
⁶⁰ UNFCCC, *supra* note 1, art. 3.5 (explicitly stating measures should not “constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.”).
⁶¹ *Id.* art. 3.4.
⁶² *Id.* art. 7.2(e).
⁶³ *Id.* art. 4.1(b).
⁶⁴ *Id.* art. 4.1(f).
⁶⁵ *Id.* art. 12.1.
⁶⁶ *Id.* art. 4.2(a).
⁶⁷ *Id.* art. 4.2(a).
⁶⁸ *Id.* arts. 4.2(b), 12.2(a), 12.2(b) (expressly providing in Article 12.2(b) that an estimate of effects on anthropogenic emissions of the policies and measures must be included in the national communication).
⁶⁹ See *id.* art. 7.2(d).
⁷⁰ Compare *id.* arts. 4.3–5, with *id.* art. 12.3 (referring to activities required in Articles 4.3, 4.4, and 4.5 as “measures”).
⁷¹ Compare *id.* arts. 4.3–5, with *id.* art. 12.3 (referring to activities required in Articles 4.3, 4.4, and 4.5 as “measures”).
⁷² The COP can also take measures with respect to the financial mechanism, however, this is mandated to take place at the COP’s first session or as soon as practicable after that. UNFCCC, *supra* note 1, art. 11.4.
⁷³ See *id.* arts. 3.3, 3.4, 4.1(f) (use of words policies and measures to deal with climate change implies that policies and measures are distinct).
⁷⁴ KP, *supra* note 4, art. 10 (noting that this cannot be utilized to confer new commitments upon NAI Parties while affirming Article 4.1 of the Convention); see also *id.* art. 2.1(a)(i–vii) (specifying mitigation measures for Annex I Parties); *id.* art. 10(b)(ii) (differentiating the degree of obligation between AI and Non-AI measures); *c.f.* *id.* art. 10(b)(2) (referencing “adaptation measures” contained in national communications).
⁷⁵ See *id.* art. 13.4(c); *id.* art. 2.1(a); *id.* art. 10(b)(ii) (mandating the inclusion of measures addressing mitigation, sinks, adaptation, and capacity building in national communications).
⁷⁶ See *id.* art. 2.3 (also referencing spillover effects under the Convention); see also *id.* art. 13.4(a) (mandating the CMP to assess overall effects of measures taken, including “environmental, economic and social effects as well as their cumulative impacts and the extent to which progress towards the objective of the Convention is being achieved.”).
⁷⁷ *Id.* art. 2.1(a)(i–vii).
⁷⁸ See *id.* art. 2.4.
⁷⁹ See *id.* art. 10(b)(i).
⁸⁰ See *id.* art. 2.1(b) (explicitly referencing UNFCCC art. 4.2(e)(i)).
⁸¹ See *e.g.*, UNFCCC, *supra* note 1, arts. 4.2(a), 7.2(b).
⁸² See *e.g.*, *id.* 2, 7, 12.8.
⁸³ *Id.* arts. 3.4, 7.2(b), 7.2(c).
⁸⁴ *Id.* art. 4.2(a).
⁸⁵ *Id.* arts. 4.2(a) n.1.
⁸⁶ *Id.* art. 4.2(d) (relates to adequacy review and allows amendments to mitigation commitments in Article 4.2(a) and (b)).
⁸⁷ See *id.* art. 2.
⁸⁸ See *id.* art. 17 (specifying that ratification procedures are to be determined by the protocol itself); see also *id.* art. 19.
⁸⁹ See *id.* art. 15 (containing provisions that describe entry into force requirements similar to regular ratification procedures).
⁹⁰ See *id.* art. 16 (stating in Article 16.1 that without prejudice to annexes on dispute settlement, annexes are restricted to “lists, forms and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character” and further including an opt out procedure for entry into force of annexes and amendments to any annexes).

⁹¹ See *id.* art. 2.
⁹² See *id.* art. 7.2; see also *id.* art. 7.3.
⁹³ See *id.* art. 7.2(k), 7.3; see also *id.* art. 7.6.
⁹⁴ *Id.* art. 12.8 (specifying that Parties may submit joint national communications subject to such guidelines).
⁹⁵ *Id.* art. 7.2(f).
⁹⁶ *Id.* arts. 14.2, 14.7.
⁹⁷ See KP, *supra* note 4, art. 13.4(c)–(d) (referencing adoption of measures by Parties); *id.* art. 21.3 (concerning adoption by the CMP).
⁹⁸ See *id.* art. 1 (defining “Convention” as the agreement adopted in New York on May 9, 1992); *id.* art. 20 (specifying the process of adopting an amendment to treaty text prior to formal Party acceptance when consensus is not achievable); *id.* art. 21.3 (specifying additional processes for adoption of annexes); see also *id.* art. 18; *id.* 21.1 (“Any annexes adopted after the entry into force of this Protocol shall be restricted to lists, forms and any other material of a descriptive nature that is of a scientific, technical, procedural or administrative character.”).
⁹⁹ See *id.* art. 5.2–3; *id.* art. 4.4 (specifying that adopted commitments may alter subsequent obligations related to regional economic integration); *c.f.* *id.* art. 1 (defining “Montreal Protocol” by the agreement adopted in Montreal on September 16 1987 “and as subsequently adjusted and amended,” potentially indicating that certain adopted items may be distinct from future amendments and adjustments).
¹⁰⁰ See *id.* art. 21.4–7; see also *id.* art. 18 (“Any procedures and mechanisms under this Article entailing binding consequences shall be adopted by means of an amendment to this Protocol.”).
¹⁰¹ See generally *id.* pmb. (“[p]ursuant to the Berlin Mandate adopted by decision 1/CP.1 . . .”); see *id.* art. 2 (referencing Parties’ “policies and measures adopted under this Article, pursuant to Article 4, paragraph 2(e)(i), of the Convention.”).
¹⁰² See *id.* art. 5.2 (referring to the adoption of commitment periods); *id.* art. 7.4 (referencing guidelines for preparation of information and national communications); *c.f.* *id.* arts. 8.1, 10(a) (referencing the adoption of guidelines for information submitted under Article 7 and the adoption of guidelines for the preparation of national communications).
¹⁰³ See *id.* art. 13.4(c), (d) (specifying measures adopted by Parties).
¹⁰⁴ See Vienna Convention, *supra* note 6, art. 2.1(g) (defining “party to a State which has consented to be bound by the treaty and for which the treaty is in force.”).
¹⁰⁵ See UNFCCC, *supra* note 1, art. 1.
¹⁰⁶ See *id.* art. 7.2(c).
¹⁰⁷ KP, *supra* note 4, art. 1.6.
¹⁰⁸ See *id.* art. 1 (defining “Party” as a Party to the KP except where the context indicates otherwise, and specifying that “Party included in Annex I” means those included in Annex I and others indicating an intent to be so bound pursuant to UNFCCC art. 4.2(g)); see also *id.* art. 4.1 (explaining the relationship between UNFCCC’s COP and the KP’s CMP: “the Conference of the Parties, the supreme body of the Convention, shall serve as the meeting of the Parties to this Protocol.”).
¹⁰⁹ UNFCCC, *supra* note 1, art. 7.2(c).
¹¹⁰ *Id.* art. 7.2 (emphasis added).
¹¹¹ *Id.* art. 2.
¹¹² See *id.* art. 3.
¹¹³ See *id.* at pmb. ¶2.
¹¹⁴ See *e.g.*, Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 1673 U.N.T.S. 57, 28 I.L.M. 649, available at <http://www.basel.int/text/con-e-rev.pdf>; Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Sept. 10, 1998, 2244 U.N.T.S. 337, available at http://www.pic.int/en/ConventionText/RC%20text_2008_E.pdf; Convention on Biological Diversity, June 5, 1992, 1760 U.N.T.S. 79, available at <http://www.cbd.int/convention/convention.shtml>; Cartagena Protocol on Biosafety, Jan. 29, 2000, 2226 U.N.T.S. 208, available at <http://www.cbd.int/doc/legal/cartagena-protocol-en.pdf>; United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 397, available at http://www.un.org/Depts/los/convention_agreements/texts/unclos_e.pdf; United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, June 17, 1994, 33 I.L.M. 1328,

available at <http://www.unccd.int/convention/text/convention.php>; Convention on Long-Range Transboundary Air Pollution, Nov. 13, 1979, 18 I.L.M. 1442 available at <http://www.unece.org/env/lrtap/full%20text/1979.CLRTAP.e.pdf>; Convention on International Trade in Endangered Species of Wild Fauna and Flora, Mar. 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243 available at <http://www.cites.org/eng/disc/text.shtml>; Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Waste Within Africa, art. 4(1), Jan. 29, 1991, 2101 U.N.T.S. 177 available at http://www.ban.org/Library/bamako_treaty.html; International Tropical Timber Agreement, Jan. 27, 2006, UN Doc. TD/TIMBER.3/12, available at <http://www.itto.int/en/itta/>. The authors would like to thank Omer Duru, Andy Hosaido, and Blake Mensing for their valuable assistance in this research.

¹¹⁵ See e.g., Biosafety Clearing House, mechanism of the Cartagena Protocol, available at <http://bch.cbd.int/> (last visited Mar. 1, 2010), Conference of the Parties to the Basel Convention on the Control of the Transboundary Movements of Hazardous Wastes and Their Disposal, Geneva, Switz., Dec. 9-13, 2002 *Partnership with Industry*, Oct. 31, 2002, UNEP/CHW.6/32/Add.1, available at <http://www.basel.int/meetings/cop/cop6/english/32a1e.pdf>.

¹¹⁶ See e.g., UNFCCC, Conference of the Parties on its fourteenth session, Poznan, Pol., Dec. 1-12, 2008, *Report of the Conference of the Parties on its fourteenth session*, ¶ 8, at 6, FCCC/CP/2008/7 (Mar. 19, 2009) [hereinafter *COP-14 Report*], available at <http://unfccc.int/resource/docs/2008/cop14/eng/07.pdf> (noting that there was still no consensus on applying Rule 42 of the draft rules of procedure).

¹¹⁷ *Id.* at 6.

¹¹⁸ See UNFCCC, Conference of the Parties on its first session, Berlin, F.R.G., Mar. 28-Apr. 7, 1995, *Report of the Conference of the Parties on its first session*, ¶ 10, at 8 FCCC/CP/1995/7 (May 24, 1995), available at <http://unfccc.int/resource/docs/cop1/07.pdf> (confirming that the COP agreed to apply the draft rules provisionally, save for rule 42); *COP-14 Report*, *supra* note 116, ¶ 8, at 6; Kyoto Protocol, *supra* note 4, art. 13.5 (stating that “rules of procedure of the Conference of the Parties . . . shall be applied *mutatis mutandis*” unless “otherwise decided by consensus of the” CMP); Kyoto Protocol, Conference of the Parties serving as the meeting of the Parties to this Protocol on its fourth session, Poznan, Pol., Dec. 1-12, 2008, *Report of the Conference of the Parties serving as the meeting of the Parties to this Protocol on its fourth session*, ¶ 26, at 9, FCCC/KP/CMP/2008/11 (Mar. 19, 2009), <http://unfccc.int/resource/docs/2008/cmp4/eng/11.pdf> (demonstrating that the CMP provisionally applies the draft rules of procedure of the COP).

¹¹⁹ UNFCCC, *supra* note 1, arts. 7.3, 7.4, 7.5.

¹²⁰ UNFCCC, Conference of the Parties on its second session, Geneva, Switz., July 8-19, 1996, *Organizational Matters: Adoption of the Rules of Procedure – Note by the Secretariat*, rules 10, 12, 13, FCCC/CP/1996/2, (May 22, 1996), available at <http://unfccc.int/resource/docs/cop2/02.pdf>.

¹²¹ *Id.* at rules 9, 10, 12.

¹²² *Id.* at rule 13.

¹²³ *Id.* at rule 13.

ENDNOTES: FSM VS. CZECH: A NEW “STANDING” FOR CLIMATE CHANGE? *continued from page 24*

¹ Press Release, Ladislav Kriz, Press Officer, CEZ, a. s., CEZ Will Rebuild the Tusimice and Prunéřov Power Plants, and Wants to Build New Plants in Ledvice and Pocerady (Jan. 6, 2005), <http://www.cez.cz/en/cez-group/media/press-releases/879.html>; Press Release, Ladislav Kriz, Press Officer, CEZ, a. s., Renewal of CEZ’s Brown-Coal Resources? Opportunity for Firms in the District of Usti (Feb. 11, 2005), <http://www.cez.cz/en/cez-group/media/nuclear-power-plant-news/2733.html> (noting that CEZ Power Company is a subsidiary of the Skupina ČEZ Group).

² See Leos Rousek, *Micronesia Wants Czechs to Scrap Coal-Fired Plant Renewal*, WALL ST. J. (Jan. 15, 2010), <http://blogs.wsj.com/new-europe/2010/01/15/micronesia-wants-czechs-scrap-coal-fired-plant-czechs-may-want-more-warmth/tab/article/> (relaying the Czech Republic’s intention to complete the project by the end of January 2010).

³ See Letter from Andrew Yatilman, Dir., Office of Env’t and Emergency Mgmt, F. States of Micr., to Ministry of the Env’t of the Czech Rep. 1 (Dec. 3, 2009), available at <http://www.climate.gov/cases/country/case-documents/cz/FSM.request.TEIA.pdf>; Letter from Andrew Yatilman, Dir., Office of Env’t and Emergency Mgmt, F. States of Micr., to Ing. Karel Bláha, CSc., Deputy Minister, Dir. Gen. of the Directorate of Technical Prot. of Env’t, Ministry of the Env’t of the Czech Rep. 1 (Jan. 4, 2010), available at <http://www.pohodacez.cz/files/file/Viewpoint%20of%20FSM%20on%20renovation%20of%20Prunerov%20II%20Plant.pdf>.

⁴ See Letter from Andrew Yatilman, *supra* note 3, at 1.

⁵ See *Id.*

⁶ See Council Directive 85/337, On the Assessment of the Effects of Certain Public and Private Projects on the Environment, 1985 O.J. (L 175) (EEC) as Amended in Council Directive 97/11, 1997 O.J. (L 73) (EC) and 2003/35, art. 3 (5), 2003 O.J. (L 156) 17, 19 (EC) (requiring Member States to consider a project’s “significant effects” on the environment in another Member State).

⁷ See GREENPEACE, BACKGROUND FSM / CZECH REPUBLIC TEIA 2, http://www.greenpeace.org/raw/content/international/press/reports/teia_fsm.pdf (last visited Feb. 4, 2010) [hereinafter GREENPEACE] (noting that while EIAs frequently consider environmental impact on adjacent states, FSM’s claim is also unique in its request for such an assessment even though it is far from the source of the emission).

⁸ See Letter from Andrew Yatilman, *supra* note 3, at 1.

⁹ See *id.* at 1.

¹⁰ See *id.* at 1, 4.

¹¹ See Letter from Andrew Yatilman, *supra* note 3, at 1.

¹² See generally United Nations Economic Commission for Europe [UNECE], Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention), Feb. 25, 1991, 1989 U.N.T.S. 309.

¹³ See Council Directive 85/337, On the Assessment of the Effects of Certain Public and Private Projects on the Environment, 1985 O.J. (L 175) (EEC), amended by Council Directive 97/11, 1997 O.J. (L 73) (EC) and 2003/35, art. 3 (5), 2003 O.J. (L 156) 17, 19 (EC).

¹⁴ See zákon č. 100/2001 Sb., Posuzování Vlivů na Životní Prostředí [EIA Environment] ve znění [as amended by] zákon č. 93/2004 Sb. (based on a translated version).

¹⁵ See GREENPEACE, *supra* note 7.

¹⁶ See Council Directive 85/337, On the Assessment of the Effects of Certain Public and Private Projects on the Environment, 1985 O.J. (L 175) (EEC), amended by Council Directive 97/11, 1997 O.J. (L 73) (EC) and 2003/35, art. 3 (5), 2003 O.J. (L 156) 17, 19 (EC).

¹⁷ zákon č. 100/2001 Sb., Posuzování Vlivů na Životní Prostředí [EIA Environment] ve znění [as amended by] zákon č. 93/2004 Sb. (based on a translated version).

¹⁸ See GREENPEACE, *supra* note 7.

¹⁹ See Letter from Andrew Yatilman, *supra* note 3, at 2.

²⁰ See Directive 2008/1, Integrated Pollution Prevention and Control [IPPC], (18), 2008 O.J. (L 24) 8, 9 (EC), amending Council Directive 96/61 IPPC 1996 O.J. (L 275) (EC); see also zákon č. 76/2002 Sb., Integrovaná Prevence a Omezení Znečištění (IPPC) [Integrated Pollution Prevention and Control (IPPC)] (based on a translated version).

²¹ See Press Release, Ladislav Kriz, *supra* note 1.

²² See Press Release, Ladislav Kriz, Press Officer, CEZ, a. s., CEZ Group Wants to Reduce Greenhouse Gases Emissions by 15 per cent (Mar. 16, 2007), <http://www.cez.cz/en/cez-group/media/press-releases/779.html>.

²³ See European Commission, IPPC, *Reference Document on Best Available Techniques for Large Combustion Plants* 269 (July 2006) [hereinafter IPCC Reference Document].

²⁴ Member States, under Article 3 of the IPPC shall implement the application of BAT. Article 9 applies at the installation level, such as the Prunéřov II plant, and requires the use of BAT to establish the “emission limit values.” In addition, Article 12, requires that Member States take appropriate action to ensure that no “substantial change” proposed by the operator is made unless in accordance with this Directive. See Directive 2008/1, IPPC, art. 3, 9, 12, 2008 O.J. (L 24) 8, 9 (EC), amending Council Directive 96/61 IPPC 1996 O.J. (L 275) (EC).

²⁵ See IPCC Reference Document, *supra* note 24, at 11.

²⁶ See SCES–Group, spol. s r. o., Dokumentace Záměru Komplexní Obnova Elektrárny Pruněřov II 3 × 250 MWe dle Zákona č. 100/2001 Sb., v Platném Znění, 11, 13 (Dec. 2008), available at http://tomcat.cenia.cz/eia/download.jsp?view=eia_cr&id=MZP221&file=dokumentaceDOC (based on a translated version).

²⁷ See Letter from Andrew Yatilman, *supra* note 3, at 2.

²⁸ The BREF BAT range for thermal efficiency of an existing pulverized combustion (“PC”) lignite plant ranges from 36%–40% or an incremental improvement of more than 3%. The current efficiency level of Pruněřov II lignite plant is 33%. See *supra*, note 24, at 269; Press Release, Jan Dusík, M.Sc., First Deputy Minister and Dir. of the Foreign, Legislative and State Admin. Section, Czech Ministry of the Env’t, Ministerstvo Životního Prostředí Nechá Posoudit Obnovu Uhelné Plektrárny Pruněřov Nezávislým Mezinárodním Týmem (Jan. 26, 2010), available at http://www.mzp.cz/cz/news_tz100126prunerov_posouzeni_brifink (translation unavailable).

²⁹ See Letter from Andrew Yatilman, *supra* note 3, at 2; Press Release, Ladislav Kriz, *supra* note 1.

³⁰ See IPCC Reference Document, *supra* note 24, at 269.

³¹ See Letter from Andrew Yatilman, *supra* note 4, at 2.

³² See Press Release, Jan Dusík, *supra* note 29; see also Michael Kahn & Jan Korselt, *Micronesia Leads Czechs to Seek Power Plant Review*, REUTERS (Jan. 26, 2010), <http://uk.reuters.com/article/idUKLDE60P2C520100126>.

³³ *Id.*

³⁴ *Id.*

³⁵ See generally Press Release, Jan Dusík, *supra* note 29; see also Michael Kahn, *supra* note 29. But see Letter from Andrew Yatilman, *supra* note 4, at 1.

³⁶ On February 9, 2010, the Czech Environmental Minister Jan Dusík, announced that the ministry selected Norwegian firm DNV to review the planned expansion of the Pruněřov II plant. DNV will review: (1) the BAT as

detailed in the BREF for large combustion sources and energy efficiency; (2) the EIA process as it pertains to completeness, accuracy, and transparency; and (3) calculate and evaluate the difference in CO₂ emissions from the proposed plant and the plant conforming to the higher BAT level. The finalization of the EIA final opinion will use DNV’s report, expected in mid March of 2010, as an advisory document. See Press Release, Jan Dusík, M.Sc., First Deputy Minister and Dir. of the Foreign, Legislative and State Admin. Section, Czech Ministry of the Env’t, Mezinárodní Posouzení Záměru, Komplexní Obnova Elektrárny Pruněřov 3 x 250 MWe“ Zpracuje Konzultační Firma DNV (based on a translated version) (Feb. 9, 2010), http://www.mzp.cz/cz/news_100208_prunerov; see also Jason Hovet, *Czechs tap Norwegian firm for coal plant*, REUTERS (Feb. 9, 2010) <http://uk.reuters.com/article/idUKTRE6181UV20100209>. On March 18, 2010, the Czech Environmental Minister Jan Duskin resigned after Prime Minister Jan Fischer put pressure on him to approve state-owned CEZ’s planned expansion of the Pruněřov II plant. Duskin referenced DNV’s report indicating CEZ’s renovation would not use best available technology (“BAT”) and thus refused to approve the project. “I am not convinced that it is possible to give a positive or negative opinion with a clear conscience now, with regards to the situation in which the EIA (“Environmental Impact Assessment”) process is presently in,” Dusik said. “That’s why I decided to resign.” See Press Release, Jan Dusík, M.Sc., First Deputy Minister and Dir. of the Foreign, Legislative and State Admin. Section, Czech Ministry of the Env’t, Elektrárna Pruněřov: Ministr Dusík Odchází Z Vlády (Mar. 18, 2010), http://www.mzp.cz/cz/news_TZ_100318; see also Press Release Tisková Zpráva A Studie DNV K Záměru Obnovy Uhelné Elektrárny Pruněřov (Mar. 18, 2010), http://www.mzp.cz/cz/news_TZ_100318_DNV; Czech Enviro Minister Resigns Over Power Plant, *Business Week* (Mar. 18, 2010), <http://www.businessweek.com/ap/financialnews/D9EH85O80.htm>; Jason Hovet, *Czech Minister Quits Over Controversial Power Plant*, Reuters (Mar. 18, 2010), <http://uk.reuters.com/article/idUKLDE62H22D20100318>.

ENDNOTES: CLIMATE CHANGE AND THE REGIONAL HUMAN RIGHTS SYSTEMS *continued from page 38*

⁴ In response to Human Rights Council Resolution 7/23, the Office of the UN High Commissioner for Human Rights conducted a detailed analytical study, inviting submissions from states, intergovernmental and nongovernmental organizations, national human rights organizations, and other experts, on the implications of climate change for the enjoyment of human rights. The results were submitted with its annual report to the Human Rights Council, with Part II using this means of measuring of consequences. See Report of the Office of the United Nations High Commissioner for Human Rights on the Relationship between Climate Change and Human Rights, A/HRC/10/61, Jan. 15, 2009, pt. II.

⁵ See, e.g. *id.* pt. III (detailing the relevant national and international human rights obligations of states).

⁶ Parallel Workshop on Climate Change and Human Rights, Presented at the 2009 Global Humanitarian Forum Geneva on Human Impact of Climate Change, June 23–24, 2009, available at http://www.ghf-ge.org/Portals/0/pdfs/climate_change_and_human_rights_wk.pdf (identifying individual petitions before the regional human rights systems as one of four avenues for legal recourse using human rights law).

⁷ Council of Europe, *supra* note 3, at 4 (describing international environmental law as “a law of co-operation, in which States undertake commitments to support each other[] to address global concerns”).

⁸ Despite positive developments in laying the groundwork for future negotiations, UNFCCC COP-15 failed to result in a comprehensive agreement on climate change. Video: Press Briefing by UNFCCC Executive Secretary Yves de Boer on the Outcome of Copenhagen and the Way Forward in 2010, Jan. 20, 2010, available at http://www.youtube.com/watch?v=lgNkkBHIZqg&feature=player_embedded (describing Copenhagen as “not a complete success”).

⁹ For example, the United States has not ratified the American Convention on Human Rights and does not accept the jurisdiction of the Inter-American Court of Human Rights.

¹⁰ In each system, the enforcement of judgments relies on the political weight and moral authority of the Council of Europe, the Organization of American States (“OAS”), and the African Union. Whereas the European system formally charges the Council of Ministers to enforce judgments of the European Court

of Human Rights, the role of the OAS in enforcement is not explicit, but rests on moral weight and political pressure rather than threat of sanctions. See Lea Shaver, *The Inter-American Human Rights System: An Effective Institution for Regional Human Rights Protection?*, 9:4 WASHINGTON U. GLOBAL L. STUD. REV., available at <http://ssrn.com/abstract=1437633>. In the African system, “blatant disregard” for the recommendations of the African Commission is more widespread. Fekadeselassie F. Kidanemariam, *Enforcement of Human Rights under Regional Mechanisms: a Comparative Analysis* (2006) (unpublished LL.M. thesis, University of Georgia School of Law), available at http://digitalcommons.law.uga.edu/cgi/viewcontent.cgi?article=1079&context=stu_llm (last visited Mar. 3, 2010).

¹¹ See, generally, Kidanemariam, *supra* note 10.

¹² Cross-referencing Article 22, which articulates a people’s collective right to economic, social, and cultural development, Article 24 of the Charter enshrines a people’s “right to a general satisfactory environment favourable to their development.” African (Banjul) Charter on Human and Peoples’ Rights, adopted June 27, 1981, arts. 22, 24, available at http://www.africa-union.org/official_documents/Treaties_%20Conventions_%20Protocols/Banjul%20Charter.pdf.

¹³ See, e.g., The Social and Economic Rights Action Center and the Center for Economic and Social Rights / Nigeria, Comm. No. 155/96, Decision ACHPR/COMM/A044/1 ¶ 52 (2002) (stating that Article 24 of the Banjul Charter “imposes clear obligations upon a government . . . to take reasonable and other measures to prevent pollution and ecological degradation, to promote conservation, and to secure an ecologically sustainable development and use of natural resources”), available at <http://www.cesr.org/downloads/AfricanCommission-Decision.pdf>.

¹⁴ ACHPR Resolution, *supra* note 3.

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations Resulting from Global Warming Caused by Acts and Omissions of the United States, Dec. 7, 2005 [hereinafter Inuit Circumpolar Petition], available at <http://www.inuitcircumpolar.com/files/uploads/icc-files/>

FINALPetitionICC.pdf.

¹⁸ American Declaration of the Rights and Duties of Man, Adopted by the 9th International Conference of American States, Bogota, Colombia, 1948, *available at* <http://www.cidh.org/Basicos/English/Basic2.American%20Declaration.htm>. Although the American Declaration was originally adopted as a declaration rather than a binding instrument, both the Inter-American Commission on Human Rights and the Inter-American Court of Human Rights have interpreted it as a source of international obligations for members of the Organization of American States. Inter-American Commission on Human Rights, Introduction, http://www.cidh.org/Basicos/English/Basic1.%20Intro.htm#_ftnref5 (last visited Feb. 16, 2010).

¹⁹ Inuit Circumpolar Petition, *supra* note 9, at 1-9.

²⁰ *Id.* at 5 (noting that the rights violated arise either from the American Declaration or other international human treaties binding on the United States).

²¹ *Id.* at 103-110.

²² Shaver, *supra* note 10.

²³ Inuit Circumpolar Petition, *supra* note 9, at 13-69.

²⁴ Center for International Environmental Law, The Inuit Case, http://www.ciel.org/Climate/Climate_Inuit.html (last visited Feb. 16, 2010).

²⁵ Letter from the IACHR to representatives of the Inuit Circumpolar Conference, EarthJustice, and CIEL, Ref: Global Warming and Human Rights, Hearing – 127th Ordinary Period of Sessions, Feb. 1, 2007, *available at* http://www.ciel.org/Publications/IACHR_Response_1Feb07.pdf.

²⁶ Video: General Hearing on Global Warming and Human Rights, IACHR 127th Ordinary Period of Sessions, Mar. 1, 2007 [hereinafter Hearing], *available at* http://www.oas.org/OASpage/videosasf/2007/03/CIDH_1.wmv (question of Commissioner Paulo Sergio Pinheiro).

²⁷ *Id.* (question of Commissioner Victor Abromovich) (author's translation).

²⁸ *Id.* (question of Commissioner Santiago Canton).

²⁹ *Id.* (question of Commissioner Paulo Sergio Pinheiro).

³⁰ *Id.* (response of Martin Wagner, Earthjustice Managing Attorney).

³¹ Attorney Martin Wagner discussed the then-pending case, *Massachusetts v. Environmental Protection Agency* (EPA), 49 U.S. 497 (2007), in which the U.S. Supreme Court determined that GHGs constitute air pollutants covered by the Clean Air Act and therefore subject to regulation by the EPA. But, as he pointed out, the Clean Air Act does not offer a mechanism for individuals to obtain compensation for violations resulting from government failure to regulate, because under U.S. tort law, a tort claim can only be brought if the government waives its sovereign immunity, which is highly unlikely. Moreover, Wagner pointed out that the rights at issue in this case, such as the right to culture, are not guaranteed in the U.S. constitution or U.S. law. *Id.* (response of Martin Wagner, Earthjustice Managing Attorney). Paul Crowley, the Canadian attorney for Sheila Watt-Cloutier, noted that similar barriers to legal recourse exist in Canada. *Id.* (response of Paul Crowley).

³² Hearing, *supra* note 26 (response of Donald Goldberg, CIEL Senior Attorney).

³³ *Id.* (question of Commissioner Victor Abromovich) (author's translation).

³⁴ Council of Europe, *supra* note 3, at 11.

³⁵ *Id.* at 12.

³⁶ *Id.*

³⁷ *Id.* at 13.

³⁸ Council of Europe, *supra* note 3.

ENDNOTES: INDUSTRY CRIES FOUL TO EPA'S ATTEMPT TO REGULATE GHG EMISSIONS USING THE CLEAN AIR ACT

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⁶ See Notice of Issuance of the Administrator's Interpretation, 73 Fed. Reg. 80,300 (Dec. 31, 2008); Memorandum from Stephen L. Johnson, Administrator of EPA, to Regional Administrators of EPA (Dec. 18, 2008), [hereinafter Memorandum], *available at* http://www.epa.gov/nsr/documents/psd_interpretive_memo_12.18.08.pdf (proposing and financing its endangerment finding and advocating an interpretation of "subject to regulation" that permits public comment).

⁷ See generally EPA, New Source Review: Fact Sheet (Sept. 30, 2009), <http://www.epa.gov/NSR/fs20090930action.html> (last visited Feb. 5, 2010) [hereinafter Fact Sheet] (summarizing the regulation from the EPA's perspective).

⁸ *Mass. v. EPA*, 549 U.S. 497, 533 (2007) (stating that EPA "can avoid taking further action . . . if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion," but "not reach[ing] the question whether on remand EPA must make an endangerment finding, or whether policy concerns can inform EPA's actions in the event that it makes such a finding").

⁹ *Id.* at 535 (emphasis added).

¹⁰ See Clean Air Act, 42 U.S.C. § 7475(a)(4) (1990). *But cf.* EPA Protection of Environment, 40 C.F.R. § 52.21(b)(50)(iv) (2010) (using very similar language to include more regulated pollutants).

¹¹ See Regulating Greenhouse Gas Emissions under the Clean Air Act, 73 Fed. Reg. 44,354 (July 30, 2008).

¹² See Memorandum, *supra* note 6.

¹³ See Regulating Greenhouse Gas Emissions under the Clean Air Act, 73 Fed. Reg. at 44,354 (explaining that the classification of GHGs individually or as a class has impacts on the determination of BACT requirements).

¹⁴ Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 74 Fed. Reg. 49,454 (Sept. 28, 2009) (to be codified at 40 C.F.R. pt. 86 and 600).

¹⁵ See EPA, Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Clean Air Act (Dec. 18, 2009), <http://www.epa.gov/climatechange/endangerment.html> (last visited Feb. 28, 2010) (clarifying that though the finding does not impose new requirements, it is a prerequisite to regulation).

¹⁶ Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 74 Fed. Reg. 55,292 (Oct. 27, 2009) [hereinafter PSD and Title V

GHG Tailoring Rule] (to be codified at 40 C.F.R. pt. 51, 52, 70 and 71). See generally Fact Sheet, *supra* note 7 (describing the proposal as addressing "large facilities emitting over 25,000 tons of GHGs a year").

¹⁷ PSD and Title V GHG Tailoring Rule, 74 Fed. Reg. 55,292.

¹⁸ *Id.*

¹⁹ See *id.* (citing *Ala. Power Co. v. Costle*, 636 F.2d 323, 353 (D.C. Cir. 1979)).

²⁰ *Id.*

²¹ See, e.g., National Association of Manufacturers, National Association of Manufacturers' Form Comment Page, <http://namissvr.nam.org/minisites/EPA/index.aspx> (last visited Jan. 31, 2010) (encouraging comment on the EPA's tailoring rule from the perspective of the manufacturer).

²² See, e.g., H.R. REP. NO. 95-294, at 144-45 (1977); S. REP. NO. 95-172, at 96-97 (1977) ("Such a [permitting] process is reasonable and necessary for very large sources, such as new electrical generating plants or new steel mills. But the procedure would prove costly and potentially unreasonable if imposed on construction of storage facilities for a small gasoline jobber or on the construction of a new heating plant at a junior college, each of which may have the potential to emit 100 tons of pollution annually."). See also *Ala. Power Co.*, 636 F.2d at 353-54 (stating that Congress's "intention [in passing the CAA] was to identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the PSD provisions and which, as a group, are primarily responsible for emission of the deleterious pollutants that befall our nation's air. . . . [A] further look at the legislative history reveal[s] that Congress was concerned with large industrial enterprises—major actual emitters of air pollution. The draftsmen were of the view that certain small industrial facilities within these categories might actually and potentially emit less than the threshold amount."). *Id.*

²³ *But see* MIT, THE FUTURE OF COAL (2007), *available at* http://web.mit.edu/coal/The_Future_of_Coal.pdf. The cost of carbon sequestration is about \$30/ton of CO₂, although the estimate is uncertain. See *id.* at 91.

²⁴ See, e.g., S. REP. NO. 94-717, at 23 (1976) (noting that Congress did not intend to simply create delays or impair economic growth). See Clean Air Act, 42 U.S.C. § 7470 (1990) (The PSD program was intended "to insure that economic growth will occur in a manner consistent with the preservation of existing clear air resources."); H.R. REP. NO. 95-294, at 154 (1977) (legislation "not only

protect[s] public health and welfare but also assur[es] future air resources will be available for continuing the industrial and energy development so necessary for the growth of the Nation”).

²⁵ E.g., Sierra Club, Stopping the Coal Rush, <http://www.sierraclub.org/environmentallaw/coal/plantlist.asp> (last visited Feb. 5, 2010) (listing coal plant projects by state and reporting where Sierra Club is in the response process); *Lawsuit by Utah Utility Reflects GHG Woes for Coal Industry*, CARBON CONTROL NEWS, Aug. 27, 2007, available at <http://publicutilities.utah.gov/news/lawsuitbyutahutilityreflectsghgwoesforcoalindustry.pdf> (discussing the lawsuit initiated against a Californian energy company for removing its support for a power plant because of the passage of additional California laws); David Hodas, *Changing the Course Towards an Energy-Efficient Future*, ABA TRENDS, Nov./Dec. 2007, at 8 (reporting that Florida’s Public Service Commission rejected a proposal to build a \$5.7 billion coal-fired plant near the Everglades because of concerns about global warming); Patricia T. Barmeyer & John C. Bottini, *Longleaf: Georgia Court of Appeals rules in coal-fired power plant appeal*, ABA TRENDS, Nov./Dec. 2009, at 15 (illustrating that even if the utility prevails, the project is delayed).

²⁶ See Letter from Mike Simon, Stationary Source Program Manager, Idaho Department of Environmental Quality, to Tom Hornyak, Manager, Southeast Idaho Energy, LLC (Nov. 30, 2009), available at http://www.deq.idaho.gov/air/permits_forms/ptc_final/se_idaho_energy_power_county_ptc_1109_permit.pdf (issuing the permit under agreed terms).

²⁷ See Implementation of the New Source Review Program for Particulate Matter Less Than 2.5 Micrometers, 73 Fed. Reg. 28,321, 28,324 (May 16, 2008) (allowing the surrogate level to be used “until certain difficulties were resolved, primarily the lack of necessary tools to calculate the emissions of PM_{2.5} and related precursors, the lack of adequate modeling techniques to project ambient impacts, and the lack of PM_{2.5} monitoring sites”).

²⁸ See, e.g., Letter from the Solid Waste Ass’n of N. America to Env’tl. Prot. Agency (Dec. 23, 2009), available at http://swana.org/Portals/Advocacy/SWANA_Comments_on_Tailoring_Rule.pdf [hereinafter SWANA Comments] (arguing that the rule disproportionately negatively impacts the waste industry); Letter from Pamela A. Rygalski, Head of Env’t, Health, and Safety, to EPA (Dec. 23, 2009), available at <http://www.regulations.gov/search/Regs/home.html#documentDetail?R=0900006480a72213> (alleging that the rule disproportionately negatively impacts glass manufacturers).

²⁹ See SWANA Comments, *supra* note 28.

³⁰ S. REP. NO. 95-172, at 96-97 (1977); *Ala. Power Co. v. Costle*, 636 F.2d 323, 353 (D.C. Cir. 1979).

³¹ PSD and Title V GHG Tailoring Rule, 74 Fed. Reg. at Table VIII-2.

³² *Id.*

³³ See Letter from Tom Buis, Chief Executive Officer, Growth Energy, to Lisa P. Jackson, Administrator, EPA (Dec. 23, 2009), available at <http://www.regulations.gov/search/Regs/home.html#documentDetail?R=0900006480a707df> (recommending that the rule have limited applicability to GHG emission from fuel ethanol plants).

³⁴ See Letter from Susan M. Walthall, Acting Chief Counsel for Advocacy, Small Business Administration, to Lisa P. Jackson, EPA Administrator (Dec. 23, 2009), [hereinafter SBA Comments], available at http://www.sba.gov/advo/laws/comments/epa09_1223.html.

³⁵ See U.S. GOV’T ACCOUNTABILITY OFFICE, NO. GAO/GGD-00-193, REGULATORY FLEXIBILITY ACT: IMPLEMENTATION IN EPA PROGRAM OFFICES AND PROPOSED LEAD RULE 13 (2000), available at http://www.sba.gov/advo/laws/gao00_193.pdf.

³⁶ See SBA Comments, *supra* note 34; Robin Bravender, *Small Businesses See Devil in Details of EPA Greenhouse Gas Rule*, N.Y. TIMES, Jan. 11, 2010, <http://www.nytimes.com/gwire/2010/01/11/11greenwire-small-businesses-see-devil-in-details-of-epa-g-41923.html> (last visited Feb. 5, 2010) (arguing that the EPA did not sufficiently evaluate the effects of the tailoring rule on small businesses).

³⁷ See EPA, EPA ANALYSIS OF THE AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009: H.R. 2545 IN THE 111TH CONGRESS: APPENDIX 75 (2009), available at http://www.epa.gov/climatechange/economics/pdfs/HR2454_Analysis_Appendix.pdf (clarifying that this bill attempts to preserve domestic competitiveness).

³⁸ See *Hearing on Trade Aspects of Climate Change Legislation: Hearing Before the Subcomm. on Trade of the H. Comm. on Ways & Means*, 111th Cong. (2009) (statement of John J. McMackin on behalf of The Energy-Intensive Manufacturers’ Working Group on Greenhouse Gas Regulation), available at <http://waysandmeans.house.gov/media/pdf/111/mcm.pdf>.

³⁹ See Letter from Loren Yager, Director, International Affairs and Trade, U.S. Government Accountability Office, to Sen. Max Baucus, Chairman of S. Committee on Finance (July 8, 2009), available at <http://www.gao.gov/new.items/d09724r.pdf> (attaching U.S. GOV’T ACCOUNTABILITY OFFICE, NO. GAO-09-724R, CLIMATE CHANGE TRADE MEASURES: CONSIDERATION FOR U.S. POLICY MAKERS (July 2009)).

⁴⁰ See discussion *infra* notes 28-30. See generally *Climate Change Trade Measures: Estimating Industry Effects: Hearing Before the S. Comm. on Finance*, 111th Cong. (2009) (statement of Loren Yager, Director International Affairs & Trade, Gov’t Accountability Office), available at <http://www.gao.gov/new.items/d09875t.pdf>; TREVOR HOUSER ET AL., LEVELING THE CARBON PLAYING FIELD: INTERNATIONAL COMPETITION AND US CLIMATE POLICY DESIGN (Peterson Inst. for Int’l Econ. & World Res. Inst. 2008), available at http://pdf.wri.org/leveling_the_carbon_playing_field.pdf.

ENDNOTES: SEC INTERPRETIVE GUIDANCE FOR CLIMATE-RELATED DISCLOSURES *continued from page 43*

¹ Press Release, U.S. Sec. & Exch. Comm’n, SEC Issues Interpretive Guidance on Disclosure Related to Business or Legal Developments Regarding Climate Change (Jan. 27, 2010), available at <http://sec.gov/news/press/2010/2010-15.htm>.

² See Comm’n Guidance Regarding Disclosure Related to Climate Change, Release Nos. 33-9106; 34-61469; FR-82, 75 Fed. Reg. 6,295-97 (Feb. 8, 2010) (to be codified at 17 C.F.R. pt. 211, 231, 241) [hereinafter Comm’n Guidance], available at <http://frwebgate5.access.gpo.gov/cgi-bin/PDFgate.cgi?WAISdocID=103875523539+1+2+0&WAISaction=retrieve>.

³ See Perry E. Wallace, *Disclosure of Environmental Liabilities Under the Securities Laws: The Potential of Securities-Market Based Incentives for Pollution Control*, 50 WASH. & LEE L. REV. 1093, 1124-29, 1144 (1993) (illustrating that environmental disclosure can foster environmental protection by creating an incentive to solve environmental problems to preserve the market value of securities).

⁴ Cf. Andrea M. Matwyshyn, *Material Vulnerabilities: Data Privacy, Corporate Information Security, and Securities Regulation*, 3 BERKLEY BUS. L.J. 129, 202-3 (2005) (arguing, in the context of information security, that requiring disclosure helps increase awareness of problems that society faces and supports system-wide learning of better practices for both corporations and consumers through feedback loops and information sharing).

⁵ See 17 C.F.R. §§ 229.101, 229.103, 229.303, 229.503 (2010) (detailing Regulation S-K Items 101, 103, 303, and 503 which, respectively, require the disclosure of any material effect environmental compliance costs may have on earnings and competitive position; the disclosure of pending material legal proceedings; the disclosure of management’s discussion and analysis of known trends or uncertainties reasonably expected to have a material impact on sales, liquidity, revenues, or income; and the disclosure of investment risks and how they may affect the investor).

⁶ Comm’n Guidance, *supra* note 2, at 6,295-97.

⁷ See Comm’r Mary Schapiro, Chairman, Statement Before Open Commission Meeting on Disclosure Related to Business or Legislative Events on the Issue of Climate Change (Jan. 27, 2010), available at <http://sec.gov/news/speech/2010/spch012710mls-climate.htm>.

⁸ Comm’r Kathleen L. Casey, Statement at Open Meeting – Interpretive Release Regarding Disclosure of Climate Change Matters (Jan. 27, 2010) [hereinafter Comm’r Casey], available at <http://www.sec.gov/news/speech/2010/spch012710klc-climate.htm>.

⁹ See *id.* See also Tom Munteer, *Incremental Changes in Soon-to-be-Released Disclosures Unlikely to Satisfy Advocates*, 39 ENVTL. L. REP. NEWS & ANALYSIS 11145 (2009) (discussing several recent studies predicting climate change to occur over the course of the coming decades and the difficulty of

foreseeing material effects on present business plans).

¹⁰ Comm'r Casey, *supra* note 8.

¹¹ Comm'n Guidance, *supra* note 2, at 6291.

¹² CTR. FOR ENERGY & ENVTL. SEC. ET AL., RECLAIMING TRANSPARENCY IN A CHANGING CLIMATE: TRENDS IN CLIMATE CHANGE DISCLOSURE FROM 1995 TO THE PRESENT 1 (2008), available at http://cees.colorado.edu/10K_Report_Final_May_27.pdf. See also CERES ET AL., CLIMATE RISK DISCLOSURE IN SEC FILINGS: AN ANALYSIS OF 10-K REPORTING BY OIL AND GAS, INSURANCE, COAL, AND TRANSPORTATION AND ELECTRIC POWER COMPANIES IV (2009), available at <http://www.ceres.org/Document.Doc?id=473> (reviewing one hundred SEC filings submitted by companies in the electric utility, coal, oil and gas, transportation, and insurance industries and finding that fifty-nine filings made no mention of their emissions or the companies' position on climate change, twenty-eight filings did not discuss climate risks, and fifty-two filings failed to disclose actions to address climate change).

¹³ INSTITUTIONAL INVESTORS GROUP ON CLIMATE CHANGE ET AL., 2010 INVESTOR STATEMENT ON CATALYZING INVESTMENT IN A LOW-CARBON ECONOMY: INVESTORS URGE POLICYMAKERS TO ACT SWIFTLY 2 (2010), available at <http://www.iigcc.org/docs/PDF/Public/2010InvestorStatement.pdf>.

¹⁴ *Id.* at 6.

¹⁵ See Comm'n Guidance, *supra* note 2, at 6290.

¹⁶ *Id.* (citing emission reporting requirements with the Environmental Protection Agency, the California Global Warming Solutions Act, the Regional Greenhouse Gas Initiative, the Western Climate Initiative, and the Midwestern Greenhouse Gas Accord).

¹⁷ *Id.* (referring to the American Clean Energy and Security Act).

¹⁸ *Id.* at 6290-91.

¹⁹ See generally Mike Bryan et al., *Disclosing Environmental Liabilities: Recent Developments in Legal and Accounting Standards*, 18 BUS. L. TODAY 61, 64 (2009).

²⁰ See *id.* (describing how hostile shareholders might allege they would not have invested if climate-related information had been disclosed properly).

²¹ See *id.*

²² See *id.*

²³ See Kathryn Douglass, *Add One to the Arsenal: Corporate Securities Laws in the Fight to Slow Global Warming*, 13 LEWIS & CLARK L. REV. 1119, 1137 (2009) (describing Rule 10b-5 as an alternative to traditional environmental litigation, which faces difficulties with the issues of political question, causation, and standing). See also 17 C.F.R. § 240.10b-5 (2010) (providing that it is "unlawful for any person, directly or indirectly, by the use of any means or instrumentality of interstate commerce, or of the mails or of any facility of any national securities exchange, (a) To employ any device, scheme, or artifice to defraud, (b) To make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or (c) To engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security").

²⁴ See Douglass, *supra* note 23, at 1144.

²⁵ See *id.*

²⁶ See Comm'n Guidance, *supra* note 2 (providing interpretive guidance on what must be disclosed, but never making climate change related disclosure an express requirement).

²⁷ See *id.* at 6293-94 (explaining that climate-related litigation needs to be briefly described, but only if it is material, puts more than 10% of the registrant's assets at risk, or a governmental authority is a party and potential sanctions exceed \$100,000).

²⁸ See Mounteer, *supra* note 9, at 11145.

²⁹ See Comm'n Guidance, *supra* note 2, at 6290-91.

³⁰ See U.S. GOV'T ACCOUNTABILITY OFFICE, ENVIRONMENTAL DISCLOSURE: SEC SHOULD EXPLORE WAYS TO IMPROVE TRACKING AND TRANSPARENCY OF INFORMATION 4-5 (2004), available at <http://www.gao.gov/new.items/d04808.pdf>. (reporting that compliance with and enforcement of SEC environmental disclosure requirements could not be measured because SEC does not systematically track issues raised in disclosures and suggesting that SEC improve the tracking and transparency of climate-related disclosure).

³¹ See Douglass, *supra* note 23, at 1144.

³² See Wallace, *supra* note 3, at 1124-29.

³³ See Matwyshyn, *supra* note 4, at 202-3.

ENDNOTES: READILY DEPLOYABLE APPROACHES TO GEOENGINEERING: COOL MATERIALS AND AGGRESSIVE REFORESTATION *continued from page 47*

¹¹ *Id.*

¹² Josep Canadell et al., *Managing Forests for Climate Change Mitigation*, 320 SCIENCE 1456 (2008).

¹³ The second Industrial Revolution is the later period of industrialization generally characterized by larger-scale organization of industrial production rather than new technological developments. It generally dates from 1870 to the 1914, although some of the characteristics can trace back to 1850. See generally Joel Mokyr, *The Second Industrial Revolution, 1870-1914* (Aug. 2008) (unpublished manuscript) (outlining the increases in technological developments between 1870- 1914), available at <http://faculty.wcas.northwestern.edu/~jmokyr/castronovo.pdf>.

¹⁴ Carbon Dioxide Information Analysis Center, *Global Fossil-Fuel Carbon Emissions – Graphics*, <http://cdiac.ornl.gov/trends/emis/glo.html> (last visited Feb. 10, 2010).

¹⁵ *Id.*

¹⁶ Ruddiman *supra* note 1, at 46.

¹⁷ See *Environmental Treaties and Resource Indicators, Climate Change: Treaties, Indicators, and National Responses*, <http://sedac.ciesin.columbia.edu/entri/guides/sec3-climate.html> (last visited Feb. 10, 2010) (noting the political responses to climate change issues).

¹⁸ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT 53-54 (2007) [hereinafter IPCC], available at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf.

¹⁹ See *Geoengineering*, *supra* note 1.

²⁰ See IPCC, *supra* note 18.

²¹ *Geoengineering Projects That Could Offset Global Warming*, SCIENCE DAILY, Jan. 28, 2009, <http://www.sciencedaily.com/releases/2009/01/090127190338.htm> (last visited Feb. 10, 2010) [hereinafter *Geoengineering Projects*].

²² See Sanna Jaronen & Markku Oksanen, *Uncivil Engineering the Serious Problem with Further Climate Tinkering*, SCIENCE PROGRESS, Oct. 5, 2009, <http://www.scienceprogress.org/2009/10/uncivil-engineering/> (last visited Feb. 10, 2010) (explaining how geoengineering can be implemented to increase the Earth's reflectivity).

²³ *Geoengineering Projects*, *supra* note 21.

²⁴ *Id.*

²⁵ Video: U.S. Energy Secretary Dr. Steven Chu on the benefits of using white roofs, <http://www.youtube.com/watch?v=5wDlkKroOUQ> (last visited Feb. 10, 2010).

²⁶ *Id.*

²⁷ Arthur Rosenfeld, Presentation to the annual California Air Resources Board's Hagen-Smit Symposium: Cool Roofs: From Cool Cities to a Cooler World (June 3, 2009), available at http://www.energy.ca.gov/commissioners/rosenfeld_docs/index.html.

²⁸ *Id.*

²⁹ U.S. Environmental Protection Agency, *Heat Island Effect*, <http://www.epa.gov/hiri/index.htm>, (last visited Feb. 10, 2010)

³⁰ *Id.*

³¹ *Id.*

³² U.S. Environmental Protection Agency, *Cool Pavements*, <http://www.epa.gov/hiri/mitigation/pavements.htm> (last visited Feb. 12, 2010).

³³ Rosenfeld, *supra* note 27, at 23.

³⁴ *Id.*

³⁵ *Id.*

³⁶ CAMBRIDGE SYSTEMATICS, COOL PAVEMENT REPORT (2005), available at http://www.epa.gov/hiri/resources/pdf/CoolPavementReport_Former%20Guide_complete.pdf (prepared for the U.S. Environmental Protection Agency).

- ³⁷ *Id.*
- ³⁸ See George Musser, *Cool Roofs are Finally Cool*, SCI. AM., July 30, 2009, available at <http://www.scientificamerican.com/blog/post.cfm?id=cool-roofs-are-finally-cool-2009-07-30> (outlining one household's experience with sustainable roofing).
- ³⁹ See Cool Roof Rating Council, General Questions about Cool Roofing, <http://www.coolroofs.org/coolroofing.html#radiative> (last visited Feb. 12, 2010) (explaining that "cool roofs" are offered in various colors).
- ⁴⁰ *Id.*
- ⁴¹ See Rosenfeld, *supra* note 27, at 29 (opining that the same reflectivity of roofs may be implemented in automobiles).
- ⁴² Canadell, *supra* note 12, at 1456.
- ⁴³ Gordon B. Bonan, *Forests and Climate Change: Forcings, Feedbacks, and the Climate Benefits of Forests*, 320 SCIENCE 1444, 1444-1449 (2008).
- ⁴⁴ See National Geographic, *supra* note 10 (citing deforestation as a contributing factor to climate change).
- ⁴⁵ IPCC, *supra* note 18, at 33.
- ⁴⁶ *Id.* at 36.
- ⁴⁷ Oak Ridge National Laboratory – Carbon Dioxide Information Analysis Center, Recent Greenhouse Gas Concentrations, http://cdiac.ornl.gov/pns/current_ghg.html (last visited March 5, 2010).
- ⁴⁸ Canadell, *supra* note 13, at 1456.
- ⁴⁹ *Id.*
- ⁵⁰ *Id.*
- ⁵¹ *Id.*
- ⁵² *Id.* at 1457.
- ⁵³ *Id.*
- ⁵⁴ *Id.*
- ⁵⁵ *Id.*
- ⁵⁶ *Id.*
- ⁵⁷ *Id.*
- ⁵⁸ Press Release, National Institute of Standards and Technology, Technology Innovation Program, 2009 Technology R&D Competition to Address Civil Infrastructure, Manufacturing (Mar. 26, 2009), available at http://www.nist.gov/public_affairs/releases/20090326_tip_2009_comp_announce.htm.
- ⁵⁹ *Id.*
- ⁶⁰ American Clean Energy and Securities Act of 2009, H.R. 2454, 111th Cong. (2009).
- ⁶¹ Press Release, U.S. Department of Agriculture, Agriculture Secretary Vilsack Announces \$900,000 for Urban and Community Forestry Grants: Cost-share grants provide funds which are matched by recipient organizations (Oct. 28, 2009), available at http://www.usda.gov/wps/portal/tut/p/_s.7_0_A/7_0_10B?contentidonly=true&contentid=2009/10/0531.xml.
- ⁶² See *id.* (listing the ten organizations receiving grant funds).
- ⁶³ U.S. Environmental Protection Agency, Brownfields and Land Revitalization, <http://www.epa.gov/brownfields/about.htm> (last visited Feb. 12, 2010).
- ⁶⁴ See U.S. Environmental Protection Agency, Constructed Treatment Wetlands, http://www.epa.gov/owow/wetlands/pdf/ConstructedW_pr.pdf (last visited Feb. 13, 2010) (outlining the fiscal benefits of constructed treatment wetlands).
- ⁶⁵ H.R. 2454.

ENDNOTES: U.S. CLIMATE CHANGE POLICY V. INTERNATIONAL TRADE RULES: COMPLYING WITH GATT

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¹ See John M. Broder, *Countries Submit Emissions Goals*, N.Y. TIMES, Feb. 2, 2010, at A10 (discussing the emissions goals); Richard Black, *U.S. Bill 'Crucial' for Climate Talks*, BBC NEWS, Sept. 30, 2009, <http://news.bbc.co.uk/1/hi/science/nature/8283655.stm> (last visited Mar. 1, 2010) (noting expectations for the Copenhagen talks).

² See *A Refreshing Dose of Honesty: Maria Cantwell and the Politics of Global Warming*, THE ECONOMIST, Feb. 6, 2010, at 38 (discussing the commitment, the "catch," and Senator Cantwell's cap-and-dividend proposal).

³ See Black, *supra* note 1 (noting that in August 2009 Democratic senators wrote to President Obama declaring that to attract their support, any bill regulating GHG emissions would have to protect the competitiveness of U.S. companies); J.D. WERKSMAN & T.G. HOUSER, WORLD RES. INST., COMPETITIVENESS, LEAKAGE AND COMPARABILITY: DISCIPLINING THE USE OF TRADE MEASURES UNDER A POST-2012 CLIMATE AGREEMENT 1-6 (2008), available at http://pdf.wri.org/working_papers/competitiveness_leakage_and_comparability.pdf (discussing protective measures proposed in the U.S. legislature and considered by the European Union in recent years); Committee on Ways and Means, Subcommittee on Trade, *Chairman Levin Announces Hearing on Trade Aspects of Climate Change Legislation*, Mar. 17, 2009, <http://waysandmeans.house.gov/press/PRArticle.aspx?NewsID=10883> (last visited Mar. 1, 2010) (announcing a hearing to discuss the trade aspects of climate change focused upon methods to reduce carbon leakage and protect U.S. competitiveness). See also CHRIS WOLD, DAVID HUNTER & MELISSA POWERS, CLIMATE CHANGE AND THE LAW 445 (2009) (noting that the carbon leakage could be "significant"); Pew Center on Global Climate Change, *Implications for U.S. Companies of Kyoto's Entry into Force without the United States* 4-5 (2002), <http://www.pewclimate.org/docUploads/Kyoto-USBusiness.pdf> (last visited Mar. 1, 2010) (opining about the potential competitive advantage enjoyed by U.S. companies relative to companies in Kyoto Protocol signatory countries to the extent that economic costs are significant). But see WTO/UNEP REPORT (UNITED NATIONS ENVIRONMENT PROGRAMME), Trade and Climate Change vii, xviii (2009) (noting that studies to date illustrate that the cost of compliance with an emission trading scheme is relatively minor when compared to a firm's overall costs, but that such schemes are relatively young and more stringent emissions requirements may change those findings); WOLD, *supra* note 3, at 445 (arguing that the negative effects upon competitiveness are not apparent because pollution abatement costs are generally a small

portion of total operating costs and that both businesses and environmentalists argue that regulation will result in relocation, but that only the latter believes the unregulated country will become a "pollution haven").

⁴ See Byrd-Hagel Senate Resolution, S. Res. 98, 105th Cong. (1997) (expressing that "the United States should not be a signatory to any protocol to, or other agreement regarding, the United Nations Framework Convention on Climate Change of 1992 . . . which . . . (B) would result in serious harm to the economy of the United States").

⁵ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (as passed by House, June 26, 2009). This bill is also referred to by the names of its sponsors, Congressmen Waxman and Markey.

⁶ See John M. Broder, *Obama Opposes Trade Sanctions in Climate Bill*, N.Y. TIMES, June 29, 2009, at A1 (reporting that President Obama has said that ACES, along with the new automobile mileage standards and stimulus spending on research and home weatherization, represents a change in American energy policy). The bill aims to reduce GHG emissions to eighty-three percent below 2005 levels by 2050. See H.R. 2454 *supra* note 5, § 702 (establishing interim levels of three percent below 2005 in 2012 and forty-two percent below 2005 in 2030).

⁷ See H.R. 2454 *supra* note 5, § 762 (defining carbon leakage as a substantial increase of GHG emission, as determined by the Administrator, in other countries from industrial entities, if the increase is caused by an increased incremental cost of production in the U.S. as a result of implementing this Act); *id.* §§ 763-64 (providing allowance rebates to eligible domestic sectors); *id.* § 768 (establishing the International Reserve Allowance Program).

⁸ See Broder, *supra* note 6 (noting the legislative activity from Congress is far from certain); MICHAEL DWORSKY, ET AL., STANFORD INST. FOR ECON. POL'Y RES., POL'Y ANALYSIS MEMO: PROFIT IMPACTS OF ALLOWANCE ALLOCATION UNDER THE AMERICAN CLEAN ENERGY AND SECURITY (ACES) ACT 1 (2009), available at <http://www-siepr.stanford.edu/GoulderSep2009.pdf> (stating that if the Senate approves its own proposal that the entire legislature would then vote on an integrated version); Black, *supra* note 1 (noting that the Boxer-Kerry proposal introduced in the Senate on Sept. 20, 2009 aims for a higher initial emissions cut than Waxman-Markey and leaves certain provisions, such as the allocations of emissions, open for discussion). See also ALINA SYUNKOVA, NAT'L FOREIGN TRADE COUNCIL, INC., WTO – COMPATIBILITY OF FOUR CATEGORIES OF

U.S. CLIMATE CHANGE POLICY (2007), available at http://www.nftc.org/default/Trade%20Policy/Climate_Change/Climate%20Change%20Paper.pdf (discussing previous legislative proposals to address climate change). If a parallel bill passes in the Senate, a joint committee must be formed to craft a compromise. See H.R. Con. Res. 93, 108th Cong. (2003) (educating the public about how laws are enacted).

⁹ General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, Legal Instrument — Results of the Uruguay Round, 33 I.L.M. 1125 (1994) [hereinafter GATT]. See Broder, *supra* note 6 (noting that the bill contains a provision requiring the President to impose a tariff on goods imported from countries that do not act to limit their global warming emissions and that President Obama thinks such a provision could be “illegal and counterproductive”).

¹⁰ See WOLD, *supra* note 3, at 447 (noting that GATT has been successful in significantly reducing tariffs over the past 60 years); Slayde Hawkins, Note, *Skirting Protectionism: A GHG-Based Trade Restriction under the WTO*, 20 GEO. INT’L ENVTL. L. REV. 427, 430 (2008) (noting that such limitations on trade barriers are in place because they have the potential to negatively affect the world economy).

¹¹ GATT, *supra* note 9, at arts. I, III. See WOLD, *supra* note 3, at 447-8 (recognizing that Articles I and III also apply under the General Agreement on Trade in Services (“GATS”) and Technical Barriers to Trade (“TBT”) Agreement).

¹² See GATT, *supra* note 9, at art. XX (permitting measures: “(b) necessary to protect human, animal or plant life or health . . . ; [or] (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption . . .”). Such measures must “not [be] applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade.” *Id.*

¹³ See generally H.R. 2454 *supra* note 5, § 768 (establishing the international reserve allowance program).

¹⁴ See Hawkins, *supra* note 10, at 442 (discussing similar provisions in the Lieberman-Warner bill, S. 2191, 110th Cong. (2007) and concluding that requiring different allowances from different countries for “like” products violates Article I); see H.R. 2454 *supra* note 5, § 768(a)(1)(A) (specifying that the Administrator shall issue regulations regarding the details of IRAP); *id.* § 768(b) (establishing that the number of IRAs required for a covered good in an eligible industrial sector shall be adjusted for the benefit conferred by free allowances and the value of emission allowance rebates distributed to eligible domestic sectors).

¹⁵ See H.R. 2454 *supra* note 5, § 768(a)(1)(E) (excepting goods that originate in “the least developed of developing countries,” countries with de minimus GHG emissions, and countries that are party to a nationally-enforceable international agreement). Because international trade agreements provide different

standards for developing countries in other circumstances, the exception for goods originating in “any foreign country that the United Nations has identified as among the least developed of developing countries” may be considered appropriate. See *id.* § 768(a)(1)(E)(ii).

¹⁶ See H.R. 2454 *supra* note 5, § 722(b) (establishing the methods of demonstrating compliance for domestic actors); *id.* § 722(d) (listing the rules regarding the use of offset credits, term offset credits, and international emissions allowances); *id.* §§ 728, 737, & 743 (discussing the terms of international emissions allowances, international offset credits and domestic offset credits); *id.* §§ 725, 782 (establishing the allocation, banking, and borrowing of allowances for domestic actors); *id.* § 721(f) (compensatory allowances are permitted, under certain circumstances, for the destruction of fluorinated gases). See also DWORSKY, *supra* note 8, at 5 (concluding that ACES provides industry with more allowances than needed to maintain profits and that as a result the “most energy-intensive industries are likely to enjoy increased profits”). Cf. Matthew Nicely & Valerie Ellis, *The Potential Clash of Climate Change Policy and International Trade Law*, 4 BUS. L. BRIEF (AM. U) 4, 7 (2007) (noting that importers were largely ineligible for subsidies such as low-cost allowances through early reduction efforts, international and domestic offsets, and sequestration projects in the Low Carbon Economy Act of 2007, S. 1766, 110th Cong. (2007)). But see WTO/UNEP REPORT, *supra* note 3, at xviii (noting that the potential insufficiency of alleviations and exemptions begs the question as to whether measures to protect competitiveness and reduce carbon leakage are necessary).

¹⁷ See Nicely & Ellis, *supra* note 16, at 7 (discussing such provisions in the Low Carbon Economy Act of 2007, S. 1766, 110th Cong. (2007) and finding that opportunities for domestic industries to earn allowances at lower prices due to the time of the year, along with additional avenues to earn permits to emit greenhouse gases that are not available to importers, can result in an accusation that the U.S. is treating imported products less favorably than domestic products, because such measures lower costs of production and manufacturing for domestic producers); WOLD, *supra* note 3, at 491 (offering that some advocates claim that offsets stifle innovations because permitting compliance via investing in forest conservation is a “low-tech” solution). See also WOLD, *supra* note 3, at 491 (noting that advocates believe that banking promotes early action by lowering costs). However, banking has the possibility to disrupt emissions trading by: a) limiting innovation; b) decreasing the rates of overall emissions reductions; and c) lowering the value of allowances. *Id.*

¹⁸ WTO/UNEP REPORT, *supra* note 3, at xviii. Border adjustments, to compensate for internal taxes, are a common measure upon the sale and consumption of goods such as cigarettes or alcohol. *Id.* at xix. See generally WTO, Trade and Environment, http://www.wto.org/english/tratop_e/envir_e/envir_e.htm (last visited Mar. 1, 2010).

ENDNOTES: EQUITABLE BUT INEFFECTIVE: HOW THE PRINCIPLE OF COMMON BUT DIFFERENTIATED RESPONSIBILITIES HOBLES THE GLOBAL FIGHT AGAINST CLIMATE CHANGE *continued from page 53*

² See U.N. NEWS CENTRE, *World Has ‘Responsibility to Deliver’ in Year of Crises, Ban Declares*, Dec. 17, 2008, <http://www.un.org/apps/news/story.asp?NewsID=29337&Cr=crises&Cr1=> (last visited Jan. 29, 2009) (quoting UN Secretary-General Ban Ki-moon on the urgent need for a comprehensive and balanced international climate change regime).

³ See Kyoto Protocol to the United Nations Framework Convention on Climate Change, art. 3, Dec. 11, 1997, 37 I.L.M. 22 (1998) [hereinafter Kyoto Protocol] (requiring that only the “Parties included in Annex I shall . . . ensure that their aggregate [GHG] emissions . . . do not exceed their assigned amounts,” while China is not an Annex I party).

⁴ See Juliet Eilperin, *Developing Nations Plan Emission Cuts*, WASH. POST, Dec. 12, 2008, at A10 [hereinafter Eilperin, *Developing Nations*] (reporting that getting emerging economies like China to limit their GHG emissions is considered crucial to the success of a global climate regime); see also PEW CENTER ON GLOBAL CLIMATE CHANGE AND THE ASIA SOCIETY, COMMON CHALLENGE, COLLABORATIVE RESPONSE: A ROADMAP FOR U.S.-CHINA COOPERATION ON ENERGY AND CLIMATE CHANGE 18 (Jan. 2009) [hereinafter PEW CENTER REPORT] (emphasizing that China, along with the United States, must actively work to reduce GHG

emissions in order to solve the global climate change problem).

⁵ Barbara Finamore, *China’s Recent Steps Towards Meeting Its Climate Commitments*, Mar. 5, 2010, http://switchboard.nrdc.org/blogs/bfinamore/china_pushes_ahead.html (last visited Mar. 18, 2010) (reporting from a post-Copenhagen round-up conference in Beijing that China views Copenhagen as representing an unprecedented common political effort on a global scale to address climate change and expressing optimism that “China is not sitting still when it comes to addressing climate change”).

⁶ United Nations Framework Convention on Climate Change Conference of the Parties, Copenhagen Accord (advance unedited version) at 3 (Dec. 18, 2009) [hereinafter Copenhagen Accord] available at http://unfccc.int/files/meetings/cop_15/application/pdf/cop15_cph_auv.pdf (agreeing that Non-Annex I Parties like China will report their mitigation actions, and these reports “will be subject to international measurement, reporting and verification”).

⁷ See United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107, 31 I.L.M. 849, entered into force 1 Jan. 1989 [hereinafter UNFCCC]; see, e.g., Jonathan B. Wiener, *Climate Change Policy and Policy Change in China*, 55 U.C.L.A. L. REV. 1805, 1807 (2008) (emphasizing

that 2009 is a critical year for international climate change policy, and arguing that an international climate regime must engage China in order to solve the climate change problem).

⁸ See UNFCCC, *supra* note 7, art. 3.1 (setting forth that developed country parties should “take the lead” in fighting climate change and its adverse impacts).

⁹ See *id.*, art. 4.8 (emphasizing that the parties should pay special attention to the needs of particularly vulnerable developing countries; no reference is made to developing countries that may have more capacity to fight climate change).

¹⁰ See, e.g., Pamela Constable, *The Anti-Junket is Coming to Town: As World Leaders Converge on D.C., Nothing But Business on the Agenda*, WASH. POST, Nov. 15, 2008, at A10 (noting China’s recent participation in the G20 Summit); see also Philip Hersh, *Beijing 2008 Opening Ceremony*, L.A. TIMES, Aug. 9, 2008, at Special Section 1 (characterizing the opening ceremony of the Olympics as an announcement to the world that China’s 1.3 billion citizens were entering the 21st century).

¹¹ E.g., Kenneth Lieberthal and David Sandalow, CHINA CENTER AT BROOKINGS, OVERCOMING OBSTACLES TO U.S.–CHINA COOPERATION ON CLIMATE CHANGE 3, 26 (January 2009), available at http://www.brookings.edu/reports/2009/01_climate_change_lieberthal_sandalow.aspx (stating that both the United States and China must reduce emissions in order to adequately fight climate change and noting that China’s lack of commitments in the Kyoto Protocol was a major reason the United States rejected the Protocol).

¹² See Wiener, *supra* note 7, at 1809-10 (arguing that it is crucial for the United States, China, and other major emitters to cooperate in order to effectively reduce global GHG emissions); see also Cass R. Sunstein, *The World vs. the United States and China? The Complex Climate Change Incentives of the Leading Greenhouse Gas Emitters*, 55 U.C.L.A. L. REV. 1675, 1676 (2008) [hereinafter Sunstein, *The World vs. the United States and China?*] (observing that the practical benefits of GHG reductions depend on broad participation by major emitters).

¹³ See Kyoto Protocol, *supra* note 3, pmb. (adopting the principles and provisions of the UNFCCC, which do not include incentives to reduce emissions beyond a recognition of the common concern of mankind).

¹⁴ See *China Hopes for Major Progress at Mexico Climate Conference*, CHINA DAILY, Mar. 7, 2010, http://www.chinadaily.com.cn/china/2010-03/07/content_9550951.htm (last visited Mar. 16, 2010) (quoting Foreign Minister Yang Jiechi, “China will work actively with other countries...to tackle the climate change challenge according to the [UNFCCC], Kyoto Protocol, Bali road map and the principle of common but differentiated responsibilities.”).

¹⁵ See, e.g., Gov.cn, *Ten Features in China’s 11th Five-Year Plan*, Mar. 8, 2006, http://www.gov.cn/english/2006-03/08/content_246945.htm (last visited Feb. 18, 2009) (highlighting China’s recent policy goals to, for example, build an environmentally-friendly society).

¹⁶ See UNFCCC, *supra* note 7, at Annex I, II (demonstrating that China is not on the list of parties that have accepted binding commitments to reduce GHG emissions and assist with money and technology transfer to developing country parties).

¹⁷ See generally UNFCCC, *supra* note 7 (referencing differentiated obligations for all parties throughout the instrument).

¹⁸ See, e.g., Eilperin, *Developing Nations*, *supra* note 4, (quoting South Korea’s climate ambassador on the existence of a culture of finger-pointing and mistrust among the member countries, where each country insists that others move first to cut emissions).

¹⁹ See Cass R. Sunstein, *Of Montreal and Kyoto: A Tale of Two Protocols*, 38 ENVTL. REP. NEWS & ANALYSIS 10566, 10572 (2008) [hereinafter Sunstein, *Of Montreal and Kyoto*] (noting that a broader agreement including China and India would not only increase the global benefits of GHG reduction, but also would make plans to reduce domestic carbon emissions more palatable for the United States and other developed countries).

²⁰ See Daniel Barstow Magraw, *The Worst of Times, or “It Wouldn’t Be Cool,”* 38 ENVTL. L. REP. NEWS & ANALYSIS 10575, 10577 (concluding that this history led to a sense of inequity felt by nearly all of the developing countries, and therefore hindered the negotiation process).

²¹ See *id.* (explaining that, unlike during Montreal Protocol negotiations, developing countries were extremely reluctant to accept any binding reduction targets until developed countries indicated that they would actually reduce their emissions first).

²² See CENTRE FOR INT’L SUSTAINABLE DEV. L., THE PRINCIPLE OF COMMON BUT DIFFERENTIATED RESPONSIBILITIES: ORIGINS & SCOPE, 1 (Aug. 26, 2002), http://www.cisd.org/pdf/brief_common.pdf (last visited Jan. 7, 2009) (finding CDR to be widely accepted in treaty and state practices).

²³ Montreal Protocol on Substances that Deplete the Ozone Layer, art. 5, Sept. 16, 1987, S. Treaty Doc. No. 10, 100th Cong., 1st Sess., 26 I.L.M. 1541.

²⁴ See Sunstein, *Of Montreal and Kyoto*, *supra* note 19, at 10566, 10568 (deeming the negotiating model established by the Montreal Protocol extraordinarily successful at reversing ozone depletion).

²⁵ See Eric A. Posner & Cass R. Sunstein, *Climate Change Justice*, 96 GEO. L.J. 1565, 1607 (June 2008) (summarizing the principle as meaning that developed countries have to spend a significant amount of money on emissions reduction, while developing countries do not).

²⁶ See Sunstein, *The World vs. the United States and China?*, *supra* note 12, at 1698 (suggesting that existing stocks and current flows of emissions be considered on separate bases in determining commitments of participating countries in subsequent climate change agreements).

²⁷ See, e.g., UNFCCC, *supra* note 7, pmb. (recognizing the need for developed countries to act immediately to reduce emissions, and further recognizing that developing countries face additional challenges from climate change).

²⁸ E.g., *id.* at Annex I and Annex II (distinguishing between developed countries that have completed a transition to a market economy and those developed countries that have not).

²⁹ See *id.* art. 4.2(a) (asserting that developed countries commit themselves specifically to limit their human-generated GHG emissions to demonstrate that they “are taking the lead” under the Convention).

³⁰ See UNFCCC, *supra* note 7, arts. 4.4, 4.5 (emphasizing that developed country Parties shall assist “developing country Parties . . . in meeting costs of adaptation” to the adverse effects of climate change, and that developed countries will “take all practicable steps to promote, facilitate and finance . . . the transfer of, or access to, environmentally sound technologies and know-how to . . . developing country Parties”).

³¹ See UNFCCC, *supra* note 7, art. 3.1 (“The Parties should protect the climate system . . . on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead. . .”).

³² See *id.*, pmb. and arts. 3.2, 4.8-4.9 (recognizing that some developing countries have specific needs and special circumstances that merit differentiated treatment – such as low-lying countries; small island countries; and countries with areas prone to flooding and fragile mountainous ecosystems – and highlighting the vulnerability of the least developed countries).

³³ See UNFCCC, *supra* note 7, art. 4.2(g) (explaining that parties may shift their status under the Convention at any time).

³⁴ See *id.* arts. 4.2(g), 19.

³⁵ See generally *id.* (lacking formal guidance on how the Conference of the Parties should determine country designations for purposes of CDR differentiation).

³⁶ See United Nations Framework Convention on Climate Change, *Kyoto Protocol*, http://unfccc.int/kyoto_protocol/items/3145.php (last visited Mar. 19, 2010) (noting that while the UNFCCC encourages developed countries to reduce GHG emissions, the Kyoto Protocol actually committed them to reduction targets).

³⁷ See United Nations Framework Convention on Climate Change, *Kyoto Protocol Status of Ratification*, http://unfccc.int/files/kyoto_protocol/status_of_ratification/application/pdf/kp_ratification_20091203.pdf (last visited Mar. 19, 2010).

³⁸ See Kyoto Protocol, *supra* note 3, art. 3 (mandating that only developed countries listed in Annex I shall limit their GHG emissions); see also *id.* art. 10 (stating all Parties reaffirm existing commitments “in pursuit of the ultimate objective of the [Framework] Convention”).

³⁹ See Sunstein, *The World v. The United States and China?*, *supra* note 12, at 1682 (arguing that although China ratified the Kyoto Protocol, that decision was meaningless to the international negotiation process because China’s ratification entails no obligations).

⁴⁰ See generally Copenhagen Accord, *supra* note 6.

⁴¹ See CHINA STATE COUNCIL INFO. OFFICE, WHITE PAPER: CHINA’S POLICIES AND ACTIONS ON CLIMATE CHANGE § III (Oct. 29, 2008) available at http://www.china.org.cn/government/news/2008-10/29/content_16681689.htm [hereinafter WHITE PAPER: CLIMATE CHANGE] (citing CDR as a China guide in addressing climate change).

⁴² See Kyoto Protocol, *supra* note 3, art. 10.

⁴³ See Kyoto Protocol, *supra* note 3, art. 10; see also Copenhagen Accord, *supra* note 6, at 4, 5 (committing Annex I Parties to achieve emissions targets for 2020, and committing Non-Annex I Parties like China to implement mitigation actions).

⁴⁴ See WHITE PAPER: CLIMATE CHANGE, *supra* note 41, at § III.

⁴⁵ See *id.* at § III (maintaining that, for their part, in addressing climate change developing countries should merely adopt adaptation measures, reduce emissions as much as possible, and generally fulfill their duties under the UNFCCC); see also Sunstein, *The World v. The United States and China?*, *supra* note 11, at 1682 (noting the reasons China refused to yield to U.S.-led pressure to agree to emissions limitations under the Kyoto Protocol).

⁴⁶ See Lieberthal, *supra* note 11, at 38 (detailing China's suspicions that international demands for the nation to cut emissions are actually a thinly veiled effort to impede China's growth and development).

⁴⁷ See *The Impact of the 2008 Olympic Games On Human Rights and the Rule of Law in China: Hearing Before the Congressional Executive Commission on China*, 110th Cong. 11 (Feb. 27, 2008) (statement of Roger R. Martella, Jr., Gen. Counsel, EPA) available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_house_hearings&docid=f:41150.pdf (testifying that the Beijing Olympics demonstrated China's world-class level of sophistication and its ability to understand and address environmental issues).

⁴⁸ See Gov.cn, *China Fact File: Economic System*, http://english.gov.cn/2006-02/08/content_182584.htm (last visited Jan. 29, 2009) (explaining that economic reforms were the centerpiece of the Reform and Opening Policy, as China transitioned from a planned economy to a market economy).

⁴⁹ See, e.g., Sheryl Gay Stolberg, *As Leaders Wrestle With Downturn, Developing Nations Get Ringside Seats*, N.Y. TIMES, Nov. 15, 2008, at A13 (noting the clout of developing nations' leaders at a November 2008 G20 summit on the global economic crisis, especially Chinese President Hu Jintao, "a leader with a fat checkbook and the power that comes with it").

⁵⁰ E.g., Jonathan Watts, *China Wakes Up To the Dangers of Pollution*, THE GUARDIAN, July 18, 2007, <http://www.guardian.co.uk/environment/2007/jul/18/china.pollution> (last visited Feb. 18, 2009) (reporting that Beijing's air quality can be so poor sometimes that schoolchildren are not allowed to go outside to play at recess); see also Elizabeth C. Economy, *The Great Leap Backward? The Costs of China's Environmental Crisis*, FOREIGN AFF., Sept./Oct. 2007 at 40 (noting that GHG emissions like particulate matter and sulfur dioxide contribute to respiratory problems in Chinese citizens and cause agriculture-harming acid rain).

⁵¹ See PEW CENTER REPORT *supra* note 4, at 18 (reporting that together, China and the United States emit forty percent of global GHGs, and that while China is the current leader in annual emissions, China accounts for only eight percent of historic emissions stocks).

⁵² See Economy, *supra* note 50, at 47 (citing the World Bank report's controversial finding, which Beijing reportedly did not want publicly released, fearing incitement of social unrest).

⁵³ See Louisa Lim, *Air Pollution Grows in Tandem With China's Economy*, NATIONAL PUBLIC RADIO, May 22, 2007, <http://www.npr.org/templates/story/story.php?storyId=10221268> (last visited Mar. 19, 2010) (explaining that the main sources of pollution are industry, car emissions, and coal-processing).

⁵⁴ See Andrew Jacobs, *U.N. Report Points to Peril from Noxious 'Brown Clouds'*, N.Y. TIMES Nov. 13, 2008, at A6 (calling the resulting air a toxic mix that can cause cardiovascular and respiratory disease).

⁵⁵ See, e.g., *Tougher Law to Curb Water Pollution*, CHINA DAILY, Feb. 2, 2008, http://www.chinadaily.com.cn/china/2008-02/29/content_6494712.htm (last visited Feb. 18, 2009) (reporting on amendments to the Water Pollution Prevention and Control Act, which involve tougher punishments for polluters through increased fines); see also Steven M. Dickinson, *Energy Efficiency Law Devoid of Substance*, CHINA ECONOMIC REVIEW, Oct. 2008, http://www.chinaeconomicreview.com/columnists/teven_m_dickinson/2008_10_01/An_empty_vessel.html (last visited Mar. 19, 2010) (reporting that the primary goal of the Circular Economy Law is to increase energy efficiency).

⁵⁶ See CONGRESSIONAL-EXECUTIVE COMMISSION ON CHINA, ANN. REP. 32, 133 (2008) (observing increased participation in environmental protests in the last few years, particularly among the urban middle-class).

⁵⁷ See Economy, *supra* note 50, at 46 (describing the threat that domestic environmental problems present to the Communist Party authority).

⁵⁸ See UNFCCC, *supra* note 7, art. 3.1 (asserting the equitable basis that the parties to the Convention rely on in the climate change regime); see also Christopher D. Stone, *Common But Differentiated Responsibilities in International Law*, 98 AM. J. INT'L L. 276, 278 (chronicling the history of CDR, which is present in the Treaty of Versailles, the General Agreement on Tariffs and Trade, and various United Nations agreements); Lieberthal *supra* note 11, at 3, 55 (arguing that if the United States and China cooperate on fighting climate change, their collaboration will help establish a successful post-Kyoto agreement, and that their agreement should be based upon the principle of CDR).

⁵⁹ See, e.g., Stone, *supra* note 58, at 277-80 (arguing that CDR creates an

arbitrary distinction, and citing the principle as a primary cause of struggles in climate negotiations).

⁶⁰ See, e.g., *id.* at 290-91 (likening instruments that adhere to CDR to rescue vehicles for developing countries).

⁶¹ See Sunstein, *Of Montreal and Kyoto*, *supra* note 19, at 10571 (detailing how countries in Africa are projected to lose nearly 4 percent of their GDP from a 2.5 degree Celsius warming, whereas OECD Europe would lose 2.83 percent and the United States would only lose 0.45 percent).

⁶² See Stone, *supra* note 58, at 291-92 (arguing that the Polluter Pays principle would be a better justification for differentiated responsibilities in MEAs than general equitable considerations).

⁶³ See Lieberthal *supra* note 11, at 38 (identifying the United States' great institutional capacity and simultaneous refusal to accept GHG emissions targets as a source of resentment to China).

⁶⁴ See *id.* at 8 (noting alarming new studies that show rates of atmospheric GHG accumulation have accelerated faster than expected because of China's rapid development).

⁶⁵ Compare Kyoto Protocol, *supra* note 3, art. 3.1 (excluding emerging economies like China from emissions reduction commitments), with Sunstein, *Of Montreal and Kyoto*, *supra* note 19, at 10568-69 (correlating the Kyoto Protocol's exclusion of developing nations with the United States' refusal to ratify the instrument).

⁶⁶ See Lieberthal, *supra* note 11, at 25 (explaining the U.S. government's concern that any benefit from emissions reductions in the U.S. would be cancelled out by unregulated GHG emissions from China).

⁶⁷ See UNFCCC, *supra* note 7, art. 4.8 (including all self-designated developing countries in the same category, without quantitative commitments).

⁶⁸ See *id.* pmb1.

⁶⁹ Compare WHITE PAPER: CLIMATE CHANGE, *supra* note 41, at § I (highlighting China's fragile environment, coastal areas vulnerable to sea level rise, and areas prone to desertification), with UNFCCC, *supra* note 7, art. 4.8 (listing developing countries with "low-lying coastal areas," "liable to . . . desertification" and with "fragile ecosystems" as those most deserving of funding and technology transfer from developed countries).

⁷⁰ *Id.* Compare Central Intelligence Agency, *The World Factbook: China*, <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html> (last visited Feb. 18, 2009) (estimating China's 2008 GDP at 4.222 billion USD), with United Nations Framework Convention on Climate Change, *Vanuatu's First Report* (1999), <http://unfccc.int/resource/docs/natc/vanncl.pdf> (last visited Feb. 18, 2009) (reporting fellow developing country Vanuatu's low development status and its extreme vulnerability as a small island nation), and Central Intelligence Agency, *The World Factbook: Vanuatu*, <https://www.cia.gov/library/publications/the-world-factbook/geos/nh.html#Intro> (last visited Mar. 19, 2010) (estimating Vanuatu's 2008 GDP at 560 million USD).

⁷¹ See UNFCCC, *supra* note 7, arts. 3.1, 4.8 (failing to define clearly which countries should be subject to binding commitments and which should receive special consideration).

⁷² See John M. Broder, *Climate Goal is Supported By China and India*, N.Y. TIMES, Mar. 10, 2010, at A9 (citing EU climate commissioner Connie Hedegaard's hope that UNFCCC nations will create an enforceable climate regime by 2011).

⁷³ See Wiener, *supra* note 7, at 1809; see also Sunstein, *The World vs. the United States and China?*, *supra* note 12, at 1681 (noting the U.S. Senate's unanimous conclusion that the United States had more to lose than to gain in ratifying the Kyoto Protocol because developing country GHG emissions were exempted).

⁷⁴ See United Nations Framework Convention on Climate Change, *Compliance Under the Kyoto Protocol*, http://unfccc.int/kyoto_protocol/compliance/items/2875.php (last visited Mar. 19, 2010) (reporting that only Canada, Greece, and Croatia had compliance issues).

⁷⁵ See Wiener, *supra* note 7, at 1808 (explaining that China's actual emissions have continually exceeded predictions; for example, in 1998, the U.S. government projected that China would surpass the United States as the leader in emissions in 2030).

⁷⁶ See PEW CENTER REPORT, *supra* note 51, at 16 (describing the trajectory of climate change and predicting ever stronger impacts resulting from current emission levels).

⁷⁷ See *id.* at 15 (asserting that prospects for a successful new climate change agreement depend largely upon China's actions).

⁷⁸ See Sunstein, *The World vs. the United States and China?*, *supra* note 26, at 1685 (detailing how projections show past major GHG emitters will continue to contribute to climate change, but emerging powers like China and India will

also become significant emitters).

⁷⁹ See UNFCCC, *supra* note 7, pmb. (discussing global GHG emissions in terms of historical and current outputs) (emphasis added).

⁸⁰ Cf. Sunstein, *The World vs. the United States and China?*, *supra* note 26, at 1686 (predicting that the highest GHG emitters of the past may not be the high emitters of the future).

⁸¹ Cf. PEW CENTER REPORT, *supra* note 51, at 18 (reporting that the United States is the largest contributor to historic GHG stocks in the atmosphere, accounting for twenty-nine percent of emissions since 1850).

⁸² See Sunstein, *The World vs. the United States and China?*, *supra* note 26, at 1686 (noting projections that developing world nations like China, Indonesia, India, and Brazil are expected to contribute no less than 55 percent of total GHG emissions by 2030).

⁸³ See PEW CENTER REPORT, *supra* note 4, at 14 (arguing that the world cannot meet the climate change challenge without China's full participation).

⁸⁴ See generally Kyoto Protocol, *supra* note 3 (failing to include any reference to the special situation and special capabilities of emerging economies).

⁸⁵ See *id.* pmb. and art. 2 (stating that the parties should fulfill their obligations pursuant to the commitments articulated in Article 4 of the UNFCCC).

⁸⁶ See *id.* art. 2.3; see also UNFCCC, *supra* note 7, art. 4.8.

⁸⁷ Compare WHITE PAPER: CLIMATE CHANGE, *supra* note 41, at Foreword (asserting that China has a fragile eco-environment and is vulnerable to adverse climate change impacts), with Sunstein, *The World vs. the United States and China?*, *supra* note 12, at 1683 (contrasting the projected, comparatively minimal impact on GDP for countries like China, Russia, and the United States with the massive losses in GDP projected for African countries).

⁸⁸ See PEW CENTER REPORT, *supra* note 4, at 14 (calling China's reemergence since 1978 extraordinary, and noting the immense power China has acquired in the last thirty years).

⁸⁹ See United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing Countries, *List of Least Developed Countries*, <http://www.unohrrls.org/en/ldc/related/62/> (last visited Mar. 19, 2010) (defining forty-nine countries as "least developed;" China is not included on the list).

⁹⁰ See Elisabeth Rosenthal, *Booming China Leads the World in Emissions of Carbon Dioxide, a Study Finds*, N.Y. TIMES, June 14, 2008, at A5 (quoting a European report finding that China's 2007 emissions were fourteen percent higher than the United States' emissions).

⁹¹ See Elisabeth Rosenthal and Andrew C. Revkin, *Science Panel Says Global Warming Is "Unequivocal"*, N.Y. TIMES, Feb. 3, 2007, at A1 [hereinafter Rosenthal & Revkin] (citing the Intergovernmental Panel on Climate Change's 2007 report, which concluded that climate change is definitely occurring and that human activity is the primary cause).

⁹² See generally UNFCCC, *supra* note 7 (creating a system that does not regulate major emitters like China).

⁹³ See *id.* at Annex I and Annex II (listing developed countries like the United Kingdom, France, Australia, and the United States); see also Lieberthal, *supra* note 11, at 36 (describing China as a country with problems similar to developing nations, but with many attributes of a developed, industrialized nation).

⁹⁴ See Lieberthal, *supra* note 11, at 35 (stating many non-Chinese do not comprehend that China lacks the institutional and technological capacity of a fully developed nation).

⁹⁵ See *id.* at 34 (describing the difficulties Chinese leaders face in balancing the competing priorities of the developed and the developing areas of the country).

⁹⁶ See Howard W. French, *Grinding Poverty Defies China's Boom*, INT'L HERALD TRIBUNE, Jan. 13, 2008, available at <http://www.iht.com/articles/2008/01/13/asia/poverty.php> (citing a World Bank report estimating that 300 million people in China still live below poverty levels).

⁹⁷ See UNITED NATIONS DEVELOPMENT PROGRAMME, HUMAN DEVELOPMENT REPORTS, <http://hdr.undp.org/en/statistics/> (last visited Mar. 19, 2010) (categorizing world nations as having either high, medium, or low human development; China falls into the medium group, ranking 92nd of the 182 nations on the list).

⁹⁸ See Lieberthal, *supra* note 11, at 36 (characterizing China as a country in an uncomfortable transition stage).

⁹⁹ See UNFCCC, *supra* note 7, pmb. (indicating indirectly that developed countries should carry most of the burden when noting that "the largest share of historical and current emissions of [GHGs] has originated in developed countries").

¹⁰⁰ See UNFCCC, *supra* note 7, pmb., art.4(g) (describing the climate change issue as a "common concern of humankind" and setting forth that any party may choose to be bound by the Convention's emissions reduction standards).

¹⁰¹ See Lieberthal, *supra* note 11, at 38 (reporting China's belief that it is unreasonable to demand the nation to commit to GHG reduction targets because they are not sufficiently developed).

¹⁰² See, e.g., Neil MacFarquhar and John M. Broder, *U.N. Climate Chief Quits, Deepening Sense of Disarray*, N.Y. TIMES, Feb. 19, 2010, at A12 (calling the Copenhagen COP "largely unsuccessful" because it failed to produce a binding international treaty "but instead generated mostly acrimony and a series of unenforceable pledges").

¹⁰³ See Wiener, *supra* note 7, at 1805 (explicating that China could be engaged by the international community through several distinct methods).

¹⁰⁴ See, e.g., World Bank, *Statement from World Bank China Country Director on "Cost of Pollution in China" Report*, July 11, 2007, <http://go.worldbank.org/68GG2KJ8Z0> (last visited Mar. 19, 2010) [hereinafter World Bank Statement] (reporting the finding that air pollution contributes to a huge economic cost to China and is also leading to higher incidences of respiratory diseases and cancer among Chinese citizens); see also Wiener, *supra* note 7, at 1805 (warning that climate change impacts could exacerbate pre-existing political and social stresses within China, and positing that as a result, leadership on climate change may soon look more favorable to the government).

¹⁰⁵ See World Bank Statement, *supra* note 104 and accompanying text.

¹⁰⁶ See WORLD BANK, COST OF POLLUTION IN CHINA, 19 (Feb. 2007), available at http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/China_Cost_of_Pollution.pdf [hereinafter WORLD BANK REPORT] (noting epidemiological evidence that outdoor air pollution is a contributing cause of mortality and that a dramatic increase in cancer cases in China is attributable to worsening air and water pollution).

¹⁰⁷ See Wiener, *supra* note 7, at 1817 (observing that a progressive Chinese climate policy could bring simultaneous benefits by controlling local pollution).

¹⁰⁸ See *id.* at 1823-24 (explaining that benefits flowing to China from a successful international climate regime depend upon reaching a cooperative deal with other countries).

¹⁰⁹ See *id.* (arguing that in order to persuade China to join an international climate regime, the structure of the regime itself must offer specific incentives to China and outlining several reasons why China would benefit from actively participating in a climate change regime).

¹¹⁰ See, e.g., Lieberthal, *supra* note 11, at 36 (asserting that China wants to be seen as a constructive player on the international stage, and that this will increase its incentive to participate in an international climate regime).

¹¹¹ E.g., *Officials Responsible for Pollution Accidents*, XINHUA NEWS AGENCY, Apr. 25, 2006, available at <http://www.china.org.cn/english/2006/Apr/166691.htm> (quoting a Chinese Environmental Protection official on the great threat pollution poses to social stability in China).

¹¹² See PEW CENTER REPORT, *supra* note 4, at 20 (cataloguing the harmful air pollutants released into China's atmosphere that present a health threat to Chinese citizens).

¹¹³ See Economy, *supra* note 50, at 46 (noting China's leaders are aware that air pollution causes indirect effects in terms of threats to social stability, public health, and continued economic growth, which together could threaten the authority of the Communist Party).

¹¹⁴ See CONGRESSIONAL-EXECUTIVE COMMISSION ON CHINA, *supra* note 56, at 134-37 (describing recent protests organized against the construction of chemical plants and rail line extensions).

¹¹⁵ See *id.* at 135-37 (calling public protests significant because they represent an unprecedented example of public participation that is at least tacitly allowed by the CCP).

¹¹⁶ See e.g., Lieberthal, *supra* note 11, at 35 (describing how Chinese diplomats are increasingly being asked to explain why the nation is not doing more to reduce its emissions).

¹¹⁷ See, e.g., SMALL ISLAND DEVELOPING STATES NETWORK, VULNERABILITY AND ADAPTATION TO CLIMATE CHANGE IN SMALL ISLAND DEVELOPING STATES 7 (2007), available at http://unfccc.int/files/adaptation/adverse_effects_and_response_measures_art_48/application/pdf/200702_sids_adaptation_bg.pdf (stating that small island developing states are among the most vulnerable countries in the world to climate change and yet produce extremely low levels of GHGs, meaning that they will suffer disproportionately from the damaging impacts of climate change).

¹¹⁸ See Sunstein, *Of Montreal and Kyoto*, *supra* note 19, at 10571 (noting that countries such as India and all of Africa are projected to lose as much as 4.93 percent of their GDP from a 2.5 degree Celsius warming, whereas the United States would only lose 0.45 percent of GDP).

¹¹⁹ See Wiener, *supra* note 7, at 1816, 1825 (arguing that enlightened pragmatism is the best approach for the international community to move both China

and the United States to meaningful participation in a climate change regime).¹²⁰ See Sunstein, *The World vs. the United States and China?*, *supra* note 12, at 1686 (indicating that China, India, and Indonesia have all increased emissions by more than fifty percent in the last fifteen years).¹²¹ See UNFCCC, *supra* note 7, arts. 4.4, 4.5 (stating that only countries in Annex II shall assist in providing financial and technical assistance to developing country parties).¹²² See Lieberthal, *supra* note 11, at 36 (describing the awkward stage of China's development, where the country has modernized significantly but is not yet fully developed).

¹²³ See, e.g., Rosenthal & Revkin, *supra* note 91 (reporting on the widespread consensus that climate change is real and that human activity is causing it).
¹²⁴ See Barbara Finamore, *China Officially Associates With the Copenhagen Accord*, Mar. 11, 2010, http://switchboard.nrdc.org/blogs/bfinamore/china_officially_associates_wi.html (last visited Mar. 18, 2010) (noting China and India's official association with the Accord "alleviates some previous concerns about their engagement while breathing new life" into the UNFCCC).
¹²⁵ Cf. Magraw, *supra* note 20, at 10578 (asserting that many factors weigh enter into a nation's evaluation of its interests in an MEA, and arguing that cost-benefit analysis is only one of those factors).

ENDNOTES: LEGAL FOUNDATIONS FOR NGO PARTICIPATION IN CLIMATE TREATY NEGOTIATIONS *continued from page 56*

¹ United Nations Framework Convention on Climate Change, 1771 U.N.T.S. 107, S. Treaty Doc No. 102-38, U.N. Doc. A/AC.237/18, 31 I.L.M. 849 (1992), available at <http://unfccc.int/resource/docs/convkp/conveng.pdf> [hereinafter UNFCCC]. The talks were formally called the fifteenth Conference of the Parties ("COP 15") of the UNFCCC and COP 15 website is http://unfccc.int/meetings/cop_15/items/5257.php (last visited Mar. 4, 2010).

² Andrew C. Revkin & John M. Broder, *A Grudging Accord in Climate Talks*, N.Y. TIMES, Dec. 19, 2009 at A1.

³ See Posting of Kevin Grandia, NGO Shutdown at Copenhagen Climate Talks, <http://tckctck.org/stories/campaign-stories/ngo-shutdown-copenhagen-climate-talks> (last visited Mar. 4, 2010) (offering the perspective of the tckctck initiative, the Copenhagen-focused campaign of the global coalition 350.org, and reprinting a letter from the director of the Climate Action Network ("CAN") to the Prime Minister of Denmark and the Executive Secretary of the UNFCCC).

⁴ See, e.g., Convention on Biological Diversity, art. 23, §5, June 5, 1992, 1760 U.N.T.S. 79, 31 I.L.M. 818, available at <http://www.cbd.int/convention/convention.shtml> ("Any other body or agency, whether governmental or non-governmental, qualified in fields relating to conservation and sustainable use of biological diversity, which has informed the Secretariat of its wish to be represented as an observer at a meeting of the Conference of the Parties, may be admitted unless at least one third of the Parties present object."); United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, art. 4, June 17, 1994, 33 I.L.M. 1328, available at <http://www.unccd.int/convention/text/convention.php>; Convention on International Trade in Endangered Species of Wild Fauna and Flora, art. XI, §7, Mar. 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243, available at <http://www.cites.org/eng/disc/text.shtml#texttop>.

⁵ See Sunita Narain, *Copenhagen: Excluding People and Voices for an Unfair Deal*, OUTREACH, Dec. 17, 2009, at 1-2, available at http://www.stakeholderforum.org/fileadmin/files/Outreach_issues_2009/091217-outreach-color.pdf (describing, from a personal account, the inability to gain access to enter the building to even register). In response to more disruptive demonstrations, some groups were entirely excluded for their actions at the conference center, as noted in the CAN letter.

⁶ *Id.* (referring to the United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3-14, 1992, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I), Annex I (Aug. 12, 1992), available at <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=78&ArticleID=1163>); Agenda 21: Programme of Action for Sustainable Development, ch. 27, U.N. GAOR, 46th Sess., Agenda Item 21, U.N. Doc. A/Conf.151/26 (1992), available at http://www.un.org/esa/dsd/agenda21/res_agenda_21_27.shtml.

⁷ See *Outrage over lockout*, ECO: NGO NEWSLETTER, Dec. 18, 2009, at 4.

⁸ Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, arts. 6-7, June 25, 1998, 2161 U.N.T.S. 447, 38 I.L.M. 517, available at <http://www.unece.org/env/pp/documents/cep43e.pdf> [hereinafter Aarhus Convention]. See also U.N. Econ. & Soc. Council, Econ. Comm'n of Eur., *Decision II/4: Promoting the Application of the Principles of the Aarhus Convention in International Forums*, ECE/MP.PP/2005/2/Add.5, (June 20, 2005), available at <http://www.unece.org/env/documents/2005/pp/ece/ece.mp.pp.2005.2.add.5.e.pdf> [hereinafter Almaty Agreement] (adopting the Almaty Guidelines for compliance with the Aarhus Convention, contained in the annex of the Decision).

⁹ Aarhus Convention, *supra* note 8, at arts. 6-8. Article 6 addresses public participation in decisions on specific activities, Article 7 addresses public participation concerning plans, programs, and policies related to the environment, and Article 8 addresses public participation during the preparation of executive regulations and/or multilateral treaty negotiations.

¹⁰ See Aarhus Convention, *supra* note 8, at arts. 15, 16 (stating the provisions of the Convention on compliance and dispute settlement).

¹¹ U.N. Econ. & Soc. Council, Econ. Comm'n of Eur., *Decision I/7: Review of Compliance*, ECE/MP.PP/2/Add.8, (Apr. 4, 2004), available at <http://www.unece.org/env/pp/documents/mop1/ece.mp.pp.2.add.8.e.pdf> [hereinafter Lucca Decision]. Almaty Agreement, *supra* note 8.

¹² Lucca Decision, *supra* note 12, at §18.

¹³ *Id.*, at §37.

¹⁴ Aarhus Convention, *supra* note 8, at art. 17.

¹⁵ The UNFCCC schedule lists the location as "to be determined," though the meeting is widely expected to be held in Cancun, Mexico, http://unfccc.int/meetings/unfccc_calendar/items/2655.php (last visited Feb. 10, 2010).

¹⁶ UNFCCC, Adoption of the Rules of Procedure, FCCC/CP/1996/2 (May 22, 1996), available at <http://unfccc.int/resource/docs/cop2/02.pdf> (taking note of UNFCCC Article 7.3 that "the Conference of the Parties shall, at its first session, adopt its own rules of procedure as well as those of the subsidiary bodies established by the Convention ..." but merely "inviting" the Parties to adopt the Draft Rules of Procedure of the Conference of the Parties and its Subsidiary Bodies which begin on page 2).

¹⁷ See *id.* § V (stating that observers may attend and participate, provided: they notify the Secretariat, have qualifications related to the matters being discussed, gain permission from the Secretariat, and their presence is not objected to by one third or more of the Parties).

¹⁸ *Id.*

¹⁹ See generally Svitlana Kravchenko, *The Myth of Public Participation in a World of Poverty*, 23 TUL. ENVTL. L.J. 33 (2009) (addressing the deficiencies of environmental decision making when public participation and transparent democratic processes are not present).

NOTES

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