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2009 INTERNATIONAL LAW REVIEW SYMPOSIUM KEYNOTE SPEECH

Trip Van Noppen[†]

MR. VAN NOPPEN:

Thank you all for putting on this timely and interesting symposium and for inviting me to join you. I hope to give you some reflections on sustainability from the point of view of an environmental public interest law organization. During the symposium, we've heard from many organizations and perspectives, but not from the environmental advocacy perspective. Earthjustice is an advocacy organization, and we work on some of the sustainability issues that we've been talking about for quite some time.

First, I'd like to describe some of Earthjustice's work in the U.S. and internationally to set the stage for this talk and then describe what I think are some essential elements of actually implementing sustainability that we haven't addressed in much detail during the symposium, elements that go beyond the usual definitions. Then, I will turn to examples in the realm of toxics or chemicals policy, which has been mentioned briefly, and in the realm of climate change, which has been talked about quite a bit.

Earthjustice is an environmental litigation organization. It has ten offices around the country and 65 lawyers. We represent clients in environmental cases in a wide range of issues: climate change and energy, air and water pollution, toxics and environmental health, wildlife and public lands protection. The basic function of our organization is that we are citizen enforcers of the environmental laws. We'll talk about what that means and how important it is, as well as the overall importance of enforcement in achieving sustainability goals.

Here are some of the typical cases that we bring and typical kinds of things that we do. First, because we've talked a lot about climate law, I should mention that Earthjustice was involved in the Supreme Court's decision in April of 2007, which was the Supreme Court case that touched upon climate. The Court ruled that carbon dioxide is a pollutant under the Clean Air Act because of the detrimental effects of climate change on our health and welfare, and, therefore, that CO^2 is subject to regulation by the EPA. We also bring many cases challenging the permitting of new coal-burning power plants, because they are about the worst thing that we can do for the climate today. We're also suing the U.S.

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Department of Energy for its failure to adopt meaningful, strong energy efficiency standards for a wide range of appliances and equipment.

In the international realm regarding climate, Natasha Affolder talked about the interactions between corporations and treaty law. Earthjustice looks at the other side of that coin, which is the interaction with the advocacy groups and treaty law, trying to push the envelope on climate. We have represented the Inuit Circumpolar Conference, which is the organization of people who live around the top of the globe, in a human-rights complaint against the United States for failure to take adequate action to control climate pollution that was detrimental to the Inuit peoples' basic human rights to sustenance and culture.

Natasha also spoke about the World Heritage Convention. We have recently worked with colleagues in Australia to submit a petition to the World Heritage Convention regarding damage to the World Heritage sites that's caused by climate change. We heard Natasha speak this morning about the site-specific damage of a potential mine in the World Heritage site. That's a tangible problem that people can understand. We are also seeing damage from climate change from World Heritage sites to coral reefs and glaciers and other iconic landscapes and species, where you don't have a particular company taking site-specific action causing the damage, but where a remedy is needed. An inquiry by the World Heritage body can help draw international attention to an issue. These are examples of some of the things that Earthjustice does.

Our international program is quite small compared to our U.S. program. Internationally, we work principally with organizations throughout the Americas — in Canada and Latin America — that are trying to develop the capacity to use their domestic courts to enforce environmental laws and to improve citizens' rights to participate in environmental decision-making. Outside of the U.S., very few countries recognize citizen rights to go to court to enforce their country's environmental laws. That's something that is almost unique to United States environmental law, and it's a particularly powerful feature of our law. Our international program also takes on cases involving the environmental impacts of U.S. activities abroad and the impacts of foreign activity on the U.S., and we work to strengthen international recognition of a human right to a healthy environment.

During the symposium, we have engaged in a lot of conversation about sustainable development and corporate social responsibility in the environmental realm. We've heard stories of progress; we've heard stories of the frustratingly slow pace of progress. We haven't exactly stopped to focus on why we are talking about this, so I will take a moment to do that. We're talking about this issue because we are in the midst of an enormous wave of environmental damage. We are living in a century in which perhaps a third of the species that live on this planet will go extinct. We're facing epidemics of disease and the loss of resources that are essential for life. That's why we're talking about sustainability.

There are many forces involved in these trends that we see. I will mention three of the main drivers. The first is climate change. We're losing water resources because of climate change. Much of the world population's drinking water comes from snow melt. Snow packs are shrinking. Sea-level rise is pro-

jected to wipe out many, many millions of people's homes. Climate change will cause food shortages from land becoming inarable, and it will accelerate the spread of disease. Another major driver is the impact of toxic chemical pollution. We are finding in the United States that women's breast milk is too contaminated to meet the safety standards required of milk sold in the grocery store. We see many species of wildlife experiencing profound genetic and developmental changes from toxic-chemical exposures. The third driver is habitat destruction. We're destroying forests and other critical habitat around the world.

Now, I'm describing these trends as drivers. In fact, they're symptoms. They're symptoms that tell us something about how well our web of international agreements, domestic environmental laws, and environmental standards is working to protect our health and our environment. They're symptoms of the fact that the web of laws, regulations, and international agreements isn't working well. We see unsustainable wealth and rates of consumption in some places for some people; profound poverty for most people. We see market failures not corrected by law, not corrected by voluntary corporate activity — failures of allowing pollution and not incorporating its cost into the price of goods, and failures of information. Globally, there are very low levels of opportunity for public participation in environmental decision-making; very low levels of democratic control over the issues that we're talking about.

So when we talk about sustainable development and whether we can successfully implement principles of sustainability, I believe we need to focus on the power of a few tools that are essential to progress. The first is the importance of the precautionary principle. I'll talk about that in the realm of toxic and chemical exposure. Without the precautionary principle in play, we are our own guinea pigs, and that's not a very sustainable situation.

The second tool is the importance of monitoring pollution, gathering information, reporting on adverse effects, and making that sort of information publicly available. Some of the U.S. environmental laws are good at that, but globally, we're not good at that. José Zapata, earlier today, addressed that shortcoming in Latin America, for example.

The third tool is opportunity for public participation and for citizen enforcement of the laws. No matter where we are, whether we're here in the United States with Region 5 of the EPA having a pretty aggressive enforcement docket, or whether we're in a country with very little legal infrastructure, the government is never going to be able to enforce environmental laws fully. The government will always have scant resources to enforce environmental laws compared to the scale of activity that's going on. It will never be politically popular to enforce environmental laws. There will always be political pressures in the opposite direction as well as conflicting demands for agency staff.

The European Union is dramatically changing how chemicals will be evaluated for safety, how they will be controlled and restricted in terms of what can be put into commerce and for what purposes, and what kind of information is available. REACH is the name of this European law. It stands for Registration Evaluation Authorization and Restriction of Chemicals and was adopted by the E.U. in 2007. It's often called the most complex law in E.U. history. It's interesting that

one of the big motivations for Europe to get involved in a much more aggressive way in chemicals policy and in regulating toxics is because in Europe, the health system is paid for publicly. Because of this, the government has a much closer policy link between what's causing disease and the cost of providing health care. When people were showing up with cancers, with developmental problems, and with birth defects due to toxic chemical exposures, the governments began to pay attention. The governments were spending money on treating those health problems and have been motivated to take more aggressive action than has been taken elsewhere on removing toxics from the stream of commerce.

REACH adopts the precautionary principle. That's the most fundamental thing it does. For chemicals that are proposed for use in commerce, that are going into products such as carpets, paints, or laminated wood, REACH will require an up-front safety evaluation. The E.U. is going to identify the kinds of chemicals that are most likely to cause harm and evaluate them first, assess whether to allow the chemical's use in products and with what restrictions, if any, and determine what kind of information needs to be provided to users of those chemicals. REACH will then require the phase-out of the most harmful chemicals.

Another breakthrough aspect of REACH is that in evaluating a particular chemical, a company will have to evaluate less harmful alternatives to meet the same commercial need. Finally, the testing and reporting information will be largely publicly available. REACH will retain a provision for protecting truly confidential business information, but compared to what's presently in practice in the E.U. and in the U.S., the key information will be publicly available and the public will have the right to participate in the process and to appeal decisions of the environmental agency as it implements REACH.

Why am I calling this a dramatic change? I want to contrast it with our system in the United States. The U.S. counterpart to REACH, the law we use to regulate toxic chemicals going into commerce, is the Toxic Substances Control Act ("TSCA"). It's the most broken of our environmental laws. It is the least effective. It has almost no impact. No test data or advance safety check is required before a chemical is put into the marketplace in the United States. There is, therefore, no precautionary principle at work. There's a register, but there's no approval and no requirement to look at a less harmful alternative.

The EPA, which holds the information regarding the health effects of the chemicals in commerce, allows companies to submit such information entirely in confidence. So the public, and even medical providers, first responders like firefighters, don't have access to the health risks the chemicals may present, which is known by the company.

Today major reform efforts are underway in the United States to fix the broken TSCA system with a 21st century replacement, with REACH as the inspiration. Citizens are working to reduce toxics in health-care products that you would encounter in a hospital, to get toxics out of cosmetics, and toxics out of toys. Earthjustice is bringing some cases that are along those lines. Legislation has also been introduced in the United States Congress called the Kid Safe Chemical Act, which is basically meant to be a U.S. version of REACH. We're a long way

from having such a law passed, but the momentum for that is building. We're also working to dissuade the U.S. trade representative from challenging the implementation of REACH under international trade agreements.

Comparing the European and U.S. examples of toxics regulation, I want to posit that sustainability - sustainable development in the chemicals and toxics realm - requires that governments and companies adopt the precautionary principle. It requires that we make adverse health effect information known, usable by the public, usable by the medical community, by researchers, by states, and that we allow for public participation in enforcement of those laws.

Now let's turn to the challenge of climate change. Climate is the area where international agreements and domestic laws are going to be the most transformational. Over the next several decades the U.S. and the world must completely change how we produce our electricity, how we transport ourselves and our goods, and how we heat and cool our homes. This transformation is going to affect every nation, it's going to affect every company, and it's going to affect every person.

What will be the significance of the sustainability principles that I have mentioned, particularly of information and reporting, public participation, and enforcement in the new energy system? The symposium has heard about the Clean Development Mechanism lacking an opportunity for public participation or enforcement and lacking important information on gathering and reporting safeguards. Any carbon-trading system, and any system of using carbon offsets, is going to have built-in potential for failure if we do not aggressively monitor the actual emission results of the offset transactions and trades, and unless we allow citizens to participate in the decisions and enforce the obligations.

What opportunity is there today for you or me to understand whether promised carbon reductions are actually occurring as promised in a Clean Development Mechanism transaction? What are the avenues for recovering the credits if the project isn't working? Basically, today, there is no opportunity to do so. The model for dispute resolution under these agreements is trade agreements with private arbitrations, as opposed to an environmental law enforcement model. There's no public role. Very significant policy decisions can be made in those arbitrations, and the public has no role.

At Earthjustice we have worked to open trade dispute arbitrations to citizen participation, to let some daylight in, to enable organizations that don't have the investment commitment at stake but have a stake in the natural resources, and to give communities that might be affected by the outcome of the dispute an opportunity to be heard. I'll give you an example. A Canadian gold-mining company filed a claim under the NAFTA dispute resolution process against the State of California for $50 million. The claim was based on the fact that the company had applied for a permit to mine in a southern California desert on a piece of land that had natural values and Native American cultural values and that was declared not suitable for mining under state law in California. The investors brought a claim against the State of California for this permit denial, challenging the state's enforcement of its environmental laws. Those laws would have been applicable to you or me or a California company or an Illinois company. But a

Canadian company under NAFTA can assert this claim. The resolution of that claim, being decided in a confidential proceeding by an arbitrator, would be a monetary award, but a settlement of that claim could yield a decision by the state not to enforce its law.

California happens to have a rigorous environmental law structure and the capacity to defend that claim. But when those claims are brought against Ecuador, say, Ecuador's not necessarily going to have the capacity or the interest to pay several million dollars to lawyers to defend that claim when all they have to do is say, "Okay, we won't enforce our laws." So non-public international trade agreement proceedings can undermine the enforcement of the law. Earthjustice's interest in this has been to petition the arbitrators for the right to intervene, to present a public interest perspective, or the right to file an amicus brief, in order to assist groups in Ecuador and other countries that want their environmental laws enforced.

International climate negotiations present the same problem. How do we create legally binding compliance mechanisms that have consequences? The future of the planet depends on whether we succeed in this. The history tells us that, without rigorous monitoring of performance and public availability of the results, the provisions are not likely to be effective and enforceable.

The global climate negotiations are extremely complex. The tasks of developing an international framework, setting emissions reduction targets, and allocating costs and benefits, are more than the nations of the world have yet been able to accomplish. It should be no surprise, therefore, that negotiators have a strong tendency to put off compliance issues. Earthjustice is urging that negotiations not postpone the compliance and enforcement questions and make compliance provisions effective at the time that the obligations arise. We seek a strong link between international compliance mechanisms and the national laws of the parties so that a climate agreement can become the law of Canada and the law of the United States, and that domestic reporting and enforcement tools can be used. We cannot expect a climate framework to succeed without such measures.

The consequences of non-compliance have to be sufficient to deter non-compliance. Since much of the globe's carbon reduction strategy is likely to be market–based, built around trade and credits, then the consequences for non-compliance need to include exclusion from that marketplace. If a country is not enforcing its climate laws and meeting its obligations, we submit that the country shouldn't be allowed to remain in the carbon market. Without such firm sanctions, we have a very low likelihood of achieving the carbon reductions that we have to achieve.

In closing, I suggest that chemicals policy and climate policy both present fertile ground for students, for scholars, and for practitioners to study and to take part. These are the places where sustainability concepts are actually going to be tested; where we really try to figure out what is needed to implement sustainable development principles. Without a vigorous use of precautionary principle, without rigorous monitoring and reporting and publicly available information, and without opportunities for public enforcement, we stand a poor chance of achieving our sustainability goals. We need those tools to be able to separate the wheat

from the chaff, and separate the green from the greenwashing. So each of you will have opportunities with your clients, with your governments, and in the academy to help make a difference and help make these principles real. We owe it to our children, our grandchildren, and to the planet. Thank you.[1]

[1] This speech has been edited for publication.

DISCOUNTING CHINA'S CDM DAMS

John Copeland Nagle[†]

China occupies a contested space in the international efforts to address the problem of climate change. That position is explained by three simple facts. First, China is the world's leading emitter of greenhouse gases. Second, China is not subject to any of the regulatory restrictions imposed by the Kyoto Protocol on the emission of greenhouse gases. Third, China is a popular location for emissions reduction projects authorized by Kyoto's Clean Development Mechanism (CDM). Whether these three facts will continue to describe China will explain the success of international efforts to address climate change after Kyoto expires by its own terms in 2012.

The absence of restrictions upon China's emissions played a key role in the decision of the United States not to approve the Kyoto Protocol. That China has since surpassed the United States as the world's leading greenhouse gas emitter has fueled further complaints about China's status. For its part, China insists that its status as a developing country justifies the absence of international regulatory restrictions and that it has pursued an ambitious domestic program to reduce its greenhouse gas emissions. China is unlikely to agree to the same regulatory restrictions as those imposed upon the United States and other developed countries; likewise, the United States may be unwilling to agree to an international climate change regime that does not regulate China's emissions. The tension is exacerbated by China's calls for more sweeping reductions in greenhouse gas emissions than the United States has been willing to accept.[1]

The CDM plays a potential mediating role in this dilemma. The CDM allows developed countries to satisfy the greenhouse gas emission limits that Kyoto imposes upon them by funding projects that reduce greenhouse gas emissions in developing countries. The goal of the CDM is to reduce greenhouse gas emissions in the most efficient manner possible, and often that means subsidizing new projects in developing countries rather than retrofitting existing infrastructure in developed countries. But the CDM has been subject to a variety of criticisms to which the experience in China attests. Many of those criticisms question whether the CDM efficiently produces real reductions in greenhouse gas emissions.[2]

My focus in this essay is on how the CDM has subsidized the construction of so many new hydroelectric facilities in China, and the consequences – positive and negative – of those dams. This essay proposes an alternative approach that

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[1] *See infra* text accompanying notes 32-33.

[2] *See infra* text accompanying notes 25-31.

would shift more of the CDM resources to other nations and to renewable energy projects besides dams. The premise of the CDM is that the reduction of one ton of greenhouse gases should be treated the same regardless of where or how it happens. This makes perfect sense from the perspective of atmospheric science, as emissions from any place and any source soon mix with greenhouse gases throughout the earth. But climate change is about more than just atmospheric science. Not all countries are equal with respect to energy development and attendant greenhouse gas emissions, neither are all alternatives to burning fossil fuels equal in their environmental consequences. The CDM has neglected these differences even though the Kyoto Protocol specifies that sustainable development is one of the purposes of the CDM.

My proposal is that the CDM should discount hydroelectric projects in China so they receive less credit. More generally, the CDM should be modified so that it distinguishes between rapidly developing countries and the least developed countries, as well as distinguishing between projects that provide the greatest benefit to sustainable development and those that reduce greenhouse gas emissions while not otherwise aiding sustainable development. This idea draws upon the work of a number of writers who have proposed that various discounting factors should be introduced into the CDM. As applied to my focus upon the extent of a country's development and upon the contribution to sustainable development, a multiplication factor could be employed so that, for example, a wind power project in the African nation of Chad earns 1.75 credits for every one ton of greenhouse gas emissions that it avoids, while a hydroelectric dam in China earns only .71 credits for every ton of avoided greenhouse gas emissions. Such changes would enable the CDM to award more credits to projects in the least developed countries, and to projects that have the least harmful environmental consequences.

I. The Response to Climate Change

"CLIMATE CHANGE refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer)."[3] The basic science behind the earth's retention of heat is as follows:

> Energy from the Sun drives the Earth's weather and climate. The Earth absorbs energy from the Sun, and also radiates energy back into space. However, much of this energy going back to space is absorbed by "greenhouse" gases in the atmosphere. . . . Because the atmosphere then radiates most of this energy back to the Earth's surface, our planet is

[3] EPA, Climate Change, Basic Information, http://www.epa.gov/climatechange/basicinfo.html (last visited Oct. 12, 2009) [hereinafter EPA's Basic Information]; *see also* John Copeland Nagle, *The Evangelical Debate Over Climate Change*, 5 U. ST. THOMAS L.J. 53 (2008) (providing insight into the contemporary relationship between religious faith and public policy by discussing the contrasting views within the evangelical community to lead to more thoughtful responses to climate change, a more constructive engagement between evangelicals and environmental activists, and a deeper understanding of the relationship between religious teachings and environmental protection).

> warmer than it would be if the atmosphere did not contain these gases. Without this natural "greenhouse effect," temperatures would be about 60°F lower than they are now, and life as we know it today would not be possible.[4]

These "greenhouse gases" include carbon dioxide, methane, nitrous oxide, and fluorinated gases. Such gases exist naturally in our atmosphere. Changes in the sun's intensity, the earth's orbit, the ocean's circulation, and volcanic eruptions are among the natural factors that can change the climate. Also, human activities such as the burning of fossil fuels, deforestation, reforestation, urbanization, and desertification can affect the climate as well.[5] The Intergovernmental Panel on Climate Change (IPCC) concluded in 2007 that human activity has "very likely" caused most of the rise in temperatures since 1950.[6]

The effects of climate change could include flooding in coastal areas, droughts, heat waves, cold spells, extinction of species, and the spread of diseases. The IPCC's 2007 report concluded that "changes in arctic temperatures and ice, widespread changes in precipitation amounts, ocean salinity, wind patterns and aspects of extreme weather including droughts, heavy precipitation, heat waves and the intensity of tropical cyclones" have already been observed.[7] Many people already fear that climate change could work far more dramatic changes in the future. Al Gore's *An Inconvenient Truth*, for example, suggests that climate change could displace 20 million people from Beijing, 40 million from Shanghai, and 60 million from Calcutta and Bangladesh. A number of scientists and policy makers, however, contest these more apocalyptic scenarios.[8]

Such concerns prompted the United Nations to authorize an Intergovernmental Negotiating Committee on Climate in 1990 to begin discussions of a global treaty to address climate change.[9] These negotiations culminated in the 1992 United

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[4] EPA, Climate Change - Science, http://www.epa.gov/climatechange/science/index.html (last visited Oct. 12, 2009); *see also* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, Climate Change 2007: The Physical Science Basis. Contribution of Working Group 1 to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change 98 (S. Solomon et al. eds., Cambridge University Press 2007) (describing the greenhouse effect), *available at* http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_FAQs.pdf.

[5] EPA's Basic Information, *supra* note 3.

[6] INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 4, at 2–5, *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf. "Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations." *Id.* at 10, *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf.

[7] *Id.* at 7, *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf.

[8] *Compare* AL GORE, AN INCONVENIENT TRUTH: THE PLANETARY EMERGENCY OF GLOBAL WARMING AND WHAT WE CAN DO ABOUT IT 204-06 (Rodale 2006), *and* BJORN LOMBORG, COOL IT: THE SKEPTICAL ENVIRONMENTALIST'S GUIDE TO GLOBAL WARMING (Alfred Knopf 2007).

[9] J.B. RUHL, JOHN COPELAND NAGLE & JAMES SALZMAN, THE PRACTICE AND POLICY OF ENVIRONMENTAL LAW 1329-32 (Foundation Press 2008) (discussing much of the background of the Kyoto Protocol).

Nations Framework Convention on Climate Change (UNFCCC).[10] The UNFCCC's central objective is to achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[11] The UNFCCC did not impose any actual regulations intended to achieve that goal, though it did oblige developed countries to "adopt national polices and take corresponding measures on the mitigation of climate change."[12] Developing countries were exempt from that obligation. The justification for the distinction appears in the UNFCCC's embrace of the principle of "common but differentiated responsibilities,"[13] which means that every country has a responsibility to address climate change but that the nature of that response will vary depending upon the circumstances of the country. The UNFCCC also adopts the precautionary principle and supports sustainable development.[14]

Five years later, the parties negotiated the Kyoto Protocol to the UNFCCC.[15] The Protocol imposes binding emission reduction targets on developed countries (known as Annex I parties), while no such reductions are required of developing countries (known as Annex II parties). The reduction targets must be met over a five-year commitment period (from 2008 to 2012) and is to be followed by subsequent commitment periods and presumably stricter emission targets. The issue of emission targets for developing countries was hotly contested during negotiations. The Kyoto Protocol did not address emission reductions for developing countries based on the reasoning that developed countries have been responsible for the lion's share of emissions to date and are better able to pay for reductions. Indeed, a proposal that would have established procedures for developing countries to take on *voluntary* commitments for emission limits was not even adopted.

The Protocol also contains several flexibility mechanisms that allow parties to meet their commitments together. *Emissions trading* allows a developed country to purchase or otherwise transfer part of its assigned amount to another developed country in exchange for payment.[16] For example, assume Country A has excess reductions under Kyoto (e.g., it has reduced its emissions by 200 tons compared to its 1990 emissions, and this is 40 tons more than required to meet its Kyoto reduction target of 160 tons), it can then sell its remaining emissions (up to 40 tons) to Country B. These can then be subtracted from Country B's total emissions in calculating its emissions under Kyoto.

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[10] United Nations Conference on Environment and Development, June 4-14, 1992, *United Nations Framework Convention on Climate Change*, U.N. Doc. A/AC.237/18 (Part II)/Add.1 (May 9, 1992), *available at* http://unfccc.int/resource/docs/convkp/conveng.pdf.

[11] *Id.* art. 2.

[12] *Id.* art. 4(2)(a).

[13] *Id.* pmbl.

[14] *Id.* at art. 3(3), 3(4).

[15] Kyoto Protocol to the United Nations Framework Convention on Climate Change, UN Doc FCCC/CP/1997/7/Add.1 (Dec. 11, 1997), *available at* http://unfccc.int/resource/docs/convkp/kpeng.pdf [hereinafter Kyoto Protocol].

[16] *Id.* at art. 17.

Like emissions trading, *joint implementation* may take place only between developed countries. Joint implementation involves the sale of "reduction units" from one developed country or private enterprise to another developed country or enterprise. Joint implementation thus enables one developed country to take credit for a project in another developed country. For example, the Netherlands has received credits toward its emissions requirements by subsidizing a new wind farm in Lithuania.[17]

The third flexibility device, the Clean Development Mechanism (CDM), has been dubbed the surprise of the Kyoto Protocol negotiations.[18] The CDM emerged as a compromise for accommodating the preference of the United States to use market-based tools and the developing nations' call for technology assistance. The CDM allows developing countries to help developed countries meet their emission reduction commitments. Article 12 of the Kyoto Protocol states that the dual purposes of the CDM are to assist developing countries "in achieving sustainable development and in contributing to the ultimate objective of the Convention," and to assist developed countries "in achieving compliance with their quantified emission limitation and reduction commitments."[19] The CDM provides a means for achieving those purposes by enabling developed countries (or their private entities) to fund activities in developing countries that earn them certified emissions reduction credits (CERs) for each ton of reduced greenhouse gases, which the developed countries can use to offset their domestic emissions. In other words, a developed country (or firm) earns credits for subsidizing a project in a developing country. Those projects include renewable energy development, industrial gas or methane capture, waste gas recovery, switching the fuel used in industrial processes, and forestation and reforestation.[20] The emissions reductions achieved by a project must be voluntary, real, and additional in order to earn credits under the CDM.

The CDM has succeeded in supporting a substantial number of projects. As of October 2009, there are more than 4,200 projects in the pipeline, including 1,839 that have been formally registered by the CDM Executive Board.[21] More than 60% of the projects involve energy production, another 17.6% improve waste handling and disposal, and the balance targets various industrial and agricultural

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[17] *See* United Nations Framework Convention on Climate Change [UNFCCC], Joint Implementation Supervisory Comm., *Rudaiciai Wind Power Park Project*, ITL Project ID LT2000002 (Apr. 2008), *available at* http://ji.unfccc.int/UserManagement/FileStorage/W1WQBGABVVWXBDF135LVP71PVD7RE6.

[18] *See* Patricia Nelson, *An African Dimension to the Clean Development Mechanism: Finding a Path to Sustainable Development in the Energy Sector*, 32 DENV. J. INT'L L. & POL'Y 615, 620 (2004); *see also* Albert Mumma, *The Poverty of Africa's Position at the Climate Change Convention Negotiations*, 19 UCLA J. ENVTL. L. & POL'Y 181, 189-92 (2000/2001) (describing the origins of the CDM).

[19] Kyoto Protocol, *supra* note 15, at art. 12, ¶ 2.

[20] *See* UNITED NATIONS ENV'T PROGRAMME [UNEP], YEAR END SNAPSHOT OF THE CDM 3 (Nov. 25, 2008) (providing a table listing the 25 different types of CDM projects approved in 2008), *available at* http://www.unep.org/pdf/Year-End-Snapshot-CDM.pdf.

[21] *See* UNFCCC CDM Statistics, http://cdm.unfccc.int/Statistics/index.html (last visited Oct. 12, 2009) [hereinafter CDM Statistics].

processes.[22] China is the most popular location for CDM projects. Thirty-five percent of the registered projects are there, followed by 25% in India, 9% in Brazil, and 6% in Mexico.[23] The CDM is expected to yield nearly three trillion CERs by the time the Kyoto Protocol expires in 2012.[24]

These achievements have been accompanied by numerous objections to the CDM process. Perhaps the most familiar complaint attacks the CDM as economically inefficient. Some studies show that the transaction costs involved in the CDM are greater than the abatement costs.[25] The CDM appears to subsidize at least some activities that earn more money from CER credits than from their primary products.[26] The "additionality requirement" has been the target of particular skepticism. While each project must demonstrate that the emissions reductions it achieves are "additional" to reductions that have occurred without the support from the CDM, there remains a substantial uncertainty surrounding the true emissions savings resulting from foreign investment in projects in the developing world.[27] The environmental benefits of the CDM program are questioned by its failure to result in reductions in CO_2 as opposed to other greenhouse gases,[28] and by discouraging developing countries from making the difficult decisions about how to reduce their own greenhouse gas emissions.[29] Developing countries further contend that the CDM takes advantage of them by exploiting their lack of technical experience to negotiate complex agreements, enlarging the scope of abuse by governing elites, leaving only expensive projects for the country to undertake itself in the future, and rendering countries dependent upon foreign technology.[30] For their part, the sponsors of CDM projects complain that the process of obtaining formal approval takes far too long.[31]

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[22] *See* UNFCCC, Distribution of Registered Project Activities By Scope, http://cdm.unfccc.int/Statistics/Registration/RegisteredProjByScopePieChart.html (last visited Oct. 12, 2009).

[23] *See* UNFCCC Registered Project Activities By Host Parties, http://cdm.unfccc.int/Statistics/Registration/NumOfRegisteredProjByHostPartiesPieChart.html (last visited Oct. 12, 2009) [hereinafter Registered Project Activities By Host Parties].

[24] *See* CDM Statistics, *supra* note 21.

[25] *See* Larry Karp & Xuemei Liu, *The Clean Development Mechanism and Its Controversies* 9 (Univ. of Cal., Berkeley Working Paper No. 903), *available at* http://papers.ssrn.com/sol3/Delivery.cfm/00041 7504.pdf?abstractid=223511&mirid=2.

[26] *See* Steven Ferry, *When 1+ 1 No Longer Equals 2: The New Math of "Additionality" Controlling World and U.S. Global Warming Regulation*, 10 MINN. J.L. SCI. & TECH. 591 (2009); Michael Wara, *Measuring the Clean Development Mechanism's Performance and Potential*, 55 UCLA L. REV. 1759, 1784-85 (2008).

[27] *See* Wara, *supra* note 26, at 1790-97.

[28] *See id.* at 1781-89.

[29] *See* Karp & Liu, *supra* note 25, at 12; *see also* David M. Driesen, *Free Lunch or Cheap Fix: The Emissions Trading Idea and the Climate Change Convention*, 26 B.C. ENVT'L. AFF. L. REV. 1, 13 (1998) (explaining that "developing countries need only 'address,' rather than stabilize, greenhouse gas emissions.").

[30] See Karp & Liu, *supra* note 25, at 9-13.

[31] *See, e.g.*, Andrei Marcu & Robert Dornau, *Strengthening the CDM: IETA Position Paper For Cop 11 and COP/MOP*, INT'L EMISSIONS TRADING ASS'N, Sept. 2005, at 15, 7, *available at* http://www.ieta.org/ieta/www/pages/getfile.php?docID=1132.

These complaints may doom the continuation of the CDM in the post-Kyoto international climate-change agreement. The obligations imposed by the Protocol expire by their own terms in 2012, so the international community is busily negotiating the next climate change agreement. Some critics of the CDM would like to eliminate the mechanism altogether. There is significant momentum behind the CDM process, though, so it is likely that it will continue in some form. What form that will take should be influenced not only by the general critiques noted above, but also by the particular experience of the CDM in promoting the construction of hydroelectric dams in China.

The CDM, in turn, may go far toward reconciling the conflicting positions of the United States and China. The success of the next climate change agreement is often said to depend upon the participation of both the United States and China, yet those nations disagree on many central issues.[32] The United States wants China to accept an emissions reduction requirement; China refuses. China has called for a 40% reduction below 1990 levels of greenhouse gas emissions by 2020; the American position is less than half of that.[33] The Kyoto Protocol's treatment of China was a significant factor in the unwillingness of the United States to accept the Protocol even though the U.S. played a leading role in crafting the CDM. The challenge for today's negotiators is to see if a revised CDM can join with other changes to create a new agreement that is acceptable to the United States, China, and the rest of the global community.

II. Lessons From the CDM in China

The CDM has thrived in China despite its criticisms. China accounts for more than one-third of the approved CDM projects and 46% of the credits earned by those projects.[34] As of October 2009, there were 639 registered CDM projects located in China, and another 1,500 have been approved by the Chinese government pending approval by the CDM board.[35] They included improvements to industrial facilities, methane recovery from landfills, power production from biomass, the construction of wind farms, and especially hydroelectric plants. It is

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[32] The positions of the United States and China are analyzed in PEW CTR. ON GLOBAL CLIMATE CHANGE & ASIA SOC'Y, COMMON CHALLENGE, COLLABORATIVE RESPONSE: A ROADMAP ON U.S-CHINA ENERGY AND GLOBAL CLIMATE CHANGE (2009), *available at* http://www.pewclimate.org/docUploads/US-China-Roadmap-Feb09.pdf; Michael P. Vandenbergh, *Climate Change: The China Problem*, 81 S. CAL. L. REV. 905 (2008); Cass R. Sunstein, *The World vs. the United States and China? The Complex Climate Change Incentives of the Leading Greenhouse Gas Emitters*, 55 UCLA L. REV. 1675, 1682-83 (2008).

[33] *Compare* UNFCCC, Ad Hoc Working Group on Further Commitments for Annex I Parties Under the Kyoto Protocol, Report, U.N. Doc. FCCC/KP/AWG/2008/2 (May 15, 2008) (submission by China) *with* American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 311 (2009) (stating economy-wide emission goals).

[34] *See* Registered Project Activities By Host Party, *supra* note 23; UNFCCC, CERs Issued By Host Party, http://cdm.unfccc.int/Statistics/Issuance/CERsIssuedByHostPartyPieChart.html (last visited Oct. 12, 2009).

[35] *See* Registered Project Activities By Host Party, *supra* note 23; *China Passes 500 Mark in U.N. Clean Energy Projects*, CHINA DAILY, Mar. 31, 2009, http://www.chinadaily.com.cn/bizchina/2009-03/31/content_7634910.htm; CLEAN DEVELOPMENT MECHANISM IN CHINA, APPROVAL STATUS OF CDM PROJECTS IN CHINA (Oct. 9, 2009), http://cdm.ccchina.gov.cn/WebSite/CDM/UpFile/File2350.pdf.

these hydroelectric facilities that I want to focus upon here, for the idea of using the CDM to subsidize new Chinese dams is problematic.

The premise of my proposal is that the CDM may be modified to incorporate a more nuanced approach. One environmental law precedent for that belief comes from the formula for identifying the hazardous waste sites most in need of remediation under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The 1980 statute directed the EPA to establish "[c]riteria for determining priorities among releases" of hazardous substances.[36] The agency complied by developing the Hazard Ranking System (HRS) in 1982. Under the HRS, the EPA evaluated the ability of hazardous substances to migrate into the groundwater, surface water, and the air.[37] The agency listed hundreds of sites pursuant to that formula, but it was increasingly criticized as unrealistic. Indeed, the D.C. Circuit eventually upheld EPA's listings only because of the statutory preference for a formula and despite the apparent flaws in the approach. In one case, the EPA listed a small south Florida chemical company's property on the National Priorities List (NPL) because the HRS indicated that 750,000 people in the Miami area could be affected by contaminated drinking water.[38] The HRS produced that conclusion even though the contamination apparently could not reach the deepest part of the aquifer where a solitary well drew water once a month just to prevent the well from becoming inoperable. "Our case law endorses the 'Hazard Ranking System's preference for using formulas," explained the court, "and emphasizes that 'the NPL is simply a rough list of priorities, assembled quickly and inexpensively."[39] But the court added that the EPA's decision was "troubling" because of "the very real possibility that [the] facility does not endanger the population," so it "urge[d] the EPA to move forward, quickly" to either prove the threat or to "act with dispatch to delist" the site.[40]

When Congress amended CERCLA in 1986, it directed the EPA to amend the HRS to assure that the HRS "accurately assesses the relative degree of risk to human health and the environment posed by sites and facilities subject to review."[41] The EPA rolled out a much more nuanced HRS in 1990.[42] The new HRS evaluates toxicity via carcinogenic and non-cancer chronic values instead of employing acute toxicity values, removes the ceiling on the number of people who could be exposed to a release of hazardous substances, provides a more specific examination of wetlands and of radioactive waste sites, incorporates

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[36] Comprehensive Environmental Response, Compensation and Liability Act of 1980, Pub. L. No. 96-510, § 105(8)(A), 94 Stat. 2767, (current version at 42 U.S.C. § 9605(a)(8)(A) (2002)).

[37] *See* Environmental Protection Agency, 40 C.F.R. § 300, 47 Fed. Reg. 31180, 31187 (1982).

[38] *See* B&B Tritech, Inc. v. EPA, 957 F.2d 882, 884 (D.C. Cir. 1992).

[39] *Id.* (citing Eagle-Picher Ind. v. EPA, 822 F.2d 132, 146 (D.C. Cir. 1987); Eagle-Picher Ind. v. EPA, 759 F.2d 922, 932 (D.C. Cir. 1985)).

[40] *Id.* at 885. The court noted that "[a]gency counsel conceded at oral arguments that the site would not be dangerous, indeed would not be listed, if the wellfields were only pumped once a year; that would be equivalent to zero pumping" and thus would not justify listing the site even according to the HRS. *Id.* The author was the agency counsel.

[41] *See* 42 U.S.C. § 9605(c)(1) (adding CERCLA § 105(c)(1)) (2000)).

[42] *See* Environmental Protection Agency, Hazard Ranking System, 55 Fed. Reg. 51532 (1990).

bioaccumulation into the consideration of waste characteristics, factors the quantity of hazardous wastes when characterizing those wastes, and considers actual contamination when evaluating sensitive environments.[43] That system has not eliminated all objections, but it has greatly reduced the litigation challenging NPL listings.[44]

That experience offers hope for the reform of the CDM. The ongoing discussions regarding the next climate change agreement have suggested various changes to the simple formula employed by the existing CDM. My proposal builds upon the recommendation of a UNFCCC working group to use "multiplication factors to increase or decrease the certified emission reductions issued for specific project activity types."[45] To illustrate, a multiplication factor could be employed so that favored technologies such as wind farms earn 1.25 credits for every one ton of greenhouse gas emissions that they avoid, while a less favored technology such as clean coal projects earns only .75 credits for every ton of avoided greenhouse gas emissions. The idea of discounting emissions credits can be traced to the Clean Air Act in the United States, and several writers have articulated different versions of possible discounting schemes for the CDM.[46] The difficult question is which criteria should support multiplied credits and which criteria should support discounted credits. China's experience with the use of CDM funding to build hydroelectric dams begins to answer that question.

A. China

The CDM subsidizes many projects in China. The rationale for such subsidies is that the Chinese economy has been developing rapidly, so it is wise to direct China's development away from things that contribute to climate change. The problem with that approach is two fold. First, China's economic development has produced vast financial resources of its own to invest in such environmentally-friendly efforts. Second, the funds invested – and the CDM credits earned – in China are not directed to other countries who are in much greater need of development assistance.

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[43] *See id.* at 51533.

[44] The last NPL listing to be challenged in court occurred in 2005. *See* Carus Chem. Co. v. U.S. Envtl. Prot. Agency, 395 F.3d 434 (D.C. Cir. 2005). The most recent controversy surrounds the Gowanus Canal in Brooklyn, where the EPA's proposal to list it on the NPL (*see* Environmental Protection Agency, National Priorities List, Proposed Rule No. 50, 74 Fed. Reg. 16162, 16167 (2009)) has elicited the opposition of local residents and New York City officials. *See* Mireya Navarro, *On the Gowanus Canal, Fear of Superfund Stigma*, N.Y. TIMES, Apr. 23, 2009, http://www.nytimes.com/2009/04/24/science/earth/24gowanus.html?hp.

[45] UNFCCC, Ad Hoc Working Group on Further Commitments for Annex I Parties Under the Kyoto Protocol, *Emissions Trading and the Project-Based Mechanisms*, p.11, U.N. Doc FCCC/KP/AWG/2008/L.12 (Aug. 27, 2008), *available at* http://unfccc.int/resource/docs/2009/awg7/eng/l02.pdf; *see also* STEFAN BAKKER & RAOUF SAIDI, MARKET IMPACTS OF CDM DIFFERENTIATION (2008), http://www.ecn.nl/fileadmin/ecn/units/bs/CDM/Stefan_Bakker_ECN_Market_impacts_CDMdiff.pdf (presentation supporting the use of multiplication factors).

[46] *See* Andrew Schatz, *Discounting the Clean Development Mechanism*, 20 GEO. INT'L ENVTL. L. REV. 703, 727-28 (2008) (citing the CAA example and proposing to revise the CDM to discount "the value of each [greenhouse gas] credits to more closely reflect the marginal cost of abatement for each pollutant").

The dilemma can be illustrated by the two faces of China. Like *developing* countries, China is poor. Its per capita income remains in the bottom half of the world.[47] Of the 1.37 billion people in the world who live on less than $1.25 per day, 208 million live in China. Much of China's population lives as if it is a developing country. This is true both in the countryside, where the rural peasants often live in the same way that their ancestors did generations ago; and in the cities, where the unprecedented migration of people from the countryside to the cities in search of better economic opportunities has overwhelmed the ability of the cities to provide for them. China relies upon such evidence when it describes itself as "a low-income developing country."[48]

But like *developed* countries, China has one of the leading economies in the world. It is the world's leading producer of steel, producing four times as much as the United States.[49] It produces nearly three times as much coal as the United States.[50] It produces half of the world's cement and manufactures 28% of the world's aluminum.[51] It had the fourth largest gross domestic product in the world in 2007, just behind Japan. It imports more oil than every country except the United States and Japan.[52] These and other statistics are frequently cited in the many popular books reporting on China's ascension to economic powerhouse.[53]

So which is it? Is China a developing country or a developed country? The answer, of course, is both – or neither. Yet the Kyoto Protocol insists that every country must be categorized as one or the other. The Protocol assigned China to the developing country list of Annex II, thus exempting it from the greenhouse gas emission reductions imposed upon developed countries and pushing the United States toward its refusal to approve the Protocol and its eventual renunciation of it.

The effect of the Kyoto Protocol has been to treat China differently from most other developing countries. China is excluded from the emissions regulations applicable to developed countries, but China has benefited from much more CDM investment than most developing countries. China accounts for 33% of the

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[47] *See* THE WORLD BANK, POVERTY DATA: A SUPPLEMENT TO WORLD DEVELOPMENT INDICATORS 2008 11 (2008), *available at* http://siteresources.worldbank.org/DATASTATISTICS/Resources/WDI08supplement1216.pdf.

[48] THE PEOPLE'S REPUBLIC OF CHINA, INITIAL NATIONAL COMMUNICATION ON CLIMATE CHANGE: EXECUTIVE SUMMARY 1 (2004), http://www.ccchina.gov.cn/file/en_source/da/da20041109O1.pdf.

[49] *See* ALLIANCE FOR AMERICAN MANUFACTURING, AN ASSESSMENT OF ENVIRONMENTAL REGULATION OF THE STEEL INDUSTRY IN CHINA 3 (2009), http://chinaenvironmental-report-march-2009.pdf.

[50] *See* INT'L ENERGY AGENCY, KEY WORLD STATISTICS: 2008 15 (2008), www.iea.org/Textbase/nppdf/free/2008/Key_Stats_2008.pdf.

[51] *See* PEW CTR. ON GLOBAL CLIMATE CHANGE & ASIA SOC'Y, *supra* note 32, at 18.

[52] ENERGY INFORMATION ADMINISTRATION [EIA], COUNTRY ANALYSIS BRIEFS: CHINA 2 (2009), *available at* http://www.eia.doe.gov/emeu/cabs/China/pdf.pdf.

[53] *See*, e.g., ROB GIFFORD, A JOURNEY INTO THE FUTURE OF A RISING POWER (Random House 2008); JAMES KYNGE, CHINA SHAKES THE WORLD: A TITAN'S RISE AND TROUBLED FUTURE – AND THE CHALLENGE FOR AMERICA (Mariner Books 2007); TED C. FISHMAN, CHINA, INC.: HOW THE RISE OF THE NEXT SUPERPOWER CHALLENGES AMERICA AND THE WORLD (Scribner 2006); ODED SHENKAR, THE CHINESE CENTURY: THE RISING CHINESE ECONOMY AND ITS IMPACT ON THE GLOBAL ECONOMY, THE BALANCE OF POWER, AND YOUR JOB (Wharton School Publishing 2006).

CDM projects, and China and India together account for 59% of the CDM projects.[54] By contrast, dozens of developing countries have together received only 18% of the CDM projects. The CDM has largely ignored Africa, which produces a minimal amount of the world's greenhouse gas emissions but which has attracted an equally minimal amount of CDM investment. Africa has received only 2% of the projects registered under the CDM; excluding Egypt and South Africa, the rest of Africa has received less than 1%.[55] African nations had proposed that "projects should be allocated on an equitable regional/subregional basis" when the CDM was being designed, but that did not happen.[56] The investors who sought to capitalize on the CDM saw many more opportunities in China, India, and other rapidly developing countries than they did in the least developed countries of Africa and Asia. The difficulty lies in the CDM's reliance upon emissions reductions. Renewable energy projects can easily reduce emissions in China when the alternative is the generation of energy by burning coal, but there are few such large projects whose emissions need to be reduced in Africa.

But the CDM is about more than reducing greenhouse gas emissions. One of the purposes of the CDM is "achieving sustainable development."[57] Numerous international environmental treaties, including the 1992 Rio Declaration on Environment and Development, embrace the idea of sustainable development. The Rio Declaration recites that the human right to economic development "must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations" in order that all people enjoy "a healthy and productive life in harmony with nature."[58] The African understanding of the CDM would have afforded "equal importance" to sustainable development and emissions reductions.[59] Instead, numerous studies have faulted the CDM for failing to achieve, or even consider, its goal of promoting sustainable development where it is needed most.[60] Sustainable development has yet to occur in most of

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[54] *See* CLEAN DEVELOPMENT MECHANISM IN CHINA, *supra* note 35.

[55] *See* UNEP, *supra* note 20, at 8.

[56] Conference of the Parties to the Framework Convention on Climate Change, Nov. 2-13, 1998, *Matters Related to the Kyoto Protocol: Matters Related to Decision 1/CP.3 Paragraph 5*, ¶2 (d), U.N. Doc. FCCC/CP/1998/MISC.7/Add.2 (Nov. 5, 1998), *available at* http://unfccc.int/resource/docs/cop4/misc07a02.pdf. [hereinafter African CDM Submission]. Africa's role in the CDM is well summarized in Nelson, *supra* note 18; and Mumma, *supra* note 18.

[57] Kyoto Protocol, *supra* note 15, art. 12(2).

[58] United Nations Conference on Environment and Development [UNCED], June 3-14, 1992, *Rio Declaration on Environment and Development*, princs. 3, 1, U.N. Doc. A/CONF.151/26 (vol. I) (June 13, 1992). Note that the precise meaning of sustainable development is unclear, but its specific meaning is not necessarily pertinent in this context.

[59] African CDM Submission, *supra* note 56, ¶ 2(j).

[60] *See, e.g.*, Stefan Bakker et al., *Differentiation in the CDM: Options and Impacts*, SCI. ASSESSMENT & POL'Y ANALYSIS PROGRAMME FOR CLIMATE CHANGE, June 8, 2009, at 20, *available at* http://www.mnp.nl/bibliotheek/rapporten/500102023.pdf; Lambert Schneider, *Options to Enhance and Improve the Clean Development Mechanism (CDM)* 27-31 (ETC/ACC Tech. Paper 2008/15, 2008), *available at* http://air-climate.eionet.europa.eu/docs//ETCACC_TP_2008_15_future_CDM.pdf; Katrina Brown, W. Neil Adger, Emily Boyd, Esteve Corbera-Elizalde & Simon Shackley, *How Do CDM Projects Contribute to Sustainable Development?*, TYNDALL CENTRE FOR CLIMATE CHANGE RESEARCH, June 2004, *available at* http://tyndall.uea.ac.uk/sites/default/files/it1_13.pdf; Haripriya Gundimeda, *How "Sustainable" is the*

Africa, as "little progress was made in reducing extreme poverty in sub-Saharan Africa" despite the commitments contained in the Millennium Development Goals of 2000.[61] The Johannesburg Plan of Implementation of sustainable development in Africa calls for increased technology development and transfer, financial and technical support in crafting environmental law and policy, and the promotion of numerous initiatives designed to address Africa's chronic energy problems.[62] Focusing the CDM on the poorest countries of Africa could further each of these approaches. Commentators as diverse as Nicholas Stern and the International Emissions Trading Association have called for the poorest counties of the world to receive a greater share of CDM investment.[63] There are some signs that this is beginning to occur,[64] but the pace is very slow compared to the overall growth of the CDM.

The CDM could improve its ability to encourage sustainable development in Africa and in other least developed countries by adjusting the amount of credits that projects receive depending upon the country in which they are located.[65] The idea is to provide additional credits for projects located in countries that have yet to experience significant economic development while providing somewhat fewer credits for projects located in rapidly developing countries (such as China). The Human Development Index (HDI) developed by the United Nations offers

"Sustinable Development Objective" of CDM in Developing Countries Like India?, 6 FOREST POL'Y & ECON. 329 (2004); Youba Sokona, Adil Najam & Saleemul Huz, *Climate Change and Sustainable Development: Views from the South*, INT'L INST. ENV'T & DEV. (2002), *available at* http://www.wssd-and-civil-society.org/docs/iied_04.pdf.

61 U.N. DEPT. OF ECON. & SOC. AFFAIRS [DESA], THE MILLENNIUM DEVELOPMENT GOALS REPORT AUGUST 6 (2008), http://www.un.org/millenniumgoals/2008highlevel/pdf/newsroom/mdg%20reports/MDG_Report_2008_ENGLISH.pdf. A recent report attributes Africa's lack of progress toward the Millennium Development Goals to "poorly developed infrastructure, lack of institutional capacity, and continuing needs for investment in agriculture." U.N. COMM'N ON SUSTAINABLE DEV., POLICY OPTIONS AND PRACTICAL MEASURES TO EXPEDITE IMPLEMENTATION IN AGRICULTURE, RURAL DEVELOPMENT, LAND, DROUGHT, DESERTIFICATION AND AFRICA 37 (2009), http://www.un.org/esa/dsd/resources/res_pdfs/csd-17/Final_text.pdf.

62 *See* DESA, JOHANNESBURG PLAN OF IMPLEMENTATION OF THE WORLD SUMMIT ON SUSTAINABLE DEVELOPMENT 35-36 (2005), http://www.un.org/esa/sustdev/documents/WSSD_POI_PD/English/WSSD_PlanImpl.pdf.

63 *See* Cameron Hepburn & Nicholas Stern, *A New Global Deal on Climate Change*, 24 OXFORD REV. ECON. POL'Y 259, 273 (2008) (noting that the CDM "is contributing very little to sustainable development in the poorest countries, which was one of the original objectives of the mechanism"); Marcu & Dornau, *supra* note 31, at 17 (encouraging "a better geographical spread to least developed and other poor developing countries").

64 *See* UNEP, *supra* note 20, at 14-15, (citing the CDM's support of a hydroelectric dam in Mali, an onion preservation project in Niger, a waste composting project in Ghana, and the "clean, hydro based electrification of rural areas in Zambia").

65 For similar proposals, see Bakker et al., *supra* note 60, at 41-42 (May 2009) (describing ways of differentiating between parties that host CDM projects); Schatz, *supra* note 46, at 735 (recommending the use of higher discount rates for larger developing economies); AXEL MICHAELOWA, DISCOUNTING OF CERS TO AVOID CER IMPORT CAPS 1 (2008), http://www.bvek.de/downloads/Discounting%20of%20CERs-cop12-08%20bvek.pdf (proposing "[a] discount factor that increases with the level of development of a country" as measured by a new development index); Schneider, *supra* note 60, at 33-34 (suggesting that credits from more advanced developing countries should be discounted in order to encourage projects in the least developed countries); Kyle Meng, *Creating a Cleaner CDM*, CARBON FINANCE, Sept. 2007, at 16, *available at* http://www.edf.org/documents/7271_CFSept%202007_ED_CDM.pdf (proposing a sliding scale in credits that would give more weight to projects in the least developed countries).

one formula that could accomplish that result. The HDI is designed to calculate human well-being throughout the world as evidenced by life expectancy, literacy, and relative purchasing power.[66] The United Nations Development Program updates and publishes the HDI for 170 countries annually.[67] Generally, the highest-ranking 40 countries appear on the Kyoto Protocol's Annex I list of developed countries. The remaining 139 countries are considered developing countries on Annex II. An easy multiplication factor could be gleaned from each developing country's HDI ranking. For example, Brazil is ranked 75th in the 2007 HDI, so any CDM projects located there would generate .75 emissions credits for each ton of greenhouse gas emissions.[68] Chad, by contrast, would multiply each ton of reduced emissions by 1.75 because Chad is ranked 175th on the HDI list.[69] China is ranked 92nd, so any future CDM projects that are built in China would qualify for .92 credits per ton of reduced emissions.[70] The resulting multiplication factor would still commit CDM funding to projects in China, but it would make CDM investment even more attractive in less developed countries that have yet to receive many of the benefits of the CDM.

B. Dams

The second objection to the CDM's subsidy of dams in China focuses upon the environmental and social consequences of those dams. China has a long history of actively managing its water, but there were only 22 large dams in the country when the Communist Party established the People's Republic of China in 1949.[71] China then went on a building spree that produced 85,000 significant reservoirs and dams – including 22,000 large dams – by 2000.[72] Most of those dams were built for flood control or for irrigation, though they often generated hydroelectric power as well. Since 2000, China has pushed to increase the amount of electricity that it generates through hydropower. By 2009, China

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66 *See* U.N. DEV. PROGRAM, HUMAN DEVELOPMENT REPORT 2009: OVERCOMING BARRIERS: HUMAN MOBILITY AND DEVELOPMENT (2009), http://hdr.undp.org/en/media/HDR_2009_EN_Summary.pdf [hereinafter UNDP, HUMAN DEVELOPMENT REPORT 2009]. The HDI

> [M]easures the average achievements in a country in three basic dimensions: a long and healthy life as measured by life expectancy at birth; access to knowledge, as measured by the adult literacy rate and the combined gross enrolment ratio in education; and a decent standard of living, as measured by GDP per capita in purchasing power parity (PPP) US dollars.

UNDP, HUMAN DEVELOPMENT REPORT, *supra* note 66, at 11.

67 *See* UNDP, Statistics of the Human Development Report, http://hdr.undp.org/en/statistics/ (last visited Oct. 13, 2009) [hereinafter UNDP, Statistics]. Dr. Mumma first suggested the use of the HDI as a tool for achieving equitable responsibility for climate change, but his proposal focused on the permissible amount of greenhouse gas emissions rather than targeting CDM investment. *See* Mumma, *supra* note 18, at 204-06.

68 UNDP, Statistics, *supra* note 67.

69 *Id.*

70 *Id.*

71 *See generally* R. Fuggle & W.T. Smith, *Experience with Dams in Water and Energy Resource Development in the People's Republic of China* 6-8 (Working Paper Prepared for the World Commission on Dams, 2000) (report describes the history of dams in China).

72 *See id.* at 1.

produced more electricity from hydropower than any other country and China plans to double its hydropower capacity by 2020.[73]

The head of the World Commission on Dams observed that "[o]ne need not think too far back to recall the days when large dam projects were a matter of significant national pride."[74] Yet dams pose a dilemma. On the one hand, as the World Commission on Dams found, "Dams have made an important and significant contribution to human development, and the benefits derived from them have been considerable."[75] But, the Commission added, "in too many cases an unacceptable and often unnecessary price has been paid to secure those benefits, especially in social and environmental terms, by people displaced, by communities downstream, by taxpayers, and by the natural environment."[76] China's recent dam construction boom illustrates both sides of the debate over dams.

The Three Gorges Dam is the leading international symbol of China's new dams. First proposed by Sun Yat-Sen in 1919, Three Gorges is now the largest dam in the world.[77] Its primary purpose is to alleviate the flooding that killed thousands of Chinese residents throughout the centuries, but the dam also generates more hydroelectric power than any other dam in the world. Yet the dam was criticized for its environmental impacts, especially its threat to the rare (and now extinct) Yangtze River Dolphin and to biodiversity more generally; its cultural impacts, including the flooding of dozens of archaeological sites and ancient monuments; and its social impacts upon the more than one million people who had to be resettled to avoid the rising waters of the new reservoir once the dam was closed.[78]

The Three Gorges Dam did not receive any support from the CDM, but hundreds of other Chinese dams have sought approval under the CDM. The Xiaogushan hydropower plant was the first such dam, built in western China's Gansu province in 2003 for the purpose of "easing power-supply shortages, pro-

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[73] *See* INT'L ENERGY AGENCY, *supra* note 50, at 19; Tao Wang & Jim Watson, *China's Energy Transition: Pathways for Low Carbon Development*, TYNDALL CENTRE FOR CLIMATE CHANGE RESEARCH, 2009, at 16, *available at* http://www.sussex.ac.uk/sussexenergygroup/documents/china_report_forweb.pdf.

[74] Kader Asmal, *Introduction: World Commission on Dams Report, Dams and Development*, 16 AM. U. INT'L L. REV. 1411, 1417 (2001). The World Commission on Dams evolved from the desire of the World Bank and IUCN to evaluate large dam projects in the developing world. *See id.* at 1421-23. The WCD issued its report in 2000. *See* WORLD COMM'N ON DAMS, DAMS AND DEVELOPMENT: A NEW FRAMEWORK FOR DECISION MAKING (Earthscan Publications Ltd. 2000), *available at* http://www.dams.org/report/contents.htm; *see also The Report of the World Commission on Dams*, 16 AM. U. INT'L L. REV. 1435 (2001) [hereinafter *The Report*] (reprinting the report's executive summary).

[75] *The Report*, *supra* note 74, at 1436.

[76] *Id.*

[77] *See* Fuggle & Smith, *supra* note 71, at 12-14 (table that provides a chronology of events related to the Three Gorges Dam).

[78] *See id.* at 9-11 (summarizing the environmental, cultural, and social concerns about the dam); *see also* SAMUEL TURVEY, WITNESS TO EXTINCTION: HOW WE FAILED TO SAVE THE YANGTZE RIVER DOLPHIN 27-28, 37 (Oxford University Press 2008) (describing the role that the Three Gorges and other dams played in the apparent extinction of the dolphin).

tecting the environment, and removing poverty in local regions."[79] By September 2009, 904 Chinese dams received or sought approval from the CDM.[80] That has provoked the ire of a number of environmental organizations, especially International Rivers, which has been particularly outspoken about the environmental effects of the new Chinese dams funded by the CDM. It cites the example of the Xiaoxi Dam in Hunan Province, the home of Mao Zedong in central China. International Rivers reports, "this large dam epitomizes the abuse of carbon offsets and the many flaws in the CDM. In this case, the dam has evicted from their homes poor farmers in Hunan Province, China, while allowing Germany to burn more coal and still meet its Kyoto commitments."[81] International Rivers further complains:

> The German power utility RWE, one of the biggest CO_2 emitters in Europe, intends to buy CDM credits from the dam so that it can continue to expand its coal-fired electricity generation. In addition to generating offsets that don't lead to any real emissions reductions (because the dam has been built regardless of whether it receives CDM approval), Xiaoxi is beset with resettlement abuses, and fails to meet the basic standards of the World Commission on Dams as required by European law.[82]

International Rivers has submitted formal objections to other Chinese hydroelectric dams seeking CDM approval as well.[83]

Moreover, the most controversial dams may be yet to come. In 2003, the United Nations designated the Three Parallel Rivers of Yunnan as a World Heritage site. The three rivers – the Nu, the Mekong, and the Yangtze – flow south from the Himalayas through a remote area that is home to one of the world's leading biodiversity hotspots.[84] According to the International Union for Conservation of Nature (IUCN), "[t]he area is the most outstanding region for animal diversity in China, and likely in the Northern Hemisphere."[85] China established

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[79] The World Bank, *Clean Development Mechanism in China: Taking a Proactive and Sustainable Approach* xxv (The World Bank, Working Paper No. 30245, 2004), *available at* http://www.worldbank.org.cn/english/content/cdm-china.pdf.

[80] *See* INT'L RIVERS, SPREADSHEET OF HYDRO PROJECTS IN THE CDM PROJECT PIPELINE (2009), http://www.internationalrivers.org/files/CDM%20Hydro%20Spreadsheet%20Oct06.xls. As of October 6, 2009, China has a total of 910 projects. *Id.*

[81] *Xiaoxi Dam, China*, INT'L RIVERS, http://internationalrivers.org/en/china/china-other-projects/xiaoxi-dam-china.

[82] *Id.*

[83] *See* Letter from Barbara Haya, Consultant, Int'l Rivers, to Sven Kolmetz, Tüv Süd Industrie Service GmbH (July 11, 2007), *available at* http://internationalrivers.org/en/global-warming/carbon-trading-cdm/comments-jinjitan-large; Patrick McCully, *Comments on World Bank PCF Xiaogushan Large Hydro Project (China)*, INT'L RIVERS, Aug. 21, 2005, http://internationalrivers.org/node/1340; *see generally* Letter from Barbara Haya, Consultant, Int'l Rivers, to Hans Jürgen Stehr, Chair CDM Executive Board, CDM Secretariat (Oct. 12, 2007), *available at* http://www.internationalrivers.org/node/1892 (expressing "serious concern about the hundreds of hydropower projects from China currently entering and progressing through the CDM pipeline").

[84] *See* U.N. EDUC. SCIENTIFIC & CULTURAL ORG., WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION: THREE PARALLEL RIVERS OF YUNNAN PROTECTED AREAS (CHINA) ID No 1083, at 2 (2003), *available at* http://whc.unesco.org/archive/advisory_body_evaluation/1083.pdf.

[85] *Id.* at 3.

its first national park there in 2007.[86] The area is also home to large numbers of ethnic minorities. Yet China has proposed to build a dozen hydroelectric dams on the Nu River alone.[87] Much of the electricity to be generated by the dams would be sent to the more populous and economically developed cities in eastern China. Opponents cite the resulting loss of biodiversity and the displacement of tens of thousands of people for their ancestral lands.[88] Supporters see the dam as "the only exit we have" from generations of poverty.[89] The controversy caused Chinese Premier Win Jiabao to stop the project in 2004 pending further environmental studies, and in 2005 a coalition of Chinese NGOs and individuals called for those studies to be released before a decision about the dams is made.[90] "Damming the Nu has become a national debate in China," explained one activist, but there are indications that the project will resume soon.[91]

The appeal of hydroelectric dams is curious given that dams have long been a target of environmental complaints in the United States. John Muir failed in his lengthy fight to prevent the damming of the Hetch Hetchy Valley near Yosemite, but the dispute resulted in the creation of the Sierra Club and provided the first illustration of organized opposition to the environmental effects of a proposed project.[92] Another unsuccessful fight targeted the Tellico Dam in eastern Tennessee, which Congress specifically authorized after the Supreme Court held that the new Endangered Species Act (ESA) mandated that the dam must give way to the endangered snail darter.[93] Dams have become a routine target of environmental litigation relying upon the ESA, that fish preservation requirements were built into Federal Energy Regulatory Commission (FERC) relicensing decisions and other regulations. It is widely accepted that the era of large dam construction in the United States is over.

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[86] *See China: Places We Protect: China's First National Park*, THE NATURE CONSERVATORY, http://www.nature.org/wherewework/asiapacific/china/work/pudacuo.html.

[87] See Mark Jenkins, *Searching for Shangri-La: Two Visions of the Future Compete for the Soul of China's Western Frontier*, NAT'L GEOGRAPHIC, May 2009, at 69, for a map of the area and the proposed dams. A map of dam projects in the greater Shangri-la region is also available at http://www.internationalrivers.org/en/china/map-dam-projects-greater-shangri-la-region.

[88] *See* Philip H. Brown, Darrin Magee & Yilin Xu, *Socioeconomic Vulnerability in China's Hydropower Development*, 19 CHINA ECON. REV. 614 (2008).

[89] Wu Ming Xiaojie, *Report from China's Nu River Valley: Building Dams to Get Rich is Glorious, China Rivers Project*, WORLD RIVERS REV., Oct. 2006, *available at* http://chinariversproject.org/?q=node/30.

[90] *See Chinese Groups Demand Disclosure of Environmental Studies,* INT'L RIVERS, Aug. 31, 2005, http://internationalrivers.org/node/1059 (reprinting the letter sent by the Chinese NGOs and individuals and describing Wen's decision).

[91] Jenkins, *supra* note 87 (quoting Yu Xiaogan, the founder of Green Watershed). *See* Shi Jiangtao, *Rumours of Dam-building Leave Villagers Fearing for Their Future*, S. CHINA MORNING POST, Feb. 25, 2008, at 6.

[92] *See generally* ROBERT W. RIGHTER, THE BATTLE OVER HETCH HETCHY: AMERICA'S MOST CONTROVERSIAL DAM AND THE BIRTH OF MODERN ENVIRONMENTALISM (Oxford University Press 2005) (reconstructing the political battles that accompanied San Francisco's struggle to secure a source of Sierra Nevada water – from 1882 to 1934).

[93] *See* Tenn. Valley Auth. v. Hill, 437 U.S. 153 (1978).

We are even tearing down dams in the U.S. because of their environmental impacts. Consider the Fort Halifax Dam, built along Maine's Sebasticook River in 1908. The primary purpose of the dam was to generate electricity for Maine's industries. By the end of the twentieth century, though, those industries had disappeared and there was a growing interest in preserving the river's native shad and other fish. During its FERC relicensing proceedings, the dam's owner agreed to either install a fish pump or remove the dam. The owner opted for the fish pump and then switched to dam removal because the pump would have been prohibitively expensive. That decision spawned litigation between the proponents of the dam's removal (including federal and state environmental agencies and private environmental organizations) and the city and others who wanted to keep the dam for its historic, recreational, and other benefits. The courts sustained the owner's plan to remove the dam.[94] In 2008, another hydroelectric developer sought to take over the project, citing the public interest in "retention of a clean, renewable energy source," but FERC held that it was "incredibly late" in the process for "a possibly quixotic attempt" to save and operate the dam.[95] Finally, in the summer of 2008, the Fort Halifax Dam was destroyed exactly one century after its construction. The area's ecology will improve, but electric power must be obtained from elsewhere.

Or consider the Savage Rapids Dam, one of four major dams along the Rogue River in Oregon. Savage Rapids was built in the 1930's for irrigation purposes, but almost immediately it began killing lots of salmon. By 2001, the salmon were endangered and the dam was subjected to scrutiny under the Endangered Species Act.[96] Congress got involved and appropriated $36 million for diversion pumps to replace the diversion that the dam had accomplished by water pressure.[97] The dam was removed in April 2009.[98] Ironically, the dam did not generate any electricity, but the pumps now rely upon electricity that must be generated elsewhere.

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[94] *See* Save Our Sebasticook v. FERC, 431 F.3d 379 (D.C. Cir. 2005). Another FERC decision to allow the removal of a hydroelectric dam in North Carolina is now pending before the D.C. Circuit. *See* Brief of Petitioners, Jackson County, N.C. v. FERC, No. 08-1224 (D.C. Cir, June 20, 2008) (seeking review of Duke Energy Carolinas, LLC, 120 F.E.R.C. ¶ 61,054 (July 19, 2007), and Duke Energy Carolinas, LLC, 123 F.E.R.C. ¶ 61,069 (Apr. 22, 2008) (order on reh'g). *See also* David H. Becker, *The Challenges of Dam Removal: The History and Lessons of the Condit Dam and Potential Threats from the 2005 Federal Power Act Amendments*, 36 LEWIS & CLARK ENVTL. L. REV. 811 (2006) (examining the obstacles that remain before the Condit Dam may finally be removed and the potential effects of the 2005 amendments to the FPA on efforts to provide fish passage and remove dams).

[95] Order Rejecting Requests For Stay and Motion to Amend Surrender Order, FPL Energy Maine Hydro, LLC, 124 F.E.R.C. ¶ 61,037, 6-7 (July 17, 2008).

[96] *See* Memorandum from Donna Darm, Acting Reg'l Adm'r, on Endangered Species Act Section 7 Formal Consultation, Section 10 Findings, and Magnuson-Stevens Act Essential Fish Habitat Consultation, Savage Rapids Dam, Irrigation Operation for 2001, Jackson and Josephine Counties, Or. (May 4, 2001).

[97] *See* Energy and Water Development Appropriations Act of 2004, Pub. L. No. 108-137, § 220, 117 Stat. 1827, 1853.

[98] *See* Patrick Reis, *Salmon: String of Victories Against Ore. Dams Leaves Anglers, Enviros Optimistic*, LAND LETTER, Apr. 9, 2009.

The irrigation pumps along the Rogue River are a reminder that electricity demand continues to climb in the United States. Hydroelectric dams provide a modest role in meeting that demand, accounting for only 3% of the electricity generated in the U.S. in 2007.[99] One recent study of American dam building concluded that "as the American economy expanded into the 1960s and 1970s, the relative importance of federal hydroelectric power facilities diminished" as "there came a point at which additional hydropower capacity gradually proved more difficult (and eventually impossible) to build."[100] Yet the study also concluded, "even as the importance of hydroelectric power seems to shrink in the face of other energy sources, it in fact holds ever-increasing value as the demand for power grows into the twenty-first century."[101]

Besides their ecological impacts, dams may also result in social disruption when local residents are displaced to accommodate a new project. International Rivers places Brazilian and Kenyan dams in its Hydro Hall of Shame because of their impact on native communities.[102] The disruption has been even more acute in China. One study concluded, "the resettlement programs of all major water projects undertaken in China from the late 1950s to the late 1970s failed disastrously."[103] The situation improved by the time the Three Gorges Dam was built at the beginning of the twenty-first century, but the sheer size of the project – it displaced about 1.5 million people living in 13 major cities, 140 towns, and 1,300 villages – created massive social disruption.[104] Studies of the impacts of that dam concluded that women suffered disproportionately. China has taken steps to minimize those effects,[105] but the problems still exist. The Associated Press reported in January 2009 that the 7,500 people who were displaced by the new Xiaoxi dam were less than the modest sums that Chinese law requires but they "still seethe over losing their homes and farmland."[106]

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[99] *See* ENERGY INFO. ADMIN., ANNUAL ENERGY REVIEW 2008 7 (2009), *available at* http://www.eia.doe.gov/emeu/aer/pdf/pages/sec1_7.pdf. Hydropower's share of electricity generation in the United States peaked at 5.5% in 1983. *See id.*

[100] DAVID P. BILLINGTON & DONALD C. JACKSON, BIG DAMS OF THE NEW DEAL ERA: A CONFLUENCE OF ENGINEERING AND POLITICS 297 (University of Oklahoma Press 2006).

[101] *Id.* at 298.

[102] *See* Barbara Haya, *The CDM's Hydro Hall of Shame, 2008: "Dams, Rivers and People" Report*, INT'L RIVERS, 2008, http://www.internationalrivers.org/en/node/2837.

[103] Jun Jing, *Displacement, Resettlement, Reparation and Development – China Report* 3 (Working Paper Prepared for the World Commission on Dams), *available at* http://www.dams.org/docs/kbase/contrib/soc203.pdf.

[104] *See* JAN KNIPPERS BLACK, THE POLITICS OF HUMAN RIGHTS PROTECTION: MOVING INTERVENTION UPSTREAM WITH IMPACT ASSESSMENT 148 (Rowman & Littlefield Publishers, Inc. 2008) (enumerating the number of people displaced by the dam); *see also* Sarah C. Aird, *China's Three Gorges: The Impact of Dam Construction on Emerging Human Rights*, 8 HUM. RTS. BRIEF 24, 25 (2001) (contending that "[w]omen . . . suffer disproportionately due to the construction of large dams").

[105] *See* Jing, *supra* note 103 (discussing the evolution of China's resettlement efforts); Fuggle & Smith, *supra* note 71, at 18-26 (finding that the resettlement of 67,000 residents due to the construction of the Shuikou Dam in Fujian Province was successful).

[106] Joe McDonald & Charles J. Hanley, *China Dams Reveal Flaw in Warming Tool*, THE ASSOCIATED PRESS, Jan. 27, 2009, http://www.msnbc.msn.com/id/28777386.

Of course, hydroelectric dams have positive values as well. For the CDM, it suffices that hydroelectric power does not emit any greenhouse gases. The collateral benefits of using the CDM to build dams in China include the reduction of traditional air pollutants and the improved standard of living that such facilities offer to those living in very poor communities. China is also working to minimize the environmental and social consequences of its new dams. As one Chinese official working for the Nature Conservancy observed, "Dams are a reality in China. We don't like them from a biodiversity standpoint, but we . . . can work with agencies in China and international experts to help find solutions."[107] Those solutions include using hydropower revenue to fund conservation programs, improving flood management, and releasing water at times and in quantities that help the native fish.

Dams are thus a necessary evil from the perspective of China's economy, society, and environment. They are evil in the eyes of defenders of biodiversity. They are necessary as an alternative to China's use of massive amounts of coal with the attendant consequences for climate change, traditional air pollution, and other environmental ills. The challenge, then, is to identify the appropriate legal mechanism to guide China's energy development in a manner that has the least impact upon China's – and the world's – environment.

As applied by most host countries, the CDM adopts a polar view of the environment: anything that releases carbon is bad, while anything that prevents carbon emissions is good. The CDM is supposed to embrace sustainable development, but one report observed that "[t]he Kyoto Protocol embodies something of an unwritten assumption, namely that projects that are good for carbon abatement must also be good for sustainable development."[108] That assumption is flawed because not every method of reducing greenhouse gas emissions contributes to sustainable development, and some methods of reducing emissions offer much greater contributions to sustainable development than others. The CDM, however, takes an all-or-nothing approach. The CDM promotes renewable sources of energy such as wind and solar power even though they confront various environmental complaints.[109] At the same time, the CDM awards equal credits to projects that prevent greenhouse gas emissions but whose overall environmental impacts are more questionable, such as reducing the amount of nitrous acid burned in nitric acid plants and reducing methane emissions from charcoal

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[107] Misty Herin, *China - Minimizing Dam Impact on the Yangtze River*, THE NATURE CONSERVATORY, 2009, http://www.nature.org/wherewework/asiapacific/china/features/yangtzedams.html.

[108] Duncan Austin & Paul Faeth, *How Much Sustainable Development Can We Expect From the Clean Development Mechanism?*, WORLD RESOURCES INST., Nov. 1999, at 2, *available at* http://pdf.wri.org/cdm-note.pdf.

[109] *See, e.g.*, Residents Opposed to Kittitas Turbines v. State Energy Facility Site Evaluation Council, 197 P.3d 1153 (Wash. 2008) (holding that the state governor could override a county's aesthetic concerns to allow the sitting of a wind farm); Jim Abbott, Acting Cal. State Director, Bureau of Mgmt., Statement on Solar Energy Development on Federal Lands: The Road to Consensus: Oversight Field Hearing of the Subcomm. on Energy & Mineral Resources of the House Natural Resources Comm. 4 (May 11, 2009), *available at* http://www.blm.gov/pgdata/etc/medialib/blm/wo/Communications_Directorate/2009_congressional.Par.43610.File.dat/Field%20Hearing,%20Solar%20Energy%20Development%20on%20Federal%20Lands,%20HNR,%20E%20&%20MR%20(5-11-09.pdf (describing the effects of solar energy projects on fragile desert biodiversity and upon scare water resources).

projection.[110] Worse still, the CDM's focus on greenhouse gases results in it crediting projects that will reduce "super-pollutants" based upon the fact that the greenhouse effect of such pollutants is as much as 23,900 times greater than carbon dioxide.[111] Yet other projects that prevent the emission of greenhouse gases are excluded from the CDM. Nuclear power does not release any greenhouse gases, yet the CDM excludes the development of nuclear power facilities from eligibility for CDM funding.[112] Carbon capture and sequestration (CCS) has yet to be approved for CDM projects, too.[113]

Again, the overall environmental impact of a proposed CDM project could be subject to a multiplier like the one proposed for the host country above. The general approach is easy to sketch: renewable energy projects such as solar or wind farm should receive full credits while reducing super-pollutants, developing CCS, and employing nuclear power should receive discounted credits. Hydroelectric dams should fall somewhere in between to balance their positive contribution to reducing greenhouse gases and their negative impacts upon biodiversity and displaced individuals. A more precise formula may be gleaned from the work of Steve Thorne and Stefan Raubenheimer on the SouthSouthNorth project. They have created an appraisal matrix that evaluates potential CDM projects based upon eight sustainability indicators (mitigation of climate change, local environmental sustainability, the balance of payments, macroeconomic sustainability, cost effectiveness, technological self-reliance, and sustainable use of natural resources) and ten feasibility indicators.[114] This matrix could be adapted

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[110] *See* UNFCCC, Approved Baseline and Monitoring Methodologies, http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html (last visited Oct. 14, 2009) [hereinafter Approved Baseline and Monitoring Methodologies] (listing the types of projects that are eligible for CDM funding).

[111] *See* David M. Driesen, *Sustainable Development and Market Liberalism's Shotgun Wedding: Emissions Trading Under The Kyoto Protocol*, 83 IND. L.J. 21 (2008) (criticizing the CDM's treatment of super-pollutants).

[112] *See* David A. Wirth, *The Sixth Session (Part Two) and Seventh Session of the Conference of the Parties to the Framework Convention on Climate Change*, 96 AM. J. INT'L. L. 648, 653 (2002) (explaining the exclusion of nuclear power from the CDM). China has built 11 nuclear power plants since 1993, with seven more under construction and ten about to begin construction. *See* Wang & Watson, *supra* note 73, at 52. None of those facilities have received any CDM funding.

[113] For a summary of the debate concerning CCS and the CDM, compare WORLD COAL INSTITUTE, CCS & THE CLEAN DEVELOPMENT MECHANISM: A SUBMISSION ABOUT CARBON DIOXIDE CAPTURE AND STORAGE IN GEOLOGICAL FORMATIONS AS CLEAN DEVELOPMENT MECHANISM (2009), *available at* http://www.worldcoal.org/bin/pdf/original_pdf_file/css_the_clean_development_mechanism%2803_06_2009%29.pdf (asserting that "CCS meets the objectives and criteria of the" CDM) with GREENPEACE INT'L, CLEAN DEVELOPMENT MECHANISM: NO PLACE FOR CARBON CAPTURE AND STORAGE (2008), http://www.greenpeace.org/raw/content/international/press/reports/CCS-CDM.pdf (objecting to CCS as unsafe and contrary to sustainable development).

[114] *See* Steve Thorne & Stefan Raubenheimer, *Sustainable Development (SD) Appraisal of Clean Development Mechanism (CDM) Projects – Experiences from the SouthSouthNorth (SSN) Project*, FORUM FOR ECON. & ENV'T – FIRST CONF. PROC 54, 58-62 (2001), *available at* http://www.econ4env.co.za/archives/ecodivide/Theme3a.pdf (listing the indicators); *see generally* SouthSouthNorth Clean Mechanism Development Projects, http://www.southsouthnorth.org/ (last visited Oct. 14, 2009) (describing the work of the SouthSouthNorth project on climate change mitigation and adaptation). Other proposals for multiplying or discounting the credits earned by CDM projects depending upon the type of technology employed appear in Bakker & Saidi, *supra* note 45, at 6-7, 28-29; Schatz, *supra* note 46, at 727-34; Schneider, *supra* note 60, at 28-30.

for use in evaluating the multiplied or discounted credits that each CDM project should receive.

The multiplier for each type of project would then be combined with the multiplier for each host country as follows:

	Brazil .67	Chad 1.60	China .94	Sudan 1.50
Wind Power 1.0	.67	1.60	.94	1.50
Hydroelectric Dams .75	.50	1.2	.71	1.13
CCS .50	.34	.80	.47	.75
Nuclear Energy 2.5	.17	.40	.24	.38

This formula would adjust the CDM to provide the most credits to the most environmentally-friendly projects in the least developed countries (e.g., wind power in Chad) and the least credits to the least environmentally-friendly projects in the most developed countries (e.g., nuclear energy in Brazil). The precise numbers should be decided by the parties to the UNFCCC or by the CDM's executive board, and then Annex I nations will know how many credits they can earn through different types of projects in different locations.

III. Conclusion

Hailed as a breakthrough in environmental policymaking, the CDM is expected to generate nearly three billion CERs by the time the regulatory obligations of the Kyoto Protocol expire in 2012.[115] Cameron Hepburn and Nicholas Stern thus praise the CDM as "the success story of carbon trading to date" because of the emissions it has reduced, the investment it has encouraged, and its ability to engage the developing world in the response to climate change.[116] There remain serious questions, however, concerning the actual emissions reductions that can be attributed to the CDM and the cost of achieving them. So the CDM is one of many aspects of the Kyoto Protocol that is being revisited in the negotiations toward a new climate change treaty.

Countless experts have offered their suggestions for that new treaty. Without reviewing them all here, it is apparent that the most significant challenge is to craft an agreement that engages the United States while retaining the involvement of China. The CDM may serve as a crucial bridge between those two countries, but the CDM should also recognize the importance of the Kyoto Protocol's goal of encouraging sustainable development throughout the world. There is a place for hydroelectric dams in China, but those dams come at a significant environmental and social cost even as less developed countries have been ex-

[115] *See* CDM Statistics, *supra* note 21.

[116] Hepburn & Stern, *supra* note 63, at 272.

cluded from the benefits of CDM investment. The changes proposed here are designed to account for those shortcomings, and to complement the other changes to the Kyoto Protocol that will inevitably result as the global community revisits it in light of the experience of the past several years.

THE ANALYSIS OF THE ANTICIPATED EFFECTS ON THE ENVIRONMENT: COMPARING OPINIONS CONCERNING THE CENTRAL VERSUS LOCAL GOVERNMENT'S VIEWS ON THE THREE GORGES PROJECT IN CHINA AS WELL AS U.S. VIEWS ON IT FROM 1992–2006

Donald D.A. Schaefer[†]

Abstract

The purpose of this paper is to explore in detail the conflicting views between the local and national governments within China and the broader areas surrounding the struggles China's leadership faces as it deals with the Three Gorges Project. The project is the largest dam ever built. The Three Gorges Project is presenting to the leadership of China the challenge of forgoing international assistance from the United States and the World Bank in an effort to deliver to its people a source of "clean" electricity.[1] In the end, this paper will argue that the Chinese leadership, including the current President HU Jintao,[2] may well have been correct in building the Three Gorges Project, even with the terrible human toll that it continues to extract, because the other alternatives—namely the continued building of more coal-burning plants and/or the building of additional nuclear power plants[3]—may be a greater evil to the environment in the long run.

This paper addresses three areas: I; Differing Views from the Central versus the Local Governments, II; The Three Gorges Project, and III; The Clinton Administration versus the George W. Bush Administration—The Future of U.S.-China Foreign Relations.

I. Differing Views from the Central versus the Local Governments

China is in a period of real change as more people from the countryside demand rights based upon its 1982 Constitution. It is this Constitution that will

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[1] William Shapiro, *Human Rights and the Environment: IV. China's Three Gorges Dam*, 1997 COLO. J. INT'L ENVTL. L. POL'Y 146, 152-55 (1997).

[2] The World Factbook: China, *available at* https://www.cia.gov/library/publications/the-world-factbook/geos/countrytemplate_ch.html (last visited Sept. 2, 2009).

[3] *See* Jim Yardley, *China's Economic Engine Needs Power (Lots of It)*, N.Y. TIMES, Mar. 14, 2004, § 4, at 3, *available at* http://www.nytimes.com/2004/03/14/weekinreview/the-world-china-s-economic-engine-needs-power-lots-of-it.html.

play a greater role as more local Chinese will argue their cases before the courts.[4] Some of the biggest changes have come first, in the way the law is viewed and second, in the role that lawyers have been both viewed and used by the average citizen. In the end, it is President Jintao and those in the State Council who are appointed by the National People's Congress (NPC) that give direction to their nation. This direction, in turn, affects those in the rural areas. Yet, it is the daily lives in the rural areas that will be affected by the Beijing leadership and that will ultimately pay the price—good or bad—for the decisions regarding the Three Gorges Project.

Under the traditional ideology of the Qing legal system, there existed the idea that the person had no rights.[5] This absolute theory of power predominated much of early Chinese Law, and it was an ideology that continued into recent times. This is especially apparent with regards to what many in the West consider basic human rights. To be exact, one might say that under traditional Chinese law (post-1900s), there was the sense that the government was the "parent" and the worker "the child."[6] As Stephens explained, "The consistent use by the Chinese themselves, since very ancient times, of the 'father and mother' image of state authority invites, if it does not demand, a disciplinary interpretation of social order in China."[7] It is perhaps this approach that has allowed the Chinese government to rule over its people, and when necessary, to force onto them changes that few Westerners would allow.

Governmental and local perspectives differ on what might be acceptable practices by the government with regards to human rights. It is this cultural difference regarding human rights that Li has argued led to a misunderstanding by the West of how China views human rights issues.[8] As Li concluded, "The United States and China are so different that one should not expect methods suitable for one society to be appropriate for the other."[9] It is a struggle to understand Chinese human rights from a Western perspective, and one must always realize that the views within this paper are written through an imperfect lens.

This flawed view has influenced the way that the West (noticeably the U.S. leadership) has viewed Chinese human rights. It is perhaps this misaligned view

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[4] There are four levels of courts within China: 1) The Supreme People's Court (SPC), 2) High People's Courts (HPC), 3) Intermediate People's Court (IPC), and 4) Basic People's Courts (BPC). *See* RANDALL PEERENBOOM, LAWS. COMM. FOR HUM. RIGHTS, LAWYERS IN CHINA: OBSTACLES TO INDEPENDENCE AND THE DEFENSE OF RIGHTS 1 (1998) [hereinafter PEERENBOOM, LAWYERS IN CHINA]; RANDALL PEERENBOOM, CHINA'S LONG MARCH TOWARD RULE OF LAW 283 (Cambridge University Press 2002) [hereinafter PEERENBOOM, CHINA'S LONG MARCH]. There are also over 17,000 People's Tribunals within China that operate in a similar fashion to the BPC, and whose rulings have the same legal effect. PEERENBOOM: CHINA'S LONG MARCH, *supra* note 4, at 283.

[5] PHILIP C.C. HUANG, CIVIL JUSTICE IN CHINA: REPRESENTATION AND PRACTICE IN THE QING 76, 108 (Stanford University Press 1996).

[6] THOMAS B. STEPHENS, ORDER AND DISCIPLINE IN CHINA: THE SHANGHAI MIXED COURT 8 (University of Washington Press 1992).

[7] *Id.*

[8] Victor Li, *Human Rights in a Chinese Context*, *in* LAW, THE STATE, AND SOCIETY IN CHINA 335, 340 (Tahirih V. Lee ed., Garland Publishing, Inc. 1997).

[9] *Id.* at 349.

that may explain why the United States chose not to support the Three Gorges Project. It is a view that is both right and wrong, but one that will be struggled with throughout much of this paper. Peerenboom explained that it is unfair to look simply at what rights exist in China in a Western sense.[10] As Peerenboom explained, "Indeed, some claim that Chinese citizens enjoy rights unknown to their American counterparts: job placement and security, free access to medical care, and other 'economic rights' are most often cited."[11] Some believe these rights give the Chinese people a better lifestyle and overall life than their Western counterparts. Perhaps as Stephens might argue, the Chinese government has a right to look over its citizens and take care of them, as parents to their children.

Given this reality, then, perhaps it is within the right of the Chinese government to have a greater say in the lives of its citizens, as compared to what may be considered acceptable by Western standards. The challenge for the Westerner is to appreciate the diversity that exists within China and to accept that the Chinese government has the right to do what it believes is correct for its citizens. Yet rights can at times be abused with such megaprojects as the Three Gorges Project. For now, this paper will turn briefly to the area of land reform before addressing the more difficult issue of environmental rights and the struggle between the local versus central government given the recent changes to the Chinese Constitution.

A. Land Reform — Rural versus Urban Development

Perhaps few other areas are more central to a farmer than the ownership of his or her land. Yet in China ownership of land is not allowed. In the same way that one seldom washes a rental car, farmers could not be expected to improve their land because of the very real fear that such land would be taken away. The major reforms that came in the 1970s allowed small-scale farming enterprises and a greater level of movement of peasants to the cities, along with a decontrolling of the pricing in later years.[12]

Beijing, however, ensured by the 1980s and 1990s that there would be two economic (and land) systems—one for the cities and another for the rural countryside.[13] The change that has come about is a greater degree of autonomy for those in the countryside while having a greater degree of indifference to the government in Beijing.[14] However, part of the problem with these reforms is that Beijing has less control over what is going on with those living in the countryside. This loss of control has spilled over to what Ludman has described as the "floating population" of some 100 million in Chinese cities as more people from the rural farmland have chosen to move to the cities.[15]

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[10] R.P. Peerenboom, *What's Wrong with Chinese Rights?*, 6 HARV. HM. RTS. J. 29, 29 (1993).

[11] *Id.*

[12] *See* STANLEY LUBMAN, BIRD IN A CAGE: LEGAL REFORM IN CHINA AFTER MAO 103-04 (Stanford University Press 1999).

[13] *Id.* at 109-10.

[14] *See id.* at 110-12.

[15] *Id.* at 119.

With this rise in people moving from the rural areas to the cities, the once-prevalent ideology that has served the Chinese government for so long is now evaporating.[16] This evaporation has increasingly isolated the Chinese government from those living in the countryside. This isolation may give a greater degree of understanding as to why those in Beijing do not feel it necessary to take major actions to ensure that those who are removed from their lands to make room for the Three Gorges Project will receive adequate care, both financially and through future job security. This isolation has increased as rural communities take less notice of the directives from the central government in Beijing.[17]

The politics of the rural community are very different from those in the major cities. Yet, those in the rural communities may actually long for attention from those who are higher than their local community leaders due to a belief that the local leadership is corrupt. There is a greater degree of distrust at the local level for what Kevin O'Brien and Lianjiang Li have argued is the very real degree of corruption that commonly exists with "favoritism" toward one group over another.[18] This has caused a greater degree of continued distrust of those making the reforms.

Yet, the reality is that China has started to move away from state ownership[19] to a more market-driven system where grants for land are being given for commercial purposes for 40, 50, or even 70 years.[20] One of the more recent problems for those on the farms has been the "taking" of their land with limited compensation. As Ding explains, the surge in urban development has led to the government acquiring land: "Both the Chinese Constitution and the 1999 Land Administration Law (LAL) specify that the state, in the public interest, may lawfully requisition land owned by collectives, thus setting the stage for compulsory land acquisition."[21] The problem, as Ding explains, is that there is no way of knowing how much to pay the farmers for the land that was taken.[22]

As it turns out, the farmers in fact receive very little for the land that is taken by the government.[23] In fact, the vast majority of the money is first given to a collective, with very little given to the farmer whose land was acquired. This has only led to mistrust and strife between the local rural farmers and those in the government who complete the acquisition.

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[16] *Id.* at 121.

[17] *See* H.L. Fu, *Shifting Landscape of Dispute Resolution in Rural China*, *in* IMPLEMENTATION OF LAW IN THE PEOPLE'S REPUBLIC OF CHINA 179-95 (Jianfu Chen, Yuwen Li & Jan Michiel Otto eds., Kluwer Law International 2002).

[18] *See* Kevin J. O'Brien & Lianjiang Li, *The Politics of Lodging Complaints in Rural China*, CHINA Q., Sept. 1995, at 760-67.

[19] *See* PATRICK A. RANDOLPH JR. & LOU FIANBO, CHINESE REAL ESTATE LAW (Kluwer Law International 2000).

[20] *See* Chengri Ding, *Effects of Land Acquisition on China's Economic Future*, 16 LAND LINES 11, 11 (2002), *available at* https://www.lincolninst.edu/pubs/dl/867_Jan%202004%20final.pdf.

[21] *Id.*

[22] *Id.*

[23] *Id.*

The land reform that has occurred in China has focused on allowing greater access to land that can be leased for ever-greater periods of time for both governmental and commercial purposes. In the process, however, there have been abuses due to expansion into the countryside of both state and foreign companies that have taken land from the local farmers.[24] The farmer's basic attitude has been negative based upon a mistrust of those who have taken the land.[25] This has been especially true with regard to the acquisition of land for public purposes.[26] Seemingly, this process will only continue as more foreign investment continues and as the state acquires even more land for its commercial purposes. Yet, there are two sets of rules in China — one for the rural areas and another for the urban areas. As the two collide, it is speculated that the rural areas will continue to suffer.

B. The Constitution and the Changing Views Regarding the Rights Contained Within

Over the years, the main thrust of the laws has come from the Chinese Communist Party (CCP), with perhaps only lip service given to its 1982 Constitution. Yet the articles within the 1982 Constitution address many of the same issues as its Western counterparts.[27] As Jones points out, "Power is said to belong to the people, but it is exercised by what looks like an indirectly elected parliament, the National People's Congress (NPC)."[28] Given that the parliament meets only once a year and has over 3,000 members, it is really the central committee of the NPC that controls the laws that are sent out. It is perhaps this conflict between the laws given by the NPC and those that are within the Constitution that has continued to cause much strife. In the end, as will be explained later, it may yet be the Constitution that wins.

The struggle that is so common with land reform between the rural areas and the Beijing central government is also present within the 1982 Constitution. As Jones notes in his article, "The preamble [of the Constitution] begins with the history of the struggle of the people against feudalism and imperialism . . . Article I states that China is a people's democratic dictatorship."[29] What the Constitution clearly states is that the leadership of China, i.e., the democratic dictatorship, shall govern the proletariat. However, as has been explained above, there is a growing sense of isolation between the rural areas and those in leadership positions in Beijing.

How, therefore, can one come to grips with this supposed conflict? Part of the solution may come from the central government itself as it starts to take more seriously the provisions contained within the Constitution. Once this starts to

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[24] *Id.* at 13.

[25] *See* O'Brien & Li, *supra* note 18.

[26] *See* Ding, *supra* note 20.

[27] *See* William C. Jones, *The Constitution of the People's Republic of China*, 63 WASH U. L. Q. 707 (1988).

[28] *Id.* at 708.

[29] *Id.* at 726.

occur, those who live in the more rural areas might be willing to listen more carefully to the actions being taken by the leadership in Beijing.

In what has been termed China's *Marbury v. Madison*,[30] the Supreme People's Court in a civil suit used the 1982 constitutional provisions "to protect a citizen's right to receive education, one of the fundamental rights protected by the Constitution."[31] In the Qi Yuling case, Kui explains,

> [T]he Supreme People's Court established its basic premise that the Constitution could be judicially applied when defects or gaps emerge in ordinary laws and regulations. From this premise, it follows that in any dispute, whether between private entities (private law relationship), or between a private entity and the State, or a public entity that exercises public power (public law relationship), courts can apply the Constitution.[32]

Thus, the Constitution will play a significant role — as compared to years past —in the decisions of the courts. This is especially true as it relates to justice, the taking of land and possible issues with the displacement of people around the Three Gorges Project. For now, the Qi Yuling case firmly demonstrates that rights contained within the Constitution will be more observed.

1. The Constitution and the Environment

The closer observance of the 1982 Constitution by the Chinese courts will impact both the rural areas and the leadership in Beijing as it relates to the environment.[33] Specifically, Article 9 of the Constitution states in part, "The state ensures the rational use of natural resources and protects rare animals and plants. Appropriation or damaging natural resources by any organization or individual by whatever means is prohibited."[34] What the Constitution clearly states is that the natural resources shall not be damaged by any organization. The question, as will be raised in the next section, is the degree to which this may be applied to the Three Gorges Project.

However, Article 9 also states in part that the "state may, in the public interest, appropriate or requisition land for its use in accordance with the law."[35] As Ding points out, the question here is how the average farmer can argue against the takings of his or her land in the face of a clear article within the Constitution that

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[30] Shen Kui, *Is It The Beginning of the Era of the Rule of the Constitution? Reinterpreting China's "First Constitutional Case"*, 12 PAC. RIM. L. & POL'Y J. 199, 199 (2003).

[31] *Id.*

[32] *Id.* at 218.

[33] Homer Sun, Note, *Controlling the Environmental Consequences of Power Development in the People's Republic of China*, 17 MICH. J. INT'L L. 1015, 1022-23 (1996).

[34] Xian Fa [Constitution] art. 9, § 2 (1999) (P.R.C.), *available at* http://www.gov.cn/english/2005-08/05/content_20813.htm (adopted at the Fifth Session of the Fifth National People's Congress and Promulgated for Implementation by the Proclamation of the National People's Congress on December 4, 1982, as amended at the First Session of the Seventh National People's Congress on April 12, 1988, at the First Session of the Seventh National People's Congress on March 29, 1993, and the Second Session of the Session of the Ninth National People's Congress on March 15, 1999).

[35] *Id.* art. 10, § 3.

allows such a taking for "public interest" purposes.[36] The answer lies with the changing views of the application of the Constitution since the Qi Yuling case, because now what qualifies as "public interest" may be debated. Article 10 goes on to state that "[a]ll organizations and individuals using land must ensure its rational use."[37] The question here is deciding what constitutes "rational use" and for what purpose this might be used. In general, Article 10 clearly supports the government's position that it may use the land it has and may further acquire more when necessary. However, Sun points out that Article 10 "establishes a duty of persons and organizations to rational land use."[38] This is the duty that will be debated.

Additionally, Article 26 appears to further protect the environment when it states, "The state protects and improves the environment in which people live and the ecological environment. It prevents and controls pollution and other public hazards. The state organizes and encourages afforestation and the protection of forests."[39] It is hard to believe that this law will not be used in the future to challenge other major projects, such as the Three Gorges Project, on the assumption that the level of pollution derived from such a plan will only turn vast areas of factories and other former polluted areas into static swamps of hazardous chemicals as they are buried under a mountain of water. Perhaps in the same way that The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or the Superfund) is used in the United States,[40] Article 26 may be used to force cleanups of polluted sites and may further prevent them from occurring.

For now the Chinese government appears willing to take the power it has and force what it believes is best for China as a whole onto those rural areas that have become far more distant and independent from Beijing in recent years. Yet, the farmers and others are still not without means to protest. Those means will only grow as local courts become far more willing to use the Constitution to impact environmental regulations and laws.

For now, as Sun explains, courts have been reluctant to enforce environmental laws,[41] perhaps out of fear from their superiors. It is this very fear by the courts that needs to be replaced with a greater degree of confidence before any real legal amendments regarding environmental pollution caused by the state are enacted at the local level. Yet, the Beijing central government is making sure that the farmers of China are not left behind through the elimination of farm taxes within five years and grain subsidies worth $1.2 billion year.[42] However, even with this good gesture, the reality is that farmers in rural areas have been left behind.

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[36] *See* Ding, *supra* note 20.

[37] Xian Fa art. 10, § 5 (P.R.C.).

[38] Sun, *supra* note 33, at 1022.

[39] Xian Fa art. 26, §§ 1-2 (P.R.C.).

[40] *See* WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW 680-85 (2d ed. 1994).

[41] Sun, *supra* note 33, at 1024-25.

[42] *What They Are Saying*, CHINA DAILY, Mar. 25, 2004 (LEXIS).

It is this feeling of being left behind that perhaps has continued to cause fear and distrust among those in the rural areas of the courts and the government officials who run them. As Sun explains, "The Chinese judiciary has . . . been used to enforce environmental law through civil and criminal actions. While the use of the judiciary holds promise for the future as China's legal system continues to develop, litigation is inherently constrained by the international weaknesses of Chinese courts."[43] Litigation for now, as Sun notes, has been rendered ineffective.[44] However, that process may one day in the near future change with the recent rise in expectations of those in the rural areas for a greater say in how the government operates. Those in the rural areas may request a greater say in how the government enforces much of its laws governing environmental regulations and laws. This is especially true concerning the enforcement of those regulations upon both the commercial sectors that encompass the farmland and ultimately upon the district and higher-level governmental agencies that enforce them.

One of the basic problems that Sun points to is the general lack of criminal provisions against environmental pollution.[45] This is further explained by Ross and Silk, as they note,

> The Chinese Criminal Law does not provide for the crime of "harming the environment." This is not because the crime does not exist in this country, but because there was not thorough consideration during the enactment of the Criminal Law in the first place. In the areas of environmental law, although there is a provision with regard to criminal penalties, practical experience in the past has proved that no criminal who harms the environment may be brought under control without the enactment of specific substantive criminal law.[46]

As Ross, Silk, and Sun clearly state, there are no real criminal laws against the pollution of the environment. Therefore, even with constitutional provisions found within the Chinese Constitution in Articles 9, 10, and 26 with regard to the environment, without the clear ability to criminalize those who break them, those laws may be simply *paper-tigers* for now.

However, contrary to what Ross and Silk have argued, a more recent reading of *The 1997 Criminal Code of the People's Republic of China* (China's Criminal Code) clearly states in Section 6 — Crimes Undermining the Protection of Environmental Resources — that violations against the environment may allow the government to act against individuals or companies.[47] Article 338, for example, states,

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[43] Sun, *supra* note 33, at 1024.

[44] *Id.*

[45] *Id.* at 1025-26.

[46] LESTER ROSS & MITCHELL A. SILK, ENVIRONMENTAL LAW AND THE POLICY IN THE PEOPLE'S REPUBLIC OF CHINA 108 (Quorum Books1987).

[47] *See* WEI LUO, THE 1997 CRIMINAL CODE OF THE PEOPLE'S REPUBLIC OF CHINA: WITH ENGLISH TRANSLATION AND INTRODUCTION 176-80 (William S. Hein & Co., Inc. 1998). See specifically articles 338 through 346. *Id.*

> Anyone who violates the national regulations by dumping or disposing any radiative wastes, wastes contaminated with contagious diseases, toxic materials or other dangerous wastes into land, water or air, thereby causing serious environmental pollution, and serious damage to public or private property is a consequence, or a death or injury to a human life occurs, shall be sentenced to a fixed-term imprisonment of not more than three years or criminal detention, and may in addition or exclusively be subject to a fine. Where exceptionally serious consequences are involved, the sentence shall be fixed-term imprisonment of not less than three years nor more than seven years, and may in addition include a fine.[48]

As Article 338 of China's Criminal Code clearly states, people can be imprisoned for violating a code that is intended to protect the environment. Furthermore, those who are caught are not given the same rights as many Westerners might expect, and in most cases can only be persuaded to plead guilty in the hope that the judge will reduce their sentence.[49] A basic problem, as Peerenboom pointed out, is that "citizens must know the law to be able to follow it and take advantage of the rights provided to them."[50] The struggle that may be going on in China now is that there are laws that individuals are slowly becoming aware of within the Constitution and China's Criminal Code that reflect rights for protecting the environment. The question, however, deals with enforcement and the willingness of the Chinese courts to take on those hard cases involving government officials and companies owned or operated by the state or those connected with high-level officials. Until such time, real change will not begin.

As the Qi Yuling case has established, however, the articles within the Constitution are being taken more seriously by the Chinese courts. The real question that remains is the degree to which the leadership in China will take seriously the problems of those in the countryside as they deal with the environment. If the recent tax breaks are any indication,[51] those in Beijing may be considering further the effects of the actions being taken in Beijing on those in the countryside. However, China's leadership in Beijing must come to terms on the one hand, with its actions that arguably violate some of its own laws on the environment, such as the Three Gorges Project, and, on the other hand, with the wish to be seen both by its local population and other countries that may provide assistance, as a nation that can develop a sustainable environment while taking into account both local and central government issues. The Chinese central government has started this process with Agenda 21.

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[48] *Id.* at 176.

[49] PEERENBOOM, LAWYERS IN CHINA, *supra* note 4, at 19 (1998).

[50] PEERENBOOM, CHINA'S LONG MARCH, *supra* note 4, at 330.

[51] *See What They Are Saying*, *supra* note 42.

C. Agenda 21 and its Effects on China's Future Environmental Laws

China sent a very clear message in 1994 that it is committed to improving its environment with China's Agenda 21.[52] Agenda 21 was financially supported by the United Nations Development Programme (UNDP) with the goal of mobilizing foreign aid to help with energy conservation and environmental protection.[53] Agenda 21 was adopted at the 16th Executive Meeting of the State Council of the People's Republic of China (PRC) on March 25, 1994.[54] Premier Li Peng notes in the *Preface*,

> There is a lot to be done and many difficulties to be surmounted in environmental protection and development. But I am convinced that, as long as all countries help each other like passengers in the same boat, conduct fruitful cooperation and work hard, it is possible to protect the global environment and expand the economy at the same time so that the earth will become a beautiful homeland where people live and work happily together.[55]

Peng is stating a wish for all to work together and is sending a clear signal to the rest of the world that China is willing to do its part. However, the question as to why a nation with such a commitment would build the Three Gorges Project that has continued to devastate the surrounding communities may be better understood within the context of a cost-benefit analysis.

For China, as Agenda 21 so addresses, there is a clear need to develop its natural resources as the nation as a whole continues to grow. The Introduction notes, "Sustainable development is a strategic choice that must be made by both developing and developed countries. For a developing country like China, however, the precondition for sustainable development is development."[56] What is made clear throughout Agenda 21 is that as China becomes more developed, it must use its natural resources to achieve sustainable development for an ever-growing population. Agenda 21 goes on to note,

> The overall goal for the development and protection of water resources is to combine the development and utilization of water resources with a full-scale saving of water to alleviate water supply crisis in cities and the

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[52] Sun, *supra* note 33, at 1022.

[53] *See* Lin Gan, *World Bank Policies, Energy Conservation and Emissions Reduction*, *in* CHINA'S ECONOMIC GROWTH: THE IMPACT ON REGIONS, MIGRATION AND THE ENVIRONMENT 184, 198-99 (Terry Cannon ed., St. Martin's Press, Inc. 2000).

[54] CHINA'S AGENDA 21 - WHITE PAPER ON CHINA'S POPULATION, ENVIRONMENT, AND DEVELOPMENT IN THE 21ST CENTURY (China Environmental Science Press 1994) (adopted at the Executive Meeting of the State Council, Mar. 15, 1994) (P.R.C.), *available at* http://www.acca21.org/cn/indexe6.html [hereinafter CHINA'S AGENDA 21].

[55] *Id.* at 4 (quoting Li Peng, Premier, Address at the United Nations Conference on Environment and Development (June 12, 1992)).

[56] *Id.* § 2.1.

> countryside to maximize the economic, social, and environmental benefits to be obtained from utilization of water resources.[57]

The clear point that the Chinese government is making is that there exists a stark reality in balancing its wish to protect the environment, while at the same time dealing with the many needs of an ever-growing industrialized society. As has occurred in the United States and in countless other more-developed nations, China has been willing to sacrifice its environment for the goal of achieving sustainable growth.

However, there has been some very real criticism of Agenda 21. To begin, Sun has argued that the focus of much of China's recent actions has centered more on a wish to regulate foreign investment.[58] Gan has gone further by stating that "[t]he Agenda 21 project can be considered a case of window-dressing. It did not increase national capacity, but rather helped to raise positive responses from line ministries in matters relating to sustainable development."[59] The criticism here argues that one of the primary reasons for China's approving Agenda 21 was to please the developed world, especially those countries that may provide financial aid.

The goals that were created with Agenda 21 remain with the Chinese nation today. It clearly shows a wish to balance its environment with accommodating the rising need of sustainable development. While some of the criticism has come from those who see it as a tool for gaining foreign aid, that in itself should not be seen necessarily as wrong, but rather as a wish to gain further assistance, as Peng was so quoted,[60] in order to have as many countries as possible working together in a global effort to ensure sustainable development — *for everyone*.

D. Future of the Environment — *Rural versus Urban*

At the beginning of this section, the issue of rural versus urban control was brought up. This issue will play a major role in the way the next section addresses, more specifically, the Three Gorges Project. Like the United States, China must return to a clearer goal of finding a balance between development on the one hand, and the over-powering of the rural communities on the other. This trend will continue to grow as those in the rural and more-distant communities attempt to achieve a greater level of independence from their leadership in Beijing. The basic struggle is over what the local communities around the Three Gorges Project may see as an over-intrusive government versus the CCP's clear wish for a degree of sustainable development in a nation whose population will rise, even with the one-child policy.

What has become a tool, perhaps since the Qi Yuling case, is that the courts may turn to the Constitution for guidance and may force those high up in the leadership to take notice. This is especially true if the provisions found in Arti-

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[57] *Id.* § 14.33.

[58] Sun, *supra* note 33, at 1022.

[59] Gan, *supra* note 53, at 199.

[60] CHINA'S AGENDA 21, *supra* note 54, § 3.10.

cles 9, 10, and 26 of the Constitution are enforced. Yet, as has been shown, while there are clearly provisions within the Chinese Constitution to provide for environmental protections, there remains the difficult question of whether the articles found in China's Criminal Code regarding the environment[61] may ever be used against any government official, especially in a megaproject such as the Three Gorges Project.

Enforcement, therefore, is critical for the future of the rural communities' environment. Even if a farmer or city resident receives a judgment in his or her favor, the local police and military are unlikely to assist in enforcing that judgment.[62] At this point, it seems doubtful that the articles contained within both the Constitution and China's Criminal Code will be used by the courts to limit megaprojects such as the Three Gorges Project. In this way, such articles within the Constitution and China's Criminal Code may prove to be *paper-tigers* with little, if any, real backing.

Articles such as those contained within the Constitution and China's Criminal Code may be important as the Three Gorges Project and others like it are put to use, and as problems develop as a result. For the average farmer there may be little that can be done with regard to the taking of his or her farms[63] or other land that the courts are willing to take a greater role in.

Beijing, for its part, has sought assistance through the creation of Agenda 21 and by showing the rest of the world that it cares about its environment. For this reason, it is somewhat surprising that the United States and the World Bank chose to turn their backs on the Three Gorges Project and not offer any funding. The project itself is moving forward. The question, as will be addressed next, is the full impact of what is in fact a *fait accompli.*

II. The Three Gorges Project

When completed, the lake behind the Three Gorges Project will extend for 600 km upstream and will have twenty-six 500 megawatts (MW) turbines.[64] It will be able to generate 18,200 MW and will be the largest power project in the world.[65]

Yet, there is a very real human and environmental toll that will perhaps make all other major projects in the world pale in comparison. As an article by *Archaeology* puts it, "The dam is the largest hydroelectric project ever undertaken; 13 cities, 140 towns, more than 1,600 villages, and 300 factories will be sub-

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[61] *See* LUO, *supra* note 47, at 176-80.

[62] *See* Kari M. Larson, *A Lesson in Ingenuity: Chinese Farmers, the State, and the Reclamation of Farmland for Most Any Use*, 7 PAC. RIM L. & POL'Y 831, 852-54 (1998).

[63] *See* Ding, *supra* note 20, at 11.

[64] *See* Shiu-hung Luk & Joseph Whitney, *Introduction*, to MEGAPROJECT: A CASE STUDY OF CHINA'S THREE GORGES PROJECT 3, 3 (M.E. Sharpe Inc. 1993).

[65] *Three Gorges Dam: New Round of Bidding Opens Amidst Controversy*, INT'L RIVERS NETWORK, June 12, 2003, *available at* http://www.waternunc.com/gb/IRN_3g_02_2003.htm.

merged."[66] Between 1.2 million and 1.9 million people will be displaced as a direct result of this project.[67] The human costs are very high, as are the environmental costs to the surrounding areas. It is feared that many of the factories and other submerged human habitat will cause prolonged environmental damage.[68]

The $36 billion project has been done without support from either the World Bank or the United States due, in large part, to the perceived environmental damage and huge human costs involved. This problem first surfaced during the Clinton Administration and continued through the George W. Bush Administration. Yet, one must wonder at what cost. The U.S. Export-Import Bank chose not to finance the dam[69] because of the concerns noted above, and in the process two of the world's largest lenders have been kept out of the largest dam project in the world.

To date, more than 640,000 people have been resettled.[70] It is this first issue of displacement that will be addressed here, before going on to the larger issues regarding the financial costs of this project and why the leadership in Beijing has been willing to sacrifice so much for its development. It will conclude by looking to the international issues regarding financing the Three Gorges Project, which will in turn allow this paper to end with a discussion of U.S.-China relations and the impact that this project will continue to have for both sides of the ocean.

A. The Displacement of Inhabitants — The Environmental Impact

The previous section addressed the legal rights regarding both constitutional and criminal laws that may be used against those who violate the environment. However, for many people around the Three Gorges Project, those rights may not come into effect. The Chinese government appears willing to take the land and displace the inhabitants around it to allow the project to move forward. The relocation of the people around the project violates both the World Bank resettlement policy[71] and the International Covenant on Civil and Political Rights.[72] Many of the promises regarding reimbursement and assistance in moving have clearly fallen short of the General Plan for Population Resettlement.[73]

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66 Spencer P.M. Harrington, *Plundering the Three Gorges*, ARCHAEOLOGY, May 14, 1998, http://www.archaeology.org/online/news/china.html.

67 *Id.*

68 *Id.*

69 *Id.*

70 *See* INT'L RIVERS NETWORK, HUMAN RIGHTS DAMMED OFF AT THREE GORGES: AN INVESTIGATION OF RESETTLEMENT AND HUMAN RIGHTS PROBLEMS IN THE THREE GORGES DAM PROJECT 2 (2003), *available at* http://www.internationalrivers.org/files/3gcolor.pdf.

71 The World Bank Operational Policies require that "displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement programs." INT'L RIVERS NETWORK, *supra* note 70, at 6 (*citing* World Bank Operational Policies, OP 4.12, paragraph 2A).

72 *See id.* at 6.

73 *Id.* at 8.

This has led to distrust by the local inhabitants who were forced to move and who saw their land taken from them. As noted above,[74] such takings are allowed and very little in the way of resettlement funding might be expected. An article by the *International Rivers Network* notes, regarding interviews with the rural residents affected by the government's desire to move them, "'We have been cheated,' is the phrase used repeatedly by everyone the researcher spoke to."[75]

The researchers state that those who have been moved have failed to gain any real compensation and were beaten when such efforts were made, noting, "Some protests have been tolerated but in other cases the organizers have been beaten and imprisoned."[76] As Peerenboom noted above, citizens must know and understand their laws before they can use them effectively.[77] Yet, as one article notes, "Compounding this feeling [of resentment] are the confusing and proliferating regulations that the local resettlement authorities have issued."[78] The regulations are confusing, and when they are used, the local inhabitants (at least according to this article) are beaten and abused. Thus, the gap between the rural inhabitants and the leadership in Beijing has only grown with each passing day that such abuse has continued.

The next issue that the rural inhabitants and those in Beijing must deal with is corruption. Premier Zhu Rongji, touring a project in December 1998, railed against "tofu" construction that had collapsed.[79] This is only one example of the corruption that is to be expected with a project where the central government in Beijing is so distanced from. According to one estimate, 473 million Yuan in the resettlement fund in 1998 (or roughly 12%) was embezzled, misappropriated, or illegally used.[80] With regards to corruption at the Three Gorges Project, according to McMillian,

> Perhaps one of the most incriminating condemnations—which is also among the most difficult to prove—is that officials have been cutting corners and pocketing the savings in the course of the massive public works scheme to house those misplaced by the Three Gorges dam in high-rise apartments in extensive new towns. This final wave of corruption could ultimately bring about life-threatening problems, all arising out of a project allegedly designed to save lives from flooding.[81]

Thus, those who are moved due to the Three Gorges Project are subject first to takings by the government often without compensation, and second, to having

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[74] *See infra* pp. 4-5.

[75] INT'L RIVERS NETWORK, *supra* note 70, at 11.

[76] *Id.*

[77] *See* PEERENBOOM, CHINA'S LONG MARCH, *supra* note 4, at 330.

[78] INT'L RIVERS NETWORK, *supra* note 70, at 11-12.

[79] *Id.* at 13.

[80] *Id.*

[81] Liam McMillan, *Floodgates of Corruption: China's Three Gorges Dam*, GLOBAL CORRUPTION REPORT 2003, at 131 (2003), *available at* http://www.transparency.org/content/download/4382/26553/file/13_East_Asia_(Lu).pdf.

what money should go to them siphoned-off to corrupt officials. Grassroots resistance to the project is increasing,[82] but such resistance is put down very harshly.[83] As an article in Human Rights Watch/Asia noted, "Those attempting to stage protest demonstrations or to carry out acts of civil disobedience, moreover, will be summarily dealt with."[84] The same article noted that those who attempted to fight the project's existence were summarily stopped, and their rights for fighting its continuation suppressed.[85] Moreover, the article concluded, "[T]hose who opposed the project or opposed relocation had no means to obtain full information or demand redress for losses; and secret arrests of political dissidents in the area took place because of their opposition to the dam."[86] Thus, even where there might be laws to protect the farmers and other residents who have been affected by the Three Gorges Project, there is very little, if any, chance that actions will be taken against those injuring the farmers and residents affected or those who support them.

At the beginning of this paper it was proposed that the Three Gorges Project was made at the request of the Chinese leadership to address a growing need for sustainable development. In this one small section the bare realities of that development have come face-to-face with the starkness of greedy contractors, misplaced farmers, and limited funding. In the end, it has been the ones being moved — for now— that have suffered the greatest. There are in reality few actions that can be taken against the Chinese government, and what laws exist within either the Constitution or China's Criminal Code will most likely not be applied within the near future. The bare reality is one of suffering and of a distant government that should take a closer look at the realities of the *human* damage caused by the Three Gorges Project.

Yet, it is the future of China, as will be addressed within the next few pages, that may justify the huge costs now being taken by the government as it moves forward with the Three Gorges Project. If the project does in fact pay out and if human suffering can be limited, then China can stand firm in its decision to create the world's largest public-works project in modern history. The question addressed now is how this project will be financed and ultimately the effect that such a project will have on future relations with other nations of the world.

B. Foreign Financial Assistance

Perhaps few other issues could have stopped the Three Gorges Project from being built more effectively than the simple lack of funding. Part of that reasoning has come from the fact that neither the World Bank nor the U.S. Export-

[82] *See The Three Gorges Sam in China: Forced Resettlement, Suppression of Dissent and Labor Rights Concerns*, HUMAN RIGHTS WATCH/ASIA, Feb. 1995, at 9.

[83] *Id.* at 10.

[84] *Id.* at 13.

[85] *Id.* at 21.

[86] *Id.*

Import Bank is willing to finance the dam,[87] due in part to the human cost. Instead, financing came in part from the Export Credit Agencies (ECA's) that have extended over $1.4 billion in credits and guarantees for construction.[88] Another $830 million in bonds was underwritten by investment banks such as Morgan Stanley.[89] In addition, Morgan Stanley is a 35% owner of the China International Capital Corporation (CICC), which serves as the Three Gorges Project's financial advisor.[90]

The project is moving forward, but the ultimate question here is whether, at the end of the day, the dam will be able to pay for itself. There is a substantially limited need for the amount of electricity that will be generated from the Three Gorges Project, and while it will be partially financed by generated revenue, demand shortfalls threaten the success of the project.[91] All of this leads back to the question of whether the costs associated with the project will be worth the final price paid.

According to a recent report, additional revenue is being raised by attempting to help Yangtze Electric Power obtain A-share listings in the Shanghai Stock Exchange.[92] That same report noted,

> The money raised by Yangtze Electric Power's IPO will be spent on the last phase of the Three Gorges Project, to begin in 2004. The size of the issue is small, however, and no foreign investor has shown interest in buying a stake in the project which is expected to cost a total of $22 billion by the time construction draws to a close in 2009. Most of it will continue to be borne by loans from state-owned banks.[93]

As this report points out, the basic fear is that when the switch is finally turned on, the Three Gorges Project may not generate electricity,[94] perhaps due to the "tofu" construction that has been addressed above.[95] The other problem is that state owned enterprises being financed by the government may see their money

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[87] Ian Vázquez, Director, Project on Global Econ. Liberty, CATO Inst., Testimony before the U.S. Senate Comm. on Banking, Housing & Urban Affairs, Subcomm. on Int'l Fin.: The Export-Import Bank (July 17, 1997), *available at* http://www.cato.org/testimony/ct-iv071797.html; The Three Gorges Dam Project: Funding, http://www.mtholyoke.edu/~lpohara/Pol%20116/funding.html (last visited Oct. 23, 2009).

[88] INT'L RIVERS NETWORK, *supra* note 70, at 2.

[89] *China's Upper Mekong Dams Endanger Millions Downstream*, INT'L RIVERS NETWORK, Oct. 2002, at 3, *available at* http:// www.internationalrivers.org/files/03.uppermekongfac.pdf.

[90] Doris Shen, *Arrests, Intimidation Confirm Human Rights Abuses at Three Gorges Dam*, INT'L RIVERS NETWORK, Mar.29, 2001, *available at* http://www.threegorgesprobe.org/pi/3g/index.cfm?DSP=Content&ContentID=1952.

[91] Tashi Tsering, *Megoe Tso: The Damming of Tibet's Sacred Lake*, TIBET JUST. CTR., Apr. 2005, at 3 n.4, *available at* http://www.internationalrivers.org/files/megoetso.pdf.

[92] Yang, Jian, *Three Gorges: Dam Expensive*, CFO GLOBAL, May 9, 2003, *available at* http://cfos-react.com/article.cfm/3009230?f=related.

[93] *Id.*

[94] *Id.*

[95] INT'L RIVERS NETWORK, *supra* note 70, at 13; *see infra*, pp. 14-15.

evaporate as the project simply becomes too expensive.[96] Without such money, foreign investment banks are unlikely to sink more funding into a project that is already running into the billions of dollars. However, it is unlikely that the Chinese government would allow such a highly financed project as the Three Gorges Project to fall by the way side. Instead, it is more likely that payment will continue until the project is completed, with human and other financial cost continuing to oscillate.

C. China's Side

There is yet another reason that the Chinese government may continue with the Three Gorges Project — it might just work. For all the negative possibilities, there is still a chance that the huge megaproject will in fact provide the electricity that has been proposed; however, the difficulty of getting it from the dam to the cities and other areas that require it still remains. The project will generate one-ninth of China's "clean" electricity.[97] The burning of unwashed coal in China — a country with the world's largest coal reserves — has added a great deal of pollution to this nation.[98] The project's output will be the equivalent of burning 50 million tons of coal.[99]

Finding a replacement for coal is important due to China's primary reliance on it as an energy source.[100] Given that relying more heavily upon either coal or nuclear energy has severe environmental consequences, one must now ask whether the building of the Three Gorges Project, *if* completed and *if* it works as planned, is so wrong. Relying on hydropower[101] at a time of a continued population increase may in fact be a logical choice for a nation that has continued to suffer the ill effects of a long-history of using coal with the possible future consequences of using nuclear power plants. These ill effects have included a high-rate of respiratory disease among the Chinese.[102] To be exact, six out of ten of the most polluted cities in the world are in China.[103] The possible environmental effects may be catastrophic if China does not find alternative power to fuel its rising population.[104] Such a consequence could be based upon the continued usage of coal as a primary energy source.[105]

The changes that China has taken with regard to the building of the Three Gorges Project, while questionable to some, may well be the right choice within

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[96] *See* Jian, *supra* note 92.

[97] Shapiro, *supra* note 1, at 148.

[98] *Id.* at 148-49; *see also* Yardley, *supra* note 3.

[99] Shapiro, *supra* note 1, at 149.

[100] Ling Zhong, *Nuclear Energy: China's Approach Towards Addressing Global Warming*, 12 GEO. INT'L ENVTL. L. REV. 493, 494-95 (2000).

[101] *Id.* at 503-04.

[102] Gwynne Wiatrowski Guzzeau, *Indoor Air Pollution: Energy Problems in China's Residential Sector*, 11 GEO. INT'L ENVTL. L. REV. 439, 440 (1999).

[103] Sun, *supra* note 33, at 1016.

[104] *Id.* at 1016-17.

[105] *Id.* at 1018-20.

the inner circle of China's elites. The problems that could in theory be confronting them are the rising population (even with the one-child policy in place), and the continued reliance upon coal as the preferred energy source. The steps that they have taken with regard to the Three Gorges Project may be a simple wish to move their country to a safer and cleaner source of power for years to come. The Three Gorges Project may be just the start in that direction. As Sun concluded, "Power development in the world's most populous country need not mean environmental devastation."[106]

In conclusion, within this section this paper has looked at the ill effects of the devastation brought onto the rural population of the Three Gorges Project. What has been pointed out is that the pain and suffering is very real and will have to be addressed if China wishes to have continued support from both its domestic population and from the international community. To this effect, it will have to ensure the enforcement of its laws and regulations by both the local courts and those within the many governmental agencies supporting the project. If this is done, it is far more likely that the project itself will move forward and be completed, something that will make both its own state-owned banks and those of the international financial world that have put up the needed financial assistance to see this project through happy.

Finally, China itself may have a good reason to see the Three Gorges Project succeed due to the rising pollution caused by the continued reliance upon coal as a primary fuel source. Until nuclear energy becomes clean, which may never occur, the clean electricity generated from the Three Gorges Project might prove to be the best option available. However, this will only occur if the human costs can be kept to a minimum and if the project actually succeeds. The final question that this paper addresses is the effects that such a huge project will have on U.S.-China foreign relations for the coming years, especially given the fact that the United States has refused to help with the financing of China's largest public works project in modern history.

III. The Clinton Administration versus the George W. Bush Administration — The Future of U.S.-China Foreign Relations

The United States under former President Clinton continued the doctrine established by the previous administration and chose not to provide aid to the Three Gorges Project. Both former President Bush and President Clinton used an "engagement" approach to the People's Republic of China that called for pursuing a more stable international economic relationship.[107] The George W. Bush Administration took a far different approach and went on the attack. As Dumbaugh pointed out,

> The George W. Bush Administration came to office in January 2001 promising a tougher approach toward the PRC than that of any of its

[106] *Id.* at 1049.

[107] Kerry Dumbaugh, *China-U.S. Relations: Current Issues for the 108th Congress*, CRS REPORT FOR CONGRESS, Sept. 15, 2003, at 20, *available at* http:fpc.state.gov/documents/organization/24664.pdf.

> predecessors. Seeking to distance themselves from the policies of "engagement" with China favored by American Presidents since 1979, Bush Administration officials promised to broaden the focus of American policy in Asia, concentrate more on Japan and other U.S. allies, de-emphasize the importance of Sino-U.S. relations in American foreign policy, and look more favorably on issues affecting Taiwan's status and security.[108]

Perhaps for the reasons stated above, the continued building of the Three Gorges Project will only add fuel to an already hot debate regarding trade, human rights, and other practices seen by the George W. Bush Administration as unjust. This might be especially true in a post-September 11th world and because China holds a permanent seat on the U.N. Security Council (and thereby also holds veto power to block any resolution it sees as unfair).[109] The U.S. and other Coalition Forces overthrowing of the Iraqi regime went directly against China's wishes. This act is only one example in a long stream of conflicts that have recently arisen between the United States and China. Yet, as Dumbaugh concluded, "Although the implications for future U.S.-China relations remain uncertain, some observers have suggested that the uncertainty itself has favored more stable U.S.-China relations by ensuring a degree of caution and non-provocation in how bilateral policies are crafted."[110] Thus, U.S.-China relations may have become more stable because the George W. Bush Administration chose to focus on other areas that it may see as more important, such as the continued internal conflicts in Iraq and the nuclear arms situation with North Korea.

A. Three Gorges Project

Given that China was on the backburner of the George W. Bush Administration's list of foreign policy issues, it will likely come as no surprise that there has been little said with regards to the Three Gorges Project. Yet, the failure to engage China with regards to the Three Gorges Project has put this nation at a major disadvantage with other Nation States. For example, in May 1996, under President Clinton, the Export-Import Bank chose not to offer financing.[111] As a direct result of this decision, the Three Gorges Project will have to do without assistance from Caterpillar and other major U.S. companies because U.S. laws prohibit these companies from obtaining export financing.[112] Instead, as Miller pointed out, the German government provided the major contracts for its industries as it relates to the Three Gorges Project.[113] As a direct continuation of the bias against this project on environmental reasoning, U.S. companies have been

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[108] *Id.* at 3.

[109] *Id.* at 3-4.

[110] *Id.* at 4.

[111] Alan S. Miller, *Environmental Policy in the New World Economy*, 3 WIDENER. L. SYMP. J. 287, 307 (1998).

[112] Robert W. McGee, *Legal Ethics, Business Ethics and International Trade: Some Neglected Issues*, 10 CARDOZO J. INT'L & COMP. L. 109, 142-43 (2002).

[113] Miller, *supra* note 111, at 307.

left largely out of the picture as other nations have stepped in to fill the financial gaps.

Such a gap will only widen as more non-U.S. companies enter China as a direct result of this nation acceding to the World Trade Organization (WTO) on December 11th, 2001.[114] Because the United States is China's biggest trading partner it is difficult to see why the United States chose to take such a hard stance toward the Three Gorges Project when it should have known that other nations would step in to fill its shoes. It is an "unwise strategy," as one report noted, to have the Bush Administration try to force change within the Beijing leadership.[115] The WTO, in conjunction with other nations and its supporters, will ensure that many of China's tariffs are reduced and many of its barriers are brought down. These changes should be done multilaterally, not unilaterally.

The basic problem for the George W. Bush Administration was how to explain to the American people why, when so many jobs are still being lost overseas, this Administration took the isolationist approach to China. Additionally, it was difficult to understand why this Administration would continue to subject China to detrimental treatment regarding environmental damage caused by the Three Gorges Project when many of the United States' own environmental laws are taking a major reduction—with the recent changes to the Clean Air Act as one example.[116]

In conclusion, the former Clinton Administration and the George W. Bush Administration came into office with very different goals as they relate to the U.S.-China relationship. President Clinton came into office with a clear goal of focusing on domestic issues, as compared to his predecessor.[117] While he struggled with such issues as the Tiananmen crisis and its aftermath,[118] China was never punished for its human rights violations that President Clinton "deplored."[119] Yet, it was during his tenure in office in 1996 that the United States Congress and the Executive chose not to allow the U.S. Export-Import Bank to provide financial assistance due to environmental concerns.[120] The relations with China improved once the Clinton Administration, with the assistance of Congress, allowed China to retain permanent Most Favored Nation status.[121] Yet, the

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[114] *See* U.S.-CHINA BUS. COUNCIL, CHINA'S WTO IMPLEMENTATION: AN ASSESSMENT OF CHINA'S SECOND YEAR OF WTO MEMBERSHIP 1 (2003), *available at* http://www.uschina.org/public/documents/2003/09/ustryeartwoassessment.pdf.

[115] DAVID L. LAMPTON & RICHARD D. EWING, U.S.-CHINA RELATIONS IN A POST-SEPTEMBER 11TH WORLD 33-34 (The Nixon Center 2002).

[116] *See* Russell Long, *Where There's Smoke, There's Pollution*, N.Y. TIMES, Feb. 21, 2004, at A15, *available at* http://www.nytimes.com/2004/02/21/opinion/21LONG.html.

[117] Nancy Bernkopf Tucker, *The Clinton Years: The Problem of Coherence*, *in* MAKING CHINA POLICY LESSONS FROM THE BUSH AND CLINTON ADMINISTRATIONS 45, 45 (Ramon H. Myers et al. eds., Rowman & Littlefield Publishers, Inc. 2001).

[118] *See id.*

[119] *Id.* at 46.

[120] *See infra* p. 16.

[121] *See* Donald D.A. Schaefer, *U.S. Foreign Policies of Presidents Bush and Clinton: The Influence of China's Most Favored Nation Status Upon Human Rights Issues*, 35 SOC. SCI. J. 407, 407 (1998).

Clinton Administration's policies concerning the Three Gorges Project do not appear to have changed.

The problem for the George W. Bush Administration when it came into office was that much of the damage regarding the limited access of U.S. companies to the Three Gorges Project had already been completed by the Clinton Administration. However, the Bush Administration's approach to the Chinese government, especially after China had acceded to the WTO, should be questioned. To begin, the Bush Administration took steps to "signal" that it was downgrading relations with China.[122] Those steps only made the relations with the leadership in China worse. While China clearly wished to continue its exports to the United States, the Bush Administration did not make things easier for U.S. companies that wished to do business in China. The Bush Administration's continued condemnation of human rights violations in China[123] and the continued conflict with Taiwan has only ensured that the leadership in Beijing will have reason to limit U.S. expansion into China, while keeping up its own exports to the United States.

Those limitations will directly impact the Three Gorges Project as other nations fill the shoes that the United States and the World Bank should be filling. In the process, this nation's leadership may have to remain on the outside of human rights violations with regard to the world's largest hydroelectric project — the Three Gorges Project.

IV. Conclusion

At the beginning of this paper it was surmised that the direction of China's leadership has hurt the rural areas surrounding the Three Gorges Project. That issue was explored in detail and has been shown to be largely true. At the same time, although the Beijing leadership, including President Jintao and the central committee of the NPC,[124] has chosen this path, it does not make it incorrect from the Chinese perspective. Understanding that this paper was written from a Western perspective, the writer can acknowledge that there are some very real reasons as to why such a megaproject would be undertaken and how the same project could hurt the local inhabitants, while isolating countries like the United States which may question the human rights abuses that have resulted in the process of building the Three Gorges Project.

In the end, it is both the local Chinese inhabitants in the rural areas near the Three Gorges Project and the U.S. taxpayers who have paid for a failure of the United States to give assistance to this dam. In the first instance, without the U.S. or World Bank oversight through business relationships, there is a greater possibility of human rights violations. By staying out of the project the U.S. government, including both Congress and the Executive, and the World Bank

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[122] *See* Harry Harding, *American China Policy Under the Bush Administration Change and Continuity*, *in* U.S.-CHINA RELATIONS AND THE BUSH ADMINISTRATION: A NEW PARADIGM OR CONTINUING MODALITIES 57, 59 (Arthur L. Rosenbaum ed., Keck Center for International and Strategic Studies 2002).

[123] *See* MICHAEL SCHALLER, THE UNITED STATES AND CHINA: INTO THE TWENTY-FIRST CENTURY 209-10 (Oxford University Press 2002) (1979).

[124] *See* The World Factbook: China, *supra* note 2.

have limited their ability to better the lives around the Three Gorges Project through the direct involvement of its financial sectors. At the same time, without U.S. financial assistance, U.S.-made products were not used, and the United States workforce has suffered as a direct result.

In addition, there was the continued strain that the George W. Bush Administration directed at U.S.-China relations. This Administration came into office with the clear view of classifying China as a competitor. Harding explained: "The Bush Administration entered office in 2001 charging that the Clinton Administration had spent its final years 'kowtowing' to Beijing, and describing China as a 'strategic competitor.'"[125] What this amounted to was—as can be expected—a strained relationship with the Beijing government. However, after the September 11th, 2001 tragedy that befell New York and this nation, the relationship eased up as President Bush focused on fighting terrorism and winning the war in Iraq. In the process, U.S.-China foreign relations were put on the backburner. This process has continued as causalities in Iraq increase, even with the prospect of a new Constitution and other western-styled changes, and as the fight for social security and other reforms are now well underway.

What this amounts to for the Three Gorges Project is the continuation of the same paths that the previous administrations have been on for some time—with limited input from either the United States government or the World Bank.

Once the Project is fully started, if it does not produce enough electricity, then China may be burdened with a *white elephant*. However, if all does go well, then the Three Gorges Project may be worth *all* the costs—human, environmental, and financial—associated with it. Only time will tell who was correct, and what the *real* costs of this project truly are—for both China and the rest of the world.

[125] Harding, *supra* note 122, at 58.

THE CLIMATE SECURITY ACT OF 2008 AND OTHER CARBON-BASED TRADE RESTRICTIONS: ARE THEY LEGAL UNDER INTERNATIONAL LAW?

Jasper L. Ozbirn[†]

I. Introduction

In 1997, the world's most prominent leaders came together in Kyoto, Japan to find a solution to the problem of global warming. That meeting resulted in a treaty—the Kyoto Protocol—that requires the developed nations that sign the treaty to decrease their carbon emissions to 5% below 1990 levels by 2012.[1] Unfortunately, today in 2009, it appears that most parties to the Kyoto Protocol will not be able to meet the reduction goals of that treaty.[2] For example, New Zealand is expected to have increased emissions 40% above what they were in 1990.[3] Similarly, most countries in Europe are not expected to meet the mark, save Britain and Sweden.[4] Thus, it appears that little real progress has been

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[1] to the United Nations Framework Convention on Climate Change, art. 3, UN Doc FCCC/CP/1997/7/Add.1 (Dec. 11, 1997), *available at* http://unfccc.int/resource/docs/convkp/kpeng.pdf [hereinafter Kyoto Protocol].

[2] *See* Prue Taylor, *The Business of Climate Change: What's Ethics Got to Do With It?*, 20 PAC. MCGEORGE GLOBAL BUS. & DEV. L. J. 161, 165 (2007) (citations omitted).

[3] *Id.*

[4] *Id.*

made toward achieving the substantial reduction of carbon emissions called for by the Kyoto Protocol.[5]

Not only are the parties that agreed to the Kyoto Protocol having a difficult time realizing their reduction goals, but critics of the Kyoto Protocol also point out that developing countries are not required to make any effort to reduce carbon emissions.[6] This is significant because some of these "developing" countries are major emitters of greenhouse gases (GHGs). China, for example, is considered a developing nation under the Kyoto Protocol, and is therefore exempt from implementing any pollution reduction scheme.[7]

The fact that China is not required to reduce its pollution is significant for a number of reasons. First, as of 2007, China was building a new coal-based power plant every week to ten days[8] and has surpassed the United States as the world's leading GHG emitter.[9] Second, China's pollution affects not only China, but the international community as well. Satellites have tracked clouds of pollution crossing the Pacific Ocean, and monitoring stations in the Sierra-Nevada Mountains of California have detected traces of residue from China's coal-fires.[10] Meanwhile, California recently passed legislation that prohibits the renewal in the state of coal-based energy contracts.[11] Nonetheless, California is still subject to the coal-pollution that China is producing and, under the Kyoto Protocol,[12] the United States would have no recourse against China because China is not yet required to mitigate its coal pollution.[13] Thus, under the rules of the Kyoto Protocol, developed countries have no recourse against developing countries' pollution.

But this is not to say that multilateral agreements to reduce pollution cannot be effective. The Montreal Protocol,[14] for example, was extremely effective in

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[5] Alberto Székely, *The Promise of the Brundtland Report: Honored or Betrayed*, 21 PAC. MCGEORGE GLOBAL BUS. & DEV. L. J. 159, 161-62 (2008).

[6] *See* Kyoto Protocol, *supra* note 1.

[7] *Id.*

[8] Roger Harrabin, *China Building More Power Plants*, BBC NEWS, June 19, 2007, http://news.bbc.co.uk/2/hi/asia-pacific/6769743.stm.

[9] Roger Harrabin, *China 'Now Top Carbon Polluter'*, BBC NEWS, April 14, 2008, http://news.bbc.co.uk/2/hi/asia-pacific/7347638.stm.

[10] Keith Bradsher & David Barboza, *Pollution from Chinese Coal Casts a Global Shadow*, N.Y. TIMES, June 11, 2006, at Sec. 1, p.1, *available at* http://www.nytimes.com/2006/06/11/business/worldbusiness/11chinacoal.html?ex=1307678400en=e9ac1f6255a24fd8ei=5088partner=rssnytemc=rss.

[11] R.V. Scheide, *California, Unplugged*, SACRAMENTO NEWS AND REV., Oct. 18, 2007, at 21 *available at* http://www.newsreview.com/sacramento/content?oid=588996 (citing "Global Warming Solution Act" and California Senate Bill 1368).

[12] In all fairness to the drafters of the Kyoto Protocol, the enormity of China's pollution contribution was not in the 1990s what it is now. *See* Ho-Zheng Tian et al., *Recent Trends of Energy Consumption and Air Pollution in China*, 133 J. ENERGY ENGINEERING 4, (Apr. 2007).

[13] *See* Kyoto Protocol, *supra* note 1.

[14] Protocol to the Vienna Convention on Substances that Deplete the Ozone Layer, S. TREATY DOC. NO. 4, 102d Cong. (1991), *reprinted in* 30 ILM 539 (1991) [hereinafter Montreal Protocol].

achieving its purpose of reducing ozone-depleting substances.[15] In the opinion of former Secretary-General of the United Nations Kofi Annan, the Montreal Protocol has been "[p]erhaps the single most successful international agreement to date."[16] This gives credence to the argument that multilateral agreements *can* be effective when states agree to take measures to reduce pollution.

But what happens if countries refuse to agree? It is pretty well-settled that global warming is occurring, and humans are a major contributing factor. The U.N. Intergovernmental Panel on Climate Change (IPCC) declared in its November 2007 Report that global warming was the greatest threat we face today as a civilization.[17] The Secretary-General of the U.N., Ban Ki-moon, has designated climate change as the "moral challenge of our generation."[18] These facts demonstrate at least a moderate consensus that global warming is a pressing issue requiring immediate action. The policy behind the Kyoto Protocol's exclusion of developing countries is certainly commendable, and the problems of international poverty and inequality between states should not be ignored by a plan to combat global warming. Nonetheless, slowing global warming will require immediate action. This paper looks at the possibility of enacting climate change legislation that uses trade as an enforcement mechanism to encourage negotiations.

Specifically, this paper will look at an existing bill in the Senate that attempts to require other countries to adopt GHG reduction plans or submit carbon-credits in order to access the U.S. markets. The goal of the bill is to encourage major exporting countries to take steps to clean up their emission portfolios.[19] Part I introduces the specifics of the Climate Security Act of 2008 (CSA,) which seeks to regulate GHGs in part through international trade. Part I also proposes an amendment to the CSA that aims to bring the CSA into conformity with existing international law under the General Agreement on Tariffs and Trade (GATT). Part II will analyze the CSA under the GATT and concludes that, as written, the CSA would probably fail to meet the requirements of Article XX(g). Part III will then discuss how the amendment to the CSA proposed in Part I may be used to bring the CSA into conformity with the requirements of Article XX(g). Part III then argues that XX(g) should apply to permit the CSA, as amended, subject to certain limitations. This paper concludes that the CSA, as written, probably vio-

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[15] For graphs showing the decrease of various CFCs, see U.S. DEP'T OF COMMERCE, NAT'L OCEANIC & ATMOSPHERIC ADMIN., TRENDS OF CONTROLLED OZONE DEPLETING CHEMICALS, http://www.esrl.noaa.gov/gmd/hats/graphs/graphs.html.

[16] U.N. ENV'T PROGRAMME [UNEP], FIRST WORKSHOP FOR ENVIRONMENTAL JOURNALISTS, ¶ 39 (Nov. 26-28, 2002), *available at* http://www.unep.org/ROA/DOCS/Msword/First%20Workshop%20for%20Environmental%20Journalists-Report.doc.

[17] *Step It Up*, SACRAMENTO NEWS & REV., Dec. 6, 2007, at 9, *available at* http://www.newsreview.com/sacramento/content?oid=602973 (citing 4th Assessment Report of the IPCC).

[18] Press Release, Statement of Ban Ki-Moon, We Cannot Steal Our Children's Future, Secretary-General Tells High-Level Segment Of Climate Change Conference, As He Urges Breakthrough In Bali, SG/SM/11325 ENV/DEV/963 (Dec. 12, 2007) *available at* http://www.un.org/News/Press/docs/2007/sgsm11325.doc.htm.

[19] *See* Lieberman-Warner Climate Security Act of 2008, S. 3036, 110th Cong. § 1302, 154 Cong. Rec. S. 5049 (Lexis) (as amended by S. 4825, 110th Congress (June 4, 2008)) [hereinafter CSA].

lates international obligations under the GATT, but that it may be amended to comply.

II. Carbon-Based Trade Restrictions

A number of bills have recently been introduced by senators on the topic of global warming. A brief search on www.congresswatch.com turns up at least five bills that refer to climate change in their title.[20] At least two of these bills seek to regulate not only U.S. emissions, but emissions "imported" by the U.S.[21] While no such bill has yet been passed by the Senate, the issue is ripe and it seems very likely to continually come before Congress until the U.S. enacts some sort of emission reduction scheme.

A. The Climate Security Act (CSA)

The Climate Security Act of 2008 (CSA), has been in the Senate for over a year and is in its second revision. The first version was killed in the Senate by a cloture motion.[22] However, the current revision withstood a cloture motion not long after, which shows that it is enjoying at least moderate support by senators. As written, the CSA seeks to impose a cap-and-trade system on domestic GHGs and provides for the regulation of imported products based on their carbon-footprint as well.[23]

Domestically, the CSA seeks to regulate GHG emissions in the U.S. by imposing a cap-and-trade system that would apply to over 80% of emitting entities.[24] The CSA seeks to regulate direct emitters, such as power plants and factories, but also permits regulation of products based on the GHG emissions that result from production.[25] It also permits regulation of imported products in an attempt to limit the GHGs that are imported by the U.S.[26]

The CSA provides that regulation of imported products would only apply to countries that do not have a GHG reduction program in place that is comparable to the domestic regulations of the CSA.[27] However, "least-developed" nations,

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[20] These are: (1) the Low Carbon Economy CSA of 2007; (2) the Global Warming Pollution Reduction CSA; (3) the Safe Climate CSA of 2007; (4) the Climate Stewardship and Innovation CSA, and (5) the Lieberman-Warner Climate Security CSA of 2008.

[21] *See* Slayde Hawkins, *Skirting Protectionism – A GHG-Based Trade Restriction Under the WTO*, 20 GEO. INT'L ENVT'L L. REV. 427 (2008) (discussing the Low Carbon Economy Act and the Lieberman-Warner Climate Security Act of 2007); *see also* America's Climate Security Act of 2007, S. 2191, 110th Cong. § 6001(5) (2007) [hereinafter America's CSA] (Title VI of the CSA titled, "Global Effort to Reduce Greenhouse Gas Emissions").

[22] OpenCongress for the 111th United States Congress, S. 3036 Lieberman-Warner Climate Security Act of 2008, http://www.opencongress.org/bill/110-s3036/show (last visited Oct. 17, 2009).

[23] CSA, S. 3036, § 1301(1)(A) (defining the foreign goods that are covered by the CSA).

[24] Stephanie I. Cohen, *Capitol Report: Is the Latest Climate Change Bill Getting Warmer?*, WALL ST. J., Nov. 1, 2007, http://www.marketwatch.com/news/story/latest-climate-change-bill-getting/story.aspx?guid=%7]B663FB4E7-DCE0-4FE1-8475-B65BFF54B070%7D.

[25] CSA, S. 3036, § 4(16).

[26] *Id.* § 1301(1)(A).

[27] *Id.* § 1306(b)(2).

as determined by the U.N., are expressly excluded from regulation.[28] For the countries that are covered, the CSA establishes a carbon-certificate program for imports.[29] This program requires that countries wishing to sell their goods to the U.S. obtain "international reserve allowances" (carbon-credit) from the U.S. Environmental Protection Agency (EPA).[30] The CSA requires that the Administrator of the EPA collect a carbon-credit that accounts for the GHGs emitted by production of the imported goods.[31] The CSA *permits* the U.S. to ban any imports not accompanied by a certificate, but does not *require* such a ban.[32] Thus, the CSA potentially allows the U.S. to ban the import of a product if the exporting country refuses to comply with the certificate program.[33]

This is only a *potential* ban of products because the CSA states no limit on the number of credits that can be given out by the Administrator.[34] This means that the CSA may not actually result in any reduction in GHGs from imports, because it is possible for the Administrator to sell as many credits as would be needed to allow all the products in, even if the products result in the same, or even more, emissions than they do now.[35] The result of the CSA in that case would be a mere carbon tax on the products imported from the covered countries but not from other countries importing the same goods that have a GHG reduction program in place. As will be addressed, this will raise concerns for a World Trade Organization (WTO) Panel that has to decide whether the CSA complies with the requirements of Article XX(g) of the GATT. It seems likely, as will be discussed in Part II below, that the CSA would fail the "related to conservation" requirement of Article XX(g) because the CSA does not in fact require or result in conservation. Part II will discuss this in further detail, but before proceeding to that analysis, it will be useful to describe the proposed amendments.

B. Proposed Amendment to the CSA

This paper proposes several major amendments to the CSA. First, instead of allowing the Administrator to distribute an infinite number of carbon-credits, the CSA should place a cap on the number of credits that may be distributed. This cap would initially be based on the current data of how many emissions the U.S. imports. It would not be industry specific, but would look at *all* imported products to establish a grand total. That grand total would then be categorized, to make clear how many emissions the U.S. imported from each country. The first year of implementation would limit those countries to the average per-year emis-

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28 *Id.* § 1306(b)(2)(A)(ii).

29 *Id.* § 1306.

30 *Id.* § 1306(a).

31 *Id.* § 1306.

32 *Id.* § 1306(c)(1).

33 *Id.*

34 *See id.* §§ 1301-1307; *see also* Andrew W. Shoyer, *Comments on WTO Consistency of International Reserve Allowance Program*, RES. INST. ECON., TRADE & INDUSTRY, IAA; http://www.rieti.go.jp/en/events/bbl/08100301_2.pdf (Sept. 8, 2008).

35 *See* CSA, S. 3036, §§ 1301 – 1307.

sions of the last five years. This cap would then be lowered by the same amount that the U.S. cap was lowered in the same year. The cap would be country specific, so that the maximum emissions imported from each country would be lowered by the same amount that the U.S. cap-and-trade cap was lowered each year.

The obvious question raised by this hypothetical amendment to the CSA is whether a program that places quantitative restrictions on imports based on the GHGs emitted through production of the imported product violates the GATT. Part III offers an analysis of this question and concludes that the CSA, as currently written, probably violates the GATT. Part III also addresses how this violation may be remedied by the addition of the minor amendments suggested above. There are two parts to this analysis: (A) would it violate the GATT, and (B) if so, is there an exception? Part IV will then suggest minor amendments to bring the CSA closer to compliance with the requirements of GATT Article XX(g).

III. GATT Analysis

A. Does the CSA Violate the Substantive Provisions of the GATT?

Without detailing the substantive provisions of the GATT, this section will briefly discuss the two GATT provisions that are most likely violated by the CSA as written or as amended.

1. Article I – Most Favored Nation

The "most favored nation" principle is contained in Article I of the GATT. It requires that members not favor one exporting nation over another.[36] For example, a country would violate this provision by giving a tariff reduction to country A for a particular product while refusing to give that same tariff reduction to country B for that product.[37] The CSA, both as written and with the proposed amendment, would almost certainly violate this Article. By requiring exporter A to purchase carbon-certificates to gain access to the U.S. market, while not requiring exporter B to do so because exporter B has a comparable GHG reduction program, would certainly make it more difficult and expensive for exporter A to sell its goods to the U.S. While this is not a direct "tariff," the "most favored nation" provision is not limited to "tariffs," but applies equally to "any advantage, favour, privilege or immunity. . ."[38] Thus, the CSA seems to do exactly what Article I was designed to prevent—allow a country to favor products from one country over another. Therefore, this Article of the GATT is probably violated.

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[35] General Agreement on Tariffs and Trade, art. I Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194, [hereinafter GATT], *available at* http://www.wto.org/english/docs_e/legal_e/gatt47_e.pdf.

[36] Understanding the WTO: Basics: Principles of the Trading System, http://www.wto.org/english/thewto_e/whatis_e/tif_e/fact2_e.htm (last visited Oct. 17, 2008) [hereinafter Understanding the WTO].

[37] Understanding the WTO, *supra* note 37.

[38] GATT, *supra* note 36, art. I.

2. *Article XI – No Quantitative Restrictions*

Article XI of the GATT provides for the "general elimination of quantitative restrictions."[39] This prohibits quotas on goods imported, and states that only duties, taxes, or other charges may be used to regulate trade.[40] The CSA, as written, requires exporting countries to purchase carbon-credits from the United States in order to export goods to the U.S. Because the CSA does not contain a set number of carbon-credits that the EPA Administrator may issue,[41] it probably would not violate Article XI.

However, the amendment to the CSA proposed by this paper would rather clearly violate Article XI by limiting the amount of a product the U.S. will import.[42] It probably does not matter that the quantitative restriction is based on reducing GHGs, because the end result is a quantitative restriction on goods. Therefore, it appears almost certain that the CSA as amended would violate this provision.

In summary, it is very likely that the CSA, as written, would violate at least Article I, and the CSA, if amended as this article proposes, would violate at least Article XI. Therefore, at least one of the substantive provisions of the GATT would probably be violated under either version of the CSA. This raises the question of whether there is an applicable exception to these substantive provisions that would permit the U.S. to enact the CSA without violating the GATT. The U.S. can argue that Article XX(g) provides such an exception; this argument will be discussed next. This paper concludes that the CSA as written would probably not meet the requirements of Article XX(g), but that an amended CSA, as proposed here, would probably bring it within the exceptions provided by Article XX(g). It also argues more generally that any carbon-based import restriction system will need a provision similar to that proposed by this paper as an amendment to the CSA.

B. Does Article XX(g) Apply?

This paper argues that Article XX of the GATT provides a vehicle for the United States to enact the CSA, as amended, without violating the GATT. The problem for such measures in the past has been the WTO's frequent interpretation of the GATT to strongly disfavor any unilateral action by a member.[43] This interpretation has resulted in a very narrow application of Article XX that has

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[39] *Id.* art. XI.

[40] *Id.*

[41] *See* CSA, S. 3036, §§ 1301, 1306.

[42] *See infra* Part II.B for proposed amendment.

[43] *See e.g.* Report of the Panel, *United States—Restrictions on Imports of Tuna*, DS29/R (June 16, 1994) (*unadopted*) [hereinafter Tuna II Panel] (stating it disfavored the coercion of other nations by enacting trade restrictions).

allowed almost no unilateral act under Article XX, even though that Article expressly permits unilateral action in some situations.[44]

The plain language of Article XX(g) clearly states that the substantive provisions of the GATT do not apply to measures that "relat[e] to the conservation of exhaustible natural resources."[45] Further, the Marrakesh Agreement—the founding document of the WTO—explicitly states the twin goals of "allowing for the optimal use of the world's resources in accordance with the objective of sustainable development" and "seeking both to protect and preserve the environment and to enhance the means for doing so."[46]

Based on the language of Article XX(g) and the statements in the Marrakesh Agreement, it is rather surprising that even though the GATT has been in effect for over sixty years, Article XX has only been applied to justify a unilateral measure twice.[47] This section will briefly describe the requirements of Article XX(g) as they have been interpreted and applied by the WTO,[48] and it will explain why the CSA as written would probably not satisfy the requirements of Article XX(g). The next section, Part IV, will describe how the proposed amendments to the CSA would help to bring it within the purview of Article XX(g).

1. Article XX, Subsection (g)

The first step in justifying a measure under Article XX is to demonstrate that the measure fits within a subsection of Article XX.[49] The language of subsection (g) of Article XX requires that a measure be: "relat[ed] to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption."[50] This language has

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[44] *See,* GATT, *supra* note 36, art. XX (the language, "subject to the [following] requirement[s] . . . nothing in this Agreement shall be construed to prevent the adoption or enforcement by any Member of measures . . . " denotes that unilateral activity is permitted in certain circumstances).

[45] *Id.* at art. XX(g) (carving out exceptions where unilateral activity is permitted).

[46] Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, pmbl., Apr. 15, 1994, 33 I.L.M. 1125, 1144 (1994), *available at* www.wto.org/english/docs_e/legal_e/04-wto.doc [hereinafter Final Act] (stating purposes of WTO).

[47] *See* Appellate Body Report, *United States – Import Prohibition of Certain Shrimp and Shrimp Products: Recourse to Article 21.5 of the DSU by Malaysia*, WT/DS58/AB/RW (Oct. 22, 2001) (*adopted* Nov. 21, 2001) [hereinafter Shrimp Appellate Body] (holding that the U.S.'s discriminations were justified because they were trying to protect sea turtles); *see also* Appellate Body Report, *European Communities – Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/AB/R (Mar. 12, 2001), [hereinafter Asbestos Appellate Body] (holding that the European Communities acted in accordance with Article XX(b) when it limited imports from Canada because they contained traces of asbestos).

[48] For an extensive discussion of the WTO cases that address GATT Article XX(g), see Jasper L. Ozbirn, *An Analysis and Synthesis of the Decisional Law Applying Article XX(g) of the General Agreement on Tariffs and Trade*, 21 PAC. MCGEORGE GLOBAL BUS. & DEV. L.J. 371 (2008).

[49] Appellate Body Report, *United States—Import Prohibition of Certain Shrimp and Shrimp Products*, ¶¶ 120-127, WT/DS58/AB/R (Oct. 12, 1998), [hereinafter Shrimp-Turtle Appellate Body] (labeling whether the measure is concerned with the conservation of "exhaustible natural resources" as the "threshold" question).

[50] GATT, *supra* note 36, art. XX(g).

been separated into three individual requirements.[51] Each requirement will be discussed separately below under subheadings "a" through "c."

a. Exhaustible Natural Resource

First, the measure must aim to conserve an "exhaustible natural resource."[52] It is logical to begin the analysis of subsection (g) with the requirement that conservation be aimed at an "exhaustible natural resource" if for no other reason than it is the easiest analysis and may be dispositive.[53]

To meet this requirement, the U.S. may present a number of exhaustible natural resources. The U.S. may claim that the CSA seeks to slow global warming, and therefore seeks to conserve the exhaustible natural resource of the world's current climate balance. This is somewhat attenuated, and it is hard to anticipate how the WTO Panel and Appellate Body would resolve this argument. It is clear that dolphins,[54] turtles,[55] and clean air[56] are exhaustible natural resources, but this language has not been interpreted so broadly as to include the climate generally.

There is an easier justification for the U.S. than arguing to protect the mean global temperature. The WTO Panel Report, *United States—Standards for Reformulated and Conventional—Gasoline* (*United States—Gasoline*), held that clean air was an exhaustible natural resource.[57] Therefore, instead of arguing for an expansion of "exhaustible natural resources," the United States can simply point out that the CSA is aimed at conserving clean air. It is easily ascertainable that burning coal is a major contributor to pollution, since it can be seen by the naked eye. Therefore, their holding in *United States—Gasoline* makes it likely that the panel would hold that clean air is an exhaustible natural resource, and this element of XX(g) is almost certainly satisfied by the CSA, as written or amended.

b. Related to Conservation

The second requirement of subsection (g) is that the measure be "related to conservation" of the "exhaustible natural resource."[58] As applied here, the question is whether the CSA is "related to conservation" of clean air. This is where the CSA would likely fail.

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[51] Ozbirn, *supra* note 49, at 386-403.

[52] GATT, *supra* note 36, art. XX(g).

[53] *See* Ozbirn, *supra* note 49, at 386.

[54] Report of the Panel, *United States—Restrictions on Imports of Tuna*, DS21/R (Sept. 3, 1991) (*unadopted*) GATT B.I.S.D. (39th Supp.) at 155 (1992), [hereinafter Tuna I].

[55] Shrimp-Turtle Appellate Body, *supra* note 50.

[56] Panel Report, *United States—Standards for Reformulated and Conventional Gasoline*, WT/DS2/R (Jan. 29, 1996) [hereinafter United States-Gasoline Panel].

[57] *Id.* ¶ 6.37.

[58] GATT, *supra* note 36, art. XX(g).

The WTO has stated that before undertaking the "related to" analysis of subsection (g), it is important to define very clearly the "measure" that is at issue.[59] The WTO has held that the "measure" is the specific provision in a law that is found to violate the substantive provisions of the GATT.[60] In the case of the CSA, the "measure" that would violate the substantive provisions of the GATT would be the requirement that countries buy carbon-credits in order to access the U.S. market.[61]

Once the measure is clearly defined, the Panel must then ask whether that "measure" is "related to conservation." The analysis of "relate[d] to. . . conservation" contains two separate requirements: there must be a legitimate conservation policy, and there must be a sufficient relationship between the "measure" and the "legitimate policy of conserving."[62] The legitimate conservation policy requirement will be discussed first, followed by a discussion of the "sufficient relationship" requirement.

The best illustration of the difference between these requirements appears in the Appellate Body Report, *United States—Import Prohibition of Certain Shrimp and Shrimp Products* (*Shrimp-Turtle*). There, the Appellate Body said that the "related to conservation" language required analyzing the loose "means" and the desired "ends" test.[63] The two distinct parts of the test are the "means" and "ends." In other words, the ends (policy) must be appropriate, and the means (measure that pursues that policy) must be "primarily aimed at" that policy.[64]

To give an example of how a measure may fail the "policy" part of the analysis, the Unpublished Panel Report, *Canada—Measures Affecting Exports of Unprocessed Herring and Salmon* (*Herring-Salmon*), is useful. There, Canada passed a law that prohibited the export of herring or salmon unless it was "processed" in Canada.[65] Even though the law was effective in conserving fish stocks, the law did not satisfy the "related to" requirement of subsection (g) because its goal was not conservation.[66] The Panel found the "end" pursued by Canada's measure was trade protection, not conservation.[67]

Regarding the CSA, the United States can easily show that the CSA, both as written or as amended, is not aimed at trade protection. The explicit purpose of the CSA is to reduce GHGs and address climate change.[68] The WTO has already

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[59] Appellate Body Report, *United States—Standards for Reformulated and Conventional Gasoline*, at 13-15, WT/DS2/AB/R (May 20, 1996) [hereinafter United States-Gasoline Appellate Body].

[60] *Id.* at 13-14.

[61] CSA, S. 3036, § 1306.

[62] Shrimp-Turtle Appellate Body, *supra* note 50, ¶ 135.

[63] *Id.* ¶¶ 136-142.

[64] *See* Ozbirn, *supra* note 49, at 390-398 (discussing the Appellate Body's various attempts to explain these requirements).

[65] Report of the Panel, *Canada—Measures Affecting Exports of Unprocessed Herring and Salmon*, ¶ 1.1, L/6268 (Nov. 20, 1987) (*adopted* Mar. 22, 1988), GATT B.I.S.D. (35th Supp.) at 98 (1989) [hereinafter Herring-Salmon].

[66] *Id.*

[67] *Id.*

[68] CSA, S. 3036, § 1302.

decided that a measure enacted to conserve clean air was within subsection (g).[69] So, as long as the CSA is enacted with the express policy of pursuing environmental conservation, the WTO will probably find that this element is met. While this policy may be easily inferred from the CSA, it is not explicit.[70]

In order to increase the chances that a WTO Panel would conclude that the CSA in fact pursues a legitimate policy,[71] this paper recommends thats the CSA be amended to clearly state a purpose of GHG reduction. As currently written, the stated purpose of the CSA is "to promote a strong global effort to significantly reduce" GHGs.[72] With this minor amendment, the U.S. would almost certainly be able to demonstrate that the end pursued by the CSA is a legitimate policy for the purposes of Article XX(g).

Once it is determined that the policy of the CSA is legitimate, a Panel will next consider whether the CSA is "related to"—i.e. of a sufficient relationship to—that policy. The United States has the burden of demonstrating that the CSA is sufficiently related to its policy of conserving clean air.[73] It is clear that the measure at issue is the specific requirement that "covered foreign countries"[74] comply with the carbon-certificate program. The policy pursued by the CSA is the conservation of clean air. The question, then, is whether the means of the carbon-certificate program are substantially related to the ends of conserving clean air.

The CSA, as written, is probably not sufficiently "related to" conservation to satisfy this element of subsection (g). Although the purpose of the CSA may be the conservation of clean air and the prevention of global warming, it is not clear that the international means set forth by the CSA will achieve that purpose. While XX(g) does not require a causal connection between the means and ends, there must be a relationship of some certainty between the means and the ends.[75] If a state challenges the CSA, it will point out that as written, the CSA will not necessarily result in any reduction in GHGs from imports because there is no cap on the number of credits that the Administrator may issue.[76] Thus, the challenging party can argue that in order to be effective, the CSA depends on other countries adopting similar GHG reduction schemes.

This was precisely the same situation presented to the GATT Panel in *United States—Restrictions on Imports of Tuna* (*Tuna II*). In that case, the GATT Panel stated that the United States' law, the Marine Mammal Protection Act (MMPA), could not meet the "related to" requirement because the MMPA depended on other countries adopting a policy similar to the MMPA in order to have a conser-

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69 United States-Gasoline Panel, *supra* note 57, ¶ 6.37.

70 *See* CSA, S. 3036, § 1302 (stating purpose as promotion of effective international action to significantly reduce GHGs, which may imply a general overall environmental conservation purpose).

71 Merely *stating* a legitimate policy would almost certainly not be determinative.

72 CSA, S. 3036, § 1302(1).

73 United States-Gasoline Appellate Body, *supra* note 60, at 22-23.

74 As defined at CSA, S. 3036, § 1301(6).

75 Shrimp-Turtle Appellate Body, *supra* note 50, ¶¶ 136-137.

76 *See* CSA, S. 3036, §§ 1301, 1306.

vation effect.[77] The CSA, as written, would fail for the same reason the MMPA failed—it does not appear the CSA will reduce GHGs unless other WTO members adopt similar policies. Therefore, it will be very difficult for the U.S. to show that the international regulations of the CSA are "related to" the conservation of clean air. As written, the CSA does not necessarily take steps to preserve clean air because there is no limit on the number of international reserve allowances that may be sold.[78] The WTO Panel would probably conclude that, like the MMPA in the *Tuna II* dispute, the international rules of the CSA do not embody a "close and genuine relationship of ends and means" as is required by the "related to" language of XX(g).[79]

Although the CSA, as written, almost certainly fails the "related to" test, this paper proposes an amendment to the CSA that would probably bring the CSA within the "related to" requirement. If the CSA were amended to place a cap on the number of credits that may be issued by the administrator under Section 6006(d) or 6006(a)(2), and it established that the cap would slowly be lowered each year, a claim that the measure was not sufficiently related to the conservation of clean air would probably fail. With the proposed amendment, the CSA would reduce the emissions imported by the U.S.—rather than merely requiring that they be accounted for by a certificate. This reduction in allowances would necessarily result in less GHG emissions being imported, which would reduce the GHG emissions being produced, and this would further the CSA's purpose of conserving of clean air. So, although the CSA as written likely fails subsection (g)'s "related to conservation" requirement, the amendment to the CSA proposed by this paper would help the CSA satisfy this requirement.

c. Made Effective in Conjunction with Restrictions on Domestic Production or Consumption

Once the Panel concludes that the CSA is "related to conservation," the final requirement of subsection (g) is that the measure be "made effective in conjunction with restrictions on domestic products or consumption."[80] This is an easy requirement to meet, and the CSA likely meets it as written. This language of subsection (g) merely requires that a country not attempt to use Article XX(g) as a means of imposing environmental regulations on other countries without imposing such regulations domestically.[81] Because the CSA puts into place a domestic cap-and-trade system that, as written, is stricter than the regulatory scheme for imports because there is a cap, this element is almost certainly met by the CSA, as written. Similarly, the CSA, as amended to include a cap on imported GHGs, will probably meet this requirement as long as the cap on imported

[77] Tuna II Panel, *supra* note 44, ¶ 5.24.

[78] *See* CSA, S. 3036, §§ 1301-1307; *see also* Shoyer, *supra* note 34, at 2 (stating that "[t]here would be no limit to the number of international reserve allowances made available for purchase by importers. . .").

[79] Shrimp-Turtle Appellate Body, *supra* note 50, ¶ 136.

[80] GATT, *supra* note 36, art. XX(g).

[81] United States–Gasoline Appellate Body, *supra* note 60, at 20-21

GHGs is comparable to the cap placed on domestically regulated entities.[82] Finally, under the CSA, as amended, the U.S. could reduce the cap placed on imports under the proposed amendment no faster than the rate at which the cap on domestic emissions was lowered.

In summary, this section concludes that the CSA, as written, would probably fail to satisfy the requirements set forth by subsection (g). This is so because it appears that the CSA, as written, would not be able to satisfy the "related to" requirement of subsection (g) because the international regulations do not, by themselves, result in conservation. While XX(g) does not require an "effects test," it is clear that a substantial relationship is required and the CSA, as written, probably fails that test by not requiring any reduction in imported GHGs. To overcome this failure, the proposed amendment to the CSA would impose an affirmative cap on the amount of GHGs that may be imported. If the U.S. limits the GHGs it permits to be imported, the CSA would be much more closely related to conservation and would probably pass the requirements of subsection (g). If subsection (g) is met, the analysis will proceed to whether the chapeau of Article XX is met. This discussion is undertaken in the following subsection.

2. *Article XX – Chapeau*

Once the U.S. has demonstrated that the CSA is justified under subsection (g), it must also demonstrate that its measure complies with the requirements of the chapeau—the introductory language—of Article XX. This section concludes that the CSA, as written, may satisfy the chapeau, and the CSA with the proposed amendment most likely satisfies the chapeau. The chapeau, or introductory language, of Article XX reads:

> Subject to the requirement that such measures are not 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, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any Member of measures.[83]

This language has a number of requirements. First, application of a measure may not constitute "arbitrary or unjustifiable discrimination between countries where the same conditions prevail." This will be discussed further in subsection (a) below. Second, the application of the measure must not constitute "a disguised restriction on international trade." This will be discussed in subsection (b) below.

Before proceeding to analyze the specific language of the chapeau, it is important to consider that the chapeau's general purpose is to prevent abuse of the justifications provided by the subsections of Article XX.[84] Is the CSA an abuse

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[82] *See* GATT, *supra* note 36, art. XX(g) (prohibition on favoring domestic goods).

[83] *Id.* art. XX.

[84] United States–Gasoline Appellate Body, *supra* note 60, at 22.

of the justification provided by subsection (g)? The U.S. can argue it is not for a number of reasons. First, the policy of the WTO is to encourage sustainable development.[85] That was also one of the goals embodied by the drafters of the GATT in 1947.[86] The measure that the U.S. is seeking to enact here, the CSA, is aimed directly at promoting sustainable development. Specifically, its intention is to reduce the amount of GHGs that are imported into the U.S. Though the U.S. is attempting to utilize the provisions of XX(g), it is in no way seeking to *abuse* them, so this policy of Article XX is probably met. The U.S. must also demonstrate that the CSA does not offend the specific language of the chapeau, which will be discussed next.

a. Arbitrary or Unjustifiable Discrimination Between Countries Where the Same Conditions Prevail

The language of the chapeau expressly proscribes measures that, as applied, result in "arbitrary or unjustifiable discrimination."[87] The cases that have discussed this requirement after finding subsection (g) was satisfied, have failed to analyze separately whether there was "discrimination" before proceeding to decide whether such discrimination was "arbitrary" or "unjustifiable."[88] However, one WTO Panel has separated the analysis of discrimination from whether such discrimination is arbitrary or unjustifiable.[89] Based on the language of the chapeau, it seems logical to follow that analysis, and this paper will address first whether the CSA results in discrimination before assessing whether such discrimination is arbitrary or unjustifiable.

(i) Discrimination

It is rather clear that the CSA, as applied or amended, will result in discrimination. China, for example, will probably argue that it is being discriminated against for its use of coal. The U.S. may rebut this argument, by pointing to the fact that the CSA applies universally to all countries. However, this argument is not sufficient because the issue to be addressed here is whether the measure *as applied results* in discrimination. To argue that the CSA applies to all countries misses the point; what matters is that the CSA states different requirements for different countries.[90]

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[85] Final Act, *supra* note 47, pmbl.

[86] This is evident by the fact that they included Article XX in the GATT.

[87] GATT, *supra* note 36, art. XX.

[88] *See, e.g.*, United States—Gasoline Appellate Body, *supra* note 60, at 23 (listing arbitrary and unjustifiable discrimination as a one-step analysis).

[89] *See* Report of the Panel, *European Communities—Measures Affecting Asbestos and Asbestos-Containing Products*, WT/DS135/R (Sept. 18, 2000) [hereinafter Asbestos Panel Report] (indicating that a particular kind of discrimination is prohibited, namely arbitrary or unjustifiable).

[90] *See, e.g.*, CSA, S. 3036, § 1306(b)-(c) (2008) (designating lists of countries that would be excluded from the GHG conditions, and foreign countries receiving different treatment based on written declarations).

In the Panel Report, *European Communities—Measures Affecting Asbestos and Asbestos-Containing Products (Asbestos)*,[91] the Panel found there was no discrimination where a measure was applied evenly to all member countries.[92] However, the *effect* of the application of that measure was the absolute refusal to import asbestos—it did not result in some countries being allowed to import "clean" asbestos and some not, as the CSA would dictate. Nonetheless, the U.S. can argue that the measure is not "discriminatory" as applied, even though it may result in different results for different countries, because the same standards apply to all countries. But the requirement is not *universal* application; that would negate any function of Article XX because the substantive provisions would not have been violated in the first place.[93] Instead, the Panel must ask whether there is discrimination. Because of the disparity of treatment afforded to countries that have enacted comparable GHG reduction programs and to those that have not, it seems clear that the CSA discriminates against countries that have not enacted such programs.[94] Countries that do not have comparable GHG reduction programs are required to adhere to more administrative burdens to access the U.S. markets than countries that have comparable programs in place.[95] Therefore, the CSA will probably be found to discriminate against some countries.

But the chapeau does not prohibit discrimination outright; it only prohibits discrimination that is "arbitrary" or "unjustifiable." Therefore, it is necessary to decide whether the discrimination imposed by the CSA is "arbitrary" or "unjustifiable."

(ii) Arbitrary

It seems highly unlikely that a Panel would decide the measure here is arbitrary. The CSA clearly states its purposes and its reasons for discriminating, and states explicit rules regarding imported products. The only case so far decided by a WTO Panel or Appellate Body that has discussed "arbitrary discrimination" was the *Shrimp-Turtle* dispute. There, the Appellate Body concluded that the inflexibility of the measure at issue, combined with the fact that there was no check on the system that enforced the measure, resulted in arbitrary discrimination.[96] In contrast, here, the CSA is flexible in that it permits countries to adopt their own GHG reduction program.[97]

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[91] Asbestos Panel Report, *supra* note 90.

[92] *Id.* ¶¶ 8.228-.230.

[93] *See id.* ¶¶ 8.225-.230.

[94] *See* CSA, S. 3036, § 1306(b)(2) (creating a separate category for countries that do not take similar action as the U.S. to limit GHGs).

[95] *See id.* (indicating that some countries are exempt from the annual emission allowance procedures).

[96] Shrimp-Turtle Appellate Body, *supra* note 50, ¶¶ 177, 180.

[97] *See* CSA, S. 3036, § 1306(b)(2)(A)(i) (requiring comparable action to that of the U.S., not the exact same procedure).

However, one issue of concern is that there is no appeal process in place under the CSA.[98] In order to ensure that the CSA is not found by a Panel to be arbitrarily applied, this paper proposes that the CSA should include a review process that provides an arbitration proceeding for countries that wish to challenge any aspect of the application of the CSA. Without such a review process, the CSA operates much like the measure found to violate the GATT by the *Shrimp-Turtle* Appellate Body because there is no way for the exporter to obtain review of the application of the CSA. While the U.S. may be able to show that the CSA, as written, does not arbitrarily discriminate, it would be beneficial to this argument to install a review process to ensure that it is not found to be "arbitrary."

(iii) Unjustifiable

The U.S. must also show that the discrimination that results from the application of the CSA is not "unjustifiable." As applied, this element has been held to require good faith negotiations before unilateral action is taken.[99] The CSA meets this requirement because it expressly states that it favors negotiations, and requires the U.S. to maintain negotiations.[100] While this narrow requirement of pursuing negotiations may be met, it is not clear what else might be required to show that the discrimination is "justifiable." The following paragraphs will discuss some possible arguments the U.S. should anticipate.

From a linguistic point of view, it seems clear that in order to be "justified", the conservation policy of a measure should outweigh the mal-effects on trade that result from the discrimination. It seems likely, based on the wealth of scientific knowledge regarding climate change and the increasing agreement that the situation may be dire, that the discrimination applied by the CSA is justifiable by its goal of reducing GHGs and conserving clean air. Nonetheless, there is certainly an argument to be made that even in the face of the threat of global warming, environmental concern does not justify unilateral trade restrictive measures.

While a full presentation of this dispute is beyond the scope of this paper, one author argues that such discrimination is justifiable based on the "tragedy of the commons."[101] If the discrimination embodied by the CSA leads to a better situation for the global community by protecting clean air and helping to slow global warming, the WTO should permit the unilateral measure. If it refuses, the tragedy continues. If trade receives priority, and environmental concerns are secondary, then countries will be encouraged to irresponsibly continue using the commons because it is to their economic advantage to do so.[102] This paper ar-

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[98] *See id.* §§ 1301-1307.

[99] Report of the Panel, *United States—Import Prohibition of Certain Shrimp and Shrimp Products: Recourse to Article 21.5 by Malaysia*, ¶ 5.66, WT/DS58/RW (June 15, 2001) [hereinafter Shrimp-Turtle Panel].

[100] CSA, S. 3036, § 1303.

[101] For a brief explanation of the basic tenet of the "the tragedy of the commons" theory, see Todd. B. Adams, *Rawls' Theory of Justice and International Environmental Law: A Philosophical Perspective*, 20 PAC. MCGEORGE GLOBAL BUS. & DEV. L.J. 1, 4 (2007).

[102] *Id.* at 4-6.

gues that in order to remove this motivation to pollute, the WTO should recognize the application of XX(g) to permit measures such as the CSA that strive to reduce GHG emissions.

The tragedy is caused by overuse of the commons, and this overuse can only be transcended through coordinated action.[103] The WTO should not allow countries to refuse to take action based on economic concerns. The U.S. is seeking to lead the way in such coordination before the goods of the commons are exhausted. To prohibit this affirmative step toward protection of the global commons would not only be bad policy, it would contradict the foundational premises of the GATT and the WTO.[104]

(iv) Same Conditions Prevail

It is not clear whether the question of whether the "same conditions prevail" language would be pertinent to the analysis of the CSA, but it appears it would not. If there is discrimination, and it is found to be arbitrary or unjustifiable, the U.S. could argue that the same conditions do not prevail in the U.S. and the country challenging the CSA. Unfortunately, the WTO has not yet had occasion to discuss the proper interpretation of this language. It is certainly true that the conditions in all countries are not the same, for example, as to the number of coal-plants in operation, pollution, and density population. However, this language is arguably intended to address the conditions the measure is aimed at, not the conditions generally. If this more narrow interpretation is used, then every country in the world faces the exact same condition—drastic change in climate with unknown effects. This is the interpretation the WTO should adopt.

b. Disguised Restriction on Trade.

Presuming the WTO Panel concludes that the CSA does not result in "arbitrary or unjustifiable discrimination between countries where the same conditions prevail," the U.S. must then show that the CSA is not a "disguised restriction on trade." This requirement seems to be met. The CSA states that its requirements are to be published,[105] which would provide other countries the opportunity to see the rules that will apply. The expressed policy of the CSA is to slow GHG emissions[106] and to favor negotiations.[107] There is no evidence that the rules of the CSA are in any way geared toward regulating trade; rather, trade is an enforcement mechanism to encourage negotiations. Presumably, once an agreement is reached, there will be no need to regulate trade from the agreeing country. Because the CSA is to be published, and it expressly states its policy of

[103] *See id.* at 4 (stating that from a viewpoint of a group, individually using a resource as much as possible becomes irrational).

[104] *See, e.g.*, Final Act, *supra* note 47, pmbl. (stating goal of WTO to be sustainable development, and protection and preservation of the environment).

[105] CSA, S. 3036, § 1105(b)(3).

[106] *Id.* § 1101(2).

[107] *Id.* § 1303.

conservation, the U.S. can rather easily show that it is not a "disguised restriction on trade."

C. Conclusion Regarding the CSA, as Written, Under XX(g)

As discussed in the preceding section, the CSA, as written, is subject to a number of complaints by affected states. This paper concludes that, as written, the CSA violates at least Article I of the GATT. Further, this paper concludes that Article XX(g) would probably not justify the violation of the substantive provisions of the GATT for the following reasons.

First, it is not clear that the international provisions of the CSA are "related to" conservation because, as written, it does not appear that any conservation will be achieved. This would probably lead a Panel to conclude that the CSA does not meet the requirements of subsection (g). Second, even if the Panel concluded that subsection (g) was met, the CSA is vulnerable to the challenge that, as written, it results in arbitrary and unjustifiable discrimination. It is arguably arbitrary because there is no check on the administration of the trade restrictive measures. It is arguably unjustifiable because the trade restrictions imposed are not outweighed by environmental concerns. Thus, the CSA, as written, probably would not be justified under Article XX(g). The next section proposes minor amendments to the CSA that, if made, would greatly increase the chances that the CSA would be found to be justified under Article XX(g).

IV. Proposal

It is possible for the United States to make a strong argument, based on WTO precedent, that the CSA as amended should be permitted to regulate imported products based on the GHG emissions associated with the production of those products. However, to successfully argue that point, the U.S. must carefully trace the previous WTO decisions interpreting Article XX(g) and be sure to meet all of the requirements that have been set forth by the WTO in those previous decisions. While the CSA, as written, is probably inconsistent with Article XX(g) as discussed above, this section will suggest minor amendments that will greatly increase the chances that the U.S. can justify the CSA under Article XX(g).

First, the CSA should be amended to place a cap on the number of international reserve allowances that the U.S. will import. This will greatly support the argument that the CSA is "related to" conservation. Without such a cap, it is possible to argue the CSA is not related to conservation because it will not have any impact on conservation and is simply a charge imposed on some exporters but not others. If a cap were placed on the import of GHGs, however, there would be an absolute conservation scheme and the amended CSA would almost certainly be "related to conservation."

Second, the CSA should be amended to include a review process for the decisions made by the Administrator or the President. As the Appellate Body stated in *Shrimp-Turtle*, a law that has no check on its application is more likely to be

found arbitrary in violation of the chapeau of Article XX.[108] Providing a process by which affected countries can challenge various aspects of the CSA, such as the classification of the challenging country as not having a comparable GHG reduction program, reduces the arguments that the CSA is "arbitrary."

Third, the U.S. must pursue negotiations with the countries that will be impacted by the CSA. While it is good to state the policy of preferring negotiations in the CSA, the U.S. must actually pursue negotiations in good faith.[109] Fourth, the CSA should expressly state a conservation goal.

If these four amendments are incorporated into the CSA, the only major issue that would be left to litigate before the WTO would be whether the CSA results in "unjustifiable discrimination." Importantly, as the term "unjustifiable discrimination" has been applied so far, it only requires that a country wishing to take unilateral action first pursue negotiations. If this is all that is required, the CSA, as amended, would probably be justified by Article XX(g). But it is foreseeable that "unjustifiable discrimination" may be interpreted to require the environmental protection pursued by the unilateral measure to outweigh the trade restriction imposed. This interpretation is possible from the express language of the chapeau, and the U.S. should contemplate a defense in enacting the CSA. Though this is a big issue that cannot be fully resolved in this paper, the U.S. should take action in enacting the CSA to forestall the argument that the CSA is unjustifiable by including in the legislative record the evidence it is relying on to conclude that concerns of global warming justify the trade measures enacted by the CSA.

V. Conclusion

Global warming has become a reality, and it is encouraging that the United States Congress is considering regulations aimed at slowing global warming. The CSA seems to provide an effective scheme to reduce GHG emissions within the United States as well as to provide an incentive to countries that do business with the U.S. to pursue similar strategies to combat global warming. Though it is very likely that the CSA would violate the substantive rules of the GATT, this paper argues that, with some slight modifications, the CSA would meet the requirements of Article XX(g) and therefore be consistent with the GATT.

[108] Shrimp-Turtle Appellate Body, *supra* note 50, ¶¶ 177, 180, 183.

[109] This has been held to be an explicit requirement of the application of Article XX(g) of the GATT. Shrimp-Turtle Panel, *supra* note 100, ¶ 5.66.

ECONOMIC DEVELOPMENT AND ENVIRONMENTAL THREATS: TIPPING THE BALANCE IN VENEZUELA

Lauren Sanchez-Murphy[†]

I. Introduction

"'We are an oil producing country and that obligates us to take even more care of the environment—on an extreme level—and to avoid contamination, and to reduce contamination in all areas: earth, water and air.'"[1] The balance between developing an economic market and protecting human and environmental rights is a crucial issue that has received worldwide attention. This issue is particularly pronounced in developing nations where the over-exploitation of natural resources by industrialized nations or transnational corporations is a constant threat.

Latin America holds some of the largest oil and natural gas deposits in the world, as well as a thriving ethanol industry. Appropriately nicknamed "black gold," oil continues to be the most important resource of the twenty-first century. Unfortunately, the scarcity of oil has prompted energy markets to search for new resources, often leading to problems where the resources are improperly extracted and managed. In the last twenty years, Latin America has invested greatly in energy resource exploration and production, and despite the increased trade and investment therein, aid provided by foreign nations and international corporations has unfortunately led to many problems because of improper risk mitigation.[2] Furthermore, experts estimated in 1996 that the next thirty years could bring environmental liability claims approximating $40 billion in damages, which will primarily include clean-up costs.[3] In addition, the region has been plagued by increasing numbers of injuries, theft, hijackings, and natural disasters.[4] It is essential for Latin American countries to guard against these potential risks and prepare measures to compensate for damages while simultaneously preventing economic, human, and environmental harm.[5]

Latin American governments strive to create strong economic foundations for their countries, hoping to become independent from other foreign nations and

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† J.D., Loyola University Chicago, expected May 2010.

1 Eva Golinger, *Venezuela's Green Agenda: Chávez Should be Named the "Environmental President"*, VENEZ. ANALYSIS, Feb. 27, 2007, http://www.venezuelanalysis.com/analysis/2244 (arguing that although Venezuela is home to one of the world's largest petroleum industries, President Chávez understands the need for environmental protection through combating deforestation and sustainable development) (quoting President Chávez, Feb. 24, 2007).

2 Ricardo J. Cata, *Emerging Markets Liability in Latin America*, 27 U. MIAMI INTER-AM. L. REV. 509, 544 (1996) (comparing the improvements in energy exploitation against the problems in Latin America).

3 *Id.* at 528.

4 *Id.* at 510-511.

5 *Id.*

corporations. However, due to the sensitive ecosystems of the region, oil and natural gas extraction requires a great amount of care because each stage of petroleum production carries severe environmental consequences—the manufacturing facilities, for example, are primary emitters of toxic pollutants and greenhouse gases.[6] Whether concern for the environment is lacking or education regarding the maintenance and consequences of petroleum production is inadequate in Latin America, petroleum and chemical additives are freely discharged into the environment, excess gas is burned off without emission control, petroleum spills from every type of container are frequent, and pipelines "prone to spills" are untreated and poorly maintained.[7]

Venezuela is one of the world's largest oil-producing nations, boasting 99 billion barrels of crude oil and 171 trillion cubic feet of natural gas reserves.[8] The state also estimates 260 billion barrels of heavy crude lies in the center of the country in the Orinoco belt.[9] Within the past few years, the country's president, Hugo Chávez, launched two ambitious natural gas projects. One is a $20 billion pipeline stretching 5,600 miles, which is almost the entire length of South America, and the other is a $200 million pipeline bringing gas and oil to Central America.[10] The main goal of these projects is to assure economic and energy independence for South and Central America; however, if these projects are carried out negligently or without proper supervision and training, they could potentially present numerous risks to environmental and human rights.

This article discusses Venezuela's ambitious energy projects, their effects on the environment and the environmental legal issues that may emerge. First, this article discusses the laws that establish environmental protection, including United Nations' declarations, customary international law and the Venezuelan Constitution. Second, the article will examine Venezuela's current political regime and its effect on oil and gas production, and the country's pipeline projects and their potential effects on the environment. Finally, the article will discuss these projects in relation to environmental laws and whether they outweigh the need for Latin American economic integration and independence.

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[6] Santiago A. Cueto, *Oil's Not Well in Latin America: Curing the Shortcomings of the Current International Environmental Law Regime in Dealing with Industrial Oil Pollution in Latin America Through Codes of Conduct*, 11 FLA. J. INT'L L. 585, 592-93 (1997) (examining the shortcomings of the present environmental regulatory system and suggesting as an alternative, voluntary codes of conduct and the economic and political transformation in Latin America).

[7] *Id.* at 593.

[8] ENERGY INFORMATION ADMINISTRATION [EIA], COUNTRY ANALYSIS BRIEFS: VENEZUELA, 2, 7 (2009), http://www.eia.doe.gov/cabs/Venezuela/pdf.pdf (providing Venezuela's energy statistics).

[9] Nikolas Kozloff, HUGO CHÁVEZ: OIL, POLITICS, AND THE CHALLENGE TO THE U.S. 7 (Palgrave MacMillan 2006).

[10] *Chávez Calls for More Unity in South America*, CNN (Dec. 12, 2006), http://www.cnn.com/2006/WORLD/americas/12/08/chavez.ap/index.html; Greg Morsbach, Gas Pipeline Begins in Venezuela, BBC NEWS, July 9, 2006, http://news.bbc.co.uk/go/pr/fr/-/2/hi/americas/5161968.stm. [hereinafter Morsbach, *Gas Pipeline*].

II. International Environmental Legal Framework

Environmental protection and economic development are connected through a cause and effect relationship—economic development is a primary cause of environmental destruction.[11] Undervalued resources, under-represented benefits of environmental protection, the parties exhausting resources rarely pay full social and economic costs, over-exploited resources suffering from the weakest ownership, depletion being encouraged over conservation, and failure to include depletion of natural capital in national income all contribute to the destructive cause and effect relationship between economy and environment.[12] Although there is increased global concern for the environment and many countries have initiated environmental legislation, most States continue to value economic development over environmental protection.

Although many Latin American nations have enacted new laws protecting the environment from the threats posed by petroleum and gas production, effectiveness and enforcement are wanting. The Inter-American Development Bank has denounced the new environmental legislation for failing to "fulfill the basic function of defining national environmental policy and establishing legal mechanisms to enforce it."[13] To help correct this problem, the United Nations has offered a framework laying down basic legal principles, which several Latin American countries have adopted.[14] The greatest challenges to the success of these new laws are effectiveness and enforcement—although they appear to address environmental legal issues, they are merely suggestions for providing environmental protection.[15]

When addressing environmental law in Latin America, the first question is, "Where do we actually find the law?"[16] Latin America has a historically weak environmental record for several reasons. First, state ownership of industry is typical. This requires the government to run a company and maximize profits while adhering to its environmental policies, which could result in the government imposing penalties on itself for non-compliance.[17] Second, jurisdictional problems may lead to confusing and contradictory environmental regulation, making compliance difficult for corporations attempting to boost the economy

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[11] David Eugene Bell, *The 1992 Convention on Biological Diversity: The Continuing Significance of U.S. Objections at the Earth Summit*, 26 GEO. WASH. J. INT'L L. & ECON. 479, 488-89 (1993) (examining the importance of biological diversity to the human environment and the development of the Biodiversity Convention).

[12] *Id.* at 489.

[13] Cueto, *supra* note 6, at 598.

[14] *Id.* at 598-99.

[15] *Id.* at 599.

[16] Pamela M. Giblin, Statement, Symposium, *Energy and International Law: Development, Litigation, and Regulation*, 36 TEX. INT'L L. J. 1, 43 (2001) (discussing environmental regulation in Latin America).

[17] Armin Rosencranz, Richard Campbell & David A. O'Neil, *Rio Plus Five: Environmental Protection and Free Trade in Latin America*, 9 GEO. INT'L ENVTL. L. REV. 527, 529-30 (1997) (assessing the relationship between recent developments in Latin American environmental law and international trade).

while conforming to regulations.[18] Third, even if environmental legislation is adequate, Latin American nations may be so determined to achieve economic growth that legal enforcement may become subordinate.[19]

The United Nations addressed the global need to balance economic development and environmental protection in developing nations through the Stockholm Declaration (1972) and the Rio de Janeiro Declaration (1992).[20] Another source of U.N. law is the Basel Convention (1989), a treaty meant to regulate the transnational transportation of hazardous waste.[21] Customary international law may also apply to the exploitation and transnational transportation of energy resources if it is determined that the methods employed common practice used by a general community of states.[22] Finally, the Venezuelan Constitution, which was rewritten in 1999, includes specific provisions protecting environmental and indigenous rights, providing the right to legal redress if violations occur.[23]

In 1972, the United Nations Conference on the Human Environment was held, which was the world's first multilateral environmental conference to provide principles guiding environmental legislation.[24] At this time, the Stockholm Declaration was adopted, supporting the basic concept of balancing environmental policies with economic development.[25] However, the Stockholm Declaration recognized that developing nations needed greater freedom to exploit their resources and allowed them to invite investors to increase economic development as long as it did not cause environmental damage to other nations.[26] Important goals of the Stockholm Declaration included:

> (1) Development plans should be compatible with sound ecology; (2) adequate environmental conditions could best be ensured by promoting development at both the national and international level; (3) the sovereign right of each country should be fully respected; (4) environmental policies should avoid adverse effects on the development possibilities of develop-

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[18] *Id.* at 530.

[19] *Id.*

[20] Giblin, *supra* note 16, at 601.

[21] Sejal Choski, *The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal: 1999 Protocol on Liability and Compensation*, 28 ECOLOGY L.Q. 509, 510 (2001) (discussing the background to the Convention and current relevant provisions regulating the transportation of hazardous waste).

[22] Maura Mullen de Bolívar, *A Comparison of Protecting the Environmental Interests of Latin-American Indigenous Communities From Transnational Corporations Under International Human Rights and Environmental Law*, 8 J. TRANSNAT'L L. & POL'Y 105, 115 (1998) (discussing the use of contemporary human rights and environmental law principles by indigenous peoples to protect their natural environment from damage caused by hazardous activities conducted by transnational corporations).

[23] CONSTITUCI—N DE LA REPÚBLICA BOLIVARIANA DE VENEZUELA arts. 127-129, *available at* http://www.analitica.com/bitblioteca/venezuela/constitucion_ingles.pdf.

[24] Mullen de Bolívar, *supra* note 22, at 127.

[25] Bell, *supra* note 11, at 493.

[26] *Id.*; Karen M. Schwab, *Added Hope for the Amazon Rainforest*, 15 HOUS. J. INT'L L. 163, 178-79 (1992) (discussing the extent to which the developed world can influence environmental policy regarding the rainforest, focusing on United Nations policies, credit extension, and the jurisdictional bounds of United States based litigation).

> ing countries, including their international trade position, international development assistance, and the transfer of technology; and (5) and action plan and action proposals should promote programs designed to assist the developing countries, including the provision of additional technical assistance and financial resources.[27]

The Stockholm Declaration provides principles and recommendations for environmental treaties and legislation based on the goals stated above.[28] An important provision of the Stockholm Declaration is Principle 21, which states that nations have the "sovereign right to exploit their own resources," but prohibits causing damage to other nations.[29] Although this is contradictory in nature, the Stockholm Declaration merely provides guidelines for a nation to establish environmental legislation and is therefore not legally binding, permitting nations to continue their current policies.[30]

Although not legally binding, the Stockholm Declaration encouraged international cooperation in environmental protection policies. It also urged developed nations to provide aid to less developed nations lacking the ability to develop economically while simultaneously ensuring environmental protection.[31] Moreover, the Stockholm Declaration argues that "education in environmental matters . . . is essential in order to broaden the basis for an enlightened opinion and responsible conduct by individuals."[32] It is clear that education at the individual level is important for environmental protection, which can be achieved by providing aid to under-developed nations in furtherance of the global environmental protection effort. Based on the recommendation from the United Nations, many countries initiated multilateral treaties and international negotiations in order to cooperate and establish successful environmental practices to reduce ecological destruction.[33]

Until the middle of the nineteen-eighties, treaties after the 1972 Stockholm Declaration addressed the "first generation" of environmental problems, which included air, water and soil pollution caused by industry, poverty and underdevelopment.[34] The "second generation" of environmental problems involved global warming, ozone depletion, climate change, desertification, habitat protection, protection of the environment during armed conflict, and international transport of toxic chemicals and hazardous waste.[35] Due to the sheer size and global

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[27] Bell, *supra* note 11, at 493-94.

[28] *Id.* at 494.

[29] Declaration of the United Nations Conference on the Human Environment, June 16, 1972, 11 I.L.M. 1416, 824 U.N.T.S. 216 [hereinafter Stockholm Declaration].

[30] Schwab, *supra* note 26, at 178-79; Bell, *supra* note 11, at 495.

[31] Stockholm Declaration, *supra* note 29, princs. 22, 24; *see* Mullen de Bolívar, *supra* note 22, at 127 (explaining that the declaration calls for financial and technological aid to underdeveloped countries).

[32] Stockholm Declaration, *supra* note 29, princ. 19.

[33] Andronico O. Adede, *The Treaty System From Stockholm (1972) to Rio de Janeiro (1992)*, 13 PACE ENVTL. L. REV. 33, 34, 44 (1995) (discussing the changes in international environmental treaties beginning with the Stockholm Declaration and ending with the Rio de Janeiro Conference).

[34] *Id.* at 34, 37.

[35] *Id.* at 37.

nature of the problems, most countries felt the only effective mechanism by which to initiate environmental change was global unity, which ultimately resulted in the 1992 Rio de Janeiro United Nations Conference on Environment and Development.[36] The transition period between the Stockholm Declaration in 1972 and the Rio de Janeiro Declaration in 1992 led to a different type of treaty that focused on providing monetary aid and new technologies to developing nations, as well as encouraging them to participate in the creation and organization of new treaties.[37]

The Rio Declaration reaffirmed the Stockholm Declaration and included twenty-seven principles calling for international unity to combat the new generation of environmental problems by means of "a new and equitable global partnership through the creation of new levels of cooperation among states."[38] Both declarations continued to allow States to exploit their own natural resources and encourage economic development, so long as it abides by environmental protection policies.[39]

The Stockholm and Rio Declarations embody the common belief that industrialized nations should aid underdeveloped nations to encourage unified, cooperative and global protection of the environment. However, the Rio Declaration is far more specific regarding the obligations of industrialized nations, stating that, "developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command."[40] In Principle 15, States are required to prevent environmental destruction where there are "serious or irreversible" threats even where scientific study is lacking; postponing the reverse of environmental degradation will nonetheless be prohibited.[41] Although rooted in ethics, this Principle finds that "it is better to prevent harm than to treat or cure it."[42]

Principle 22 is one of the most innovative in the Rio Declaration as it specifically protects indigenous rights, including their identity, which is closely linked to the natural environment. Principle 22 requires States to recognize and protect the cultures of indigenous peoples by allowing them to participate in the environ-

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[36] *Id.* at 37-38.

[37] *Id.* at 47-48.

[38] Bell, *supra* note 11, at 499; Report of the United Nations Conference on Environment and Development, June 14, 1992, 31 I.L.M. 874, 1660 U.N.T.S. 3 [hereinafter Rio Declaration].

[39] Bell, *supra* note 11, at 499.

[40] *See* Scott Holwick, *Transnational Corporate Behavior and Its Disparate and Unjust Effects on the Indigenous Cultures and the Environment of Developing Nations*: Jota v. Texaco, *a Case Study*, 11 COLO. J. INT'L L. ENVTL L. & POL'Y 183, 216-17 (2000) (discussing the potential remedies available to disadvantaged people in nations whose natural resources are exploited by transnational corporations); *see also* Bell, *supra* note 11, at 499; Rio Declaration, *supra* note 38, princ. 7.

[41] Rio Declaration, *supra* note 38, princ. 15.

[42] Francis N. Botchway, *The Context of Trans-Boundary Energy Resource Exploitation: The Environment, the State and the Methods*, 14 COLO. J. INT'L ENVTL. L. & POL'Y 191, 213 (2003) (arguing that environmental imperatives, especially regarding sustainable development, are critical to the success of any joint exploitation of a shared resource and that the combination of state politics, environment, and business ideas is indispensable for the successful execution of joint energy projects).

mental protection of their land.[43] This Principle is similar to Principle 19 in the Stockholm Declaration, which stipulates that education and transferring effective environmental protection methods should not only be exchanged between governments, but also at the individual and grassroots level. Although indigenous rights have only received attention recently, this Principle ensures greater protection and understanding of indigenous groups, including their identity and culture.

The Stockholm and Rio Declarations responded to increasing environmental problems due to industrial development by providing a framework which integrated environmental protection in trade negotiations and treaties. Although both promote environmental protection, they protect State sovereignty and allow nations to continue using their previous environmental policies and enforcement mechanisms.

Another international legal framework aimed at protecting the environment is the 1989 Basel Convention, which was promulgated to limit transnational trade waste, prohibit the export of waste to non-member nations, and prohibit transnational shipment of wastes without consent from importing and exporting nations.[44] Consumer demand and industrial production have been the primary causes of hazardous waste, which has increased exponentially in the last century—by 1990 the total annual global production of hazardous waste rose to 300 million metric tons.[45] Due to lower costs and more lenient environmental regulation and enforcement, it is common for industrialized nations to dump waste in developing nations, referred to as "toxic terrorism".[46] Industrialized nations have been able to profit from developing nations' weak economic structures and lack of technology to properly manage waste, which has led to severe problems in soil and water pollution, human morbidity, and devastating environmental problems in these nations.[47]

The Basel Convention's major components address human health and the environment, differential treatment, prior informed consent, regional centers, financing, compliance, and liability schemes, creating a strong framework to establish environmental justice that previous legislation failed to provide.[48] The Basel Convention has three objectives: first, to minimize the amount of worldwide waste; second, to promote disposal close to the source of the generation;

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[43] Rio Declaration, *supra* note 38, princ. 22.

[44] United Nations Environment Programme Conference of Plenipotentiaries on the Global Convention on the Control of Transboundary Movements of Hazardous Wastes, March 22, 1989, 28 I.L.M. 649, 1673 U.N.T.S. 57 [hereinafter Basel Convention].

[45] Choski, *supra* note 21, at 512; Russel M. Lazega, *NAFTA Accession and Environmental Protection: The Prospects for an "Earth Friendly" Integration of Latin American Nations Into the North American Trading Bloc*, 5 J. TRANSNAT'L L. & POL'Y 315, 337 (1996) (addressing environmental issues in trade negotiations, as well as NAFTA and its integration into Latin America).

[46] Choski, *supra* note 21, at 513, 515.

[47] *Id.* at 515.

[48] Lisa Widawsky, *In My Backyard: How Enabling Hazardous Waste Trade to Developing Nations Can Improve the Basel Convention's Ability to Achieve Environmental Justice*, 38 ENVTL. L. 577, 593 (2008) (discussing the need to address and fix the weaknesses of the Basel Convention and encourage developing nations to utilize better methods to handle hazardous wastes).

and, third, to encourage environmentally sound management and disposal of waste.[49]

Similar to the Stockholm and Rio de Janeiro Declarations, the Basel Convention provides that differential treatment is necessary for developing nations to ensure a more equal distribution of environmental benefits and burdens.[50] The treaty states that the transnational movement of hazardous waste shall be allowed only if the exporting state is unable to suitably dispose of the waste in an environmentally safe manner or where the waste is a raw material required for recycling or recovery industries in the importing nation.[51] In addition, the Basel Convention mandates prior informed consent, requiring full disclosure regarding potential waste exports before any shipment of hazardous waste is permitted.[52] This requirement has received praise for adopting the precautionary principle,[53] which requires the exporting state to provide all the information about the characteristics of the wastes and allows the importing state to consent, refuse, or impose restrictions.[54] The Basel Convention's provisions regarding finance, compliance, and liability provide the framework for legal remedies for treaty violations and encourage industrialized nations to provide aid to developing nations.[55] The Basel Convention advances environmental justice by providing developing nations greater power in the decision-making process and perhaps reducing their environmental problems.[56]

Although the Basel Convention has been lauded for promoting and advancing environmental law and protection, it has received severe criticism as well. Critics of the treaty argue that it has failed to establish a financial mechanism to minimize damage from hazardous waste accidents, resulting in problems where the party responsible for the damage is unknown or unable to provide sufficient money to reverse the damage.[57] In addition, the treaty usually relies on the parties' good faith and cooperation because it lacks a formal enforcement authority.[58] Finally, environmentalists argue that the Basel Convention failed to meet its goals because there has been no reduction in hazardous waste.[59] However, although critics of the Basel Convention maintain that it has been unable to achieve environmental justice, it has brought greater worldwide attention to environmental threats.

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[49] Choski, *supra* note 21, at 516-17.

[50] Widawsky, *supra* note 48, at 596.

[51] Basel Convention, *supra* note 44, art. 4.9.

[52] Widawsky, *supra* note 48, at 596.

[53] The Precautionary Principle will be discussed in greater detail later in the article.

[54] Widawsky, *supra* note 48, at 602.

[55] *Id.* at 599-602.

[56] *Id.* at 602.

[57] Choski, *supra* note 21, at 518.

[58] *Id.* at 519.

[59] *Id.* at 520.

Customary international law is found where there is a general practice in a community of States and it becomes binding through repetition and acceptance.[60] Therefore, it is essential that the community of States believe it is actually required by international law and that no State should be exempt.[61] Some customary international law will attain the status of "jus cogens," found where a practice represents a fundamental value absolutely necessary for mankind to coexist in the international community. Examples of jus cogens norms include the prohibitions on piracy and slavery, the right to life and protection against the arbitrary deprivation of life, and prohibitions against genocide, war crimes, crimes against humanity, the use of force, torture, and apartheid.[62]

Two customary international legal principles that are increasingly important in environmental protection are the precautionary principle and the polluter-pays principle.[63] The precautionary principle states that where an activity poses a threat to human or environmental health, even without scientific evidence, cost-effective measures should be taken to prevent that threat.[64] The polluter-pays principle states that where the polluter has caused environmental harm, it must bear the costs rather than pass them on to future generations or those immediately affected by the damage.[65] Although these principles aim to prevent environmental harm, they are not free from criticism because they are based on ethics rather than clear legal obligations.[66] Legal precedent governing entities that engage in activities threatening environmental harm is scarce, and therefore, moral and ethical responsibility provides a basis to establish liability when violations of environmental international law occur.[67]

Some theorists argue that enforcing environmental international law would be more effective through the development of codes of conduct regulating the behavior of pollutant industries that operate in ecologically-sensitive regions.[68] Codes of conduct create valuable standards and tools to guide transnational corporations attempting to develop a geographical region where risks of severe environmental damage are present. Typically, these codes seek to offer the best of both worlds: they include a canon of ethics and statements promising to limit exploitation in nations where corporations could operate, while also promoting corporate needs.[69] These codes have been successful because they allow for self-

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60 Mullen de Bolívar, *supra* note 22, at 115.

61 *Id.*

62 *Id.*

63 Widawksy, *supra* note 48, at 586.

64 *Id.* at 584.

65 *Id.*

66 *See* Botchway, *supra* note 42, at 212-13. The author criticizes the Rio Declaration's implementation of the precautionary principle because she finds it to be only a "normative prescription" rather than providing a clear legal duty. The author further believes that the polluter-pays theory is inadequate in situations where there is a joint cooperative effort to exploit a resource and the proportion and extent of each party's pollution is difficult to ascertain.

67 *See* Holwick, *supra* note 40, at 186.

68 Cueto, *supra* note 6, at 607.

69 *Id.* at 608-09.

regulation, which is argued to be more effective in regions where enforcement mechanisms in environmental legislation are weak.[70] Unlike treaties, codes can be specifically tailored to a particular industry or environmental region. This is particularly useful for oil companies operating in Latin America and can provide a balance between corporations' needs to maximize profits and developing nations' needs to develop economically while protecting their delicate ecological systems.[71] These codes may also adopt customary international legal principles, such as the precautionary and polluter-pays principle, which could provide the framework for establishing binding legal obligations and environmental legislation.

Although the international laws discussed above provide legal frameworks for environmental justice, they often protect State sovereignty, lack enforcement mechanisms, or are too general to establish clear legal obligations. In Latin America, there are several new, leftist regimes that have provided legislation specifically protecting the environment.[72] In 1999, the Venezuelan president, Hugo Chávez, called for a new "Bolivarian" Constitution based on his leftist ideologies that guaranteed many social and economic rights and incorporated progressive provisions protect human rights.[73]

Title III, Chapter Nine of the new Constitution specifically protects environmental rights and establishes legal obligations on the State.[74] The Constitution includes a provision that establishes an obligation to protect the natural environment where indigenous communities inhabit because their culture and livelihood depends on the health and protection of the environment.[75] The Constitution also states with particularity that when the State engages in negotiations involving natural resources, it is required to protect the environment and restore the environment to its "natural state" if altered.[76] The Constitution also appears to contain the precautionary principle and states, "any activities capable of generating damage to ecosystems must be preceded by environmental and sociocultural impact studies."[77] These two last provisions are very reminiscent of the polluter-pays and precautionary principles, although both establish clear obligations unlike the general customary principles from which they are derived. Although many international experts praise the efforts to provide affirmative legal protections to the environment through the Constitution, its effectiveness has been

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[70] *Id.* at 608.

[71] *Id.* at 609.

[72] *See* Daniel Denvir & Thea Riofrancos, *How Green is the Latin American Left? A Look at Ecuador, Venezuela and Bolivia*, UPSIDE DOWN WORLD, Apr. 3, 2008, http://upsidedownworld.org/main/content/view/1203/1/ (examining the neoliberal policies of Ecuador, Venezuela and Bolivia and their effect on the environment, and how these three countries are addressing the problems of global warming, pollution and control of natural resources).

[73] Daniel Hellinger, *Venezuela*, *in* POLITICS OF LATIN AMERICA: THE POWER GAME 469, 484 (Harry E. Vanden & Gary Prevost eds., Oxford University Press 2006).

[74] CONSTITUCIÓN DE LA REPÚBLICA BOLIVARIANA DE VENEZUELA arts. 127-29.

[75] *Id.* art. 120.

[76] *Id.* art. 129, cl. 2.

[77] *Id.* art. 129, cl. 1.

questioned because it is argued that Chávez has attempted to politicize the judiciary.[78]

The international community provides various sources of law that could govern the construction, maintenance, and production of natural gas and oil projects. However, these sources may not provide adequate relief as they are non-binding and they protect state sovereignty. Most of these laws have been praised for visionary appeal and equally criticized for failing to provide a legal framework suitable to actually hold parties accountable.[79] The new Venezuelan Constitution may help bridge this gap—it not only institutes a legal duty on the State or a foreign entity to protect the environment, but also provides for relief and accountability.

III. Venezuela

A. Current Political Situation and its Effect on the Energy Industry

Hugo Chávez is undoubtedly the most notorious leader of South America. Chávez has outspokenly criticized the United States,[80] is one of the first leaders of a mixed racial background and is therefore heralded as a hero of the indigenous classes,[81] and he has initiated bold energy projects throughout Latin America to bring economic independence to his country and the rest of the region.[82] President Chávez began his rise to political power in early 1992 when he led a coup against the Venezuelan president at the time, Marcos Pérez Jiménez.[83] Although the coup was unsuccessful, Chávez announced that he and his comrades had only failed "for now."[84] Chavez's prediction was realized in 1993 when Congress ousted President Pérez, and the interim President freed Chávez from prison, allowing him to finally run for the presidency, ultimately resulting in his election in 1998.[85]

Upon assuming office, Chávez immediately overhauled the former Venezuelan administration, starting with a new constitution that renamed the country the Bolivarian Republic of Venezuela.[86] The Bolivarian Revolution's objective is

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[78] Hellinger, *supra* note 73, at 485.

[79] Cueto, *supra* note 6, at 611.

[80] Kozloff, *supra* note 9, at 3 (noting Chávez's challenges against U.S. trade initiatives, the war in Iraq, and the drug war in Latin America).

[81] *Id.* at 13, 18.

[82] Harold A. Trinkunas, *What Is Really New About Venezuela's Bolivarian Foreign Policy?*, 5 STRATEGIC INSIGHTS 2, ¶ 15-16 (2006), http://www.nps.edu/Academics/centers/ccc/publications/OnlineJournal/2006/Feb/trinkunasFeb06.pdf (explaining President Chávez's political and energy agendas, such as the South American energy alliance, Petrosur); *see also* Greg Morsbach, *Venezuela Basks in Oil "Bonanza"*, BBC NEWS, Feb. 17, 2006, http://news.bbc.co.uk/go/pr/fr/-/1/hi/world/americas/4713404.stm [hereinafter Morsbach, *Venezuela Basks*] (stating that Venezuela's initiatives are to "integrate South America's energy sector, to become more self-sufficient and less dependent on the United States").

[83] Hellinger, *supra* note 73, at 478.

[84] *Id.* at 481.

[85] *Id.* at 481-82.

[86] *Id.* at 484.

rooted in its foreign policy to obtain allies wishing to limit the power of the United States and increase the influence of Latin America.[87] Chávez, aware that his political power and economic leverage is based in the country's deep oil and natural gas reserves, has stated that "oil is a geopolitical weapon."[88] Although a relatively small country, Venezuela boasts some of the largest oil and natural gas reserves throughout the world and remains one of the top ten oil producers in the world.[89]

Prior to nationalizing the energy sector, the Venezuelan government allowed private companies to contract with the government to obtain rights for the exploration and production of oil.[90] The Venezuelan oil industry was nationalized on January 1, 1976, which provided the State the rights to explore, produce, transport, store, refine, export, and sell all oil and gas through the state-run companies PDVSA and PDVSA Gas, S.A.[91] However, nationalization changed very little—private companies were still granted production and exploration concessions and a substantial amount of power remained in foreign hands.[92]

When Chávez assumed power, he undertook a controversial enterprise to change the laws governing the country's oil industry. Chávez has sought to achieve "Full Sovereignty Over Oil," which focuses on the State obtaining control over the oil industry and receiving a greater return for all oil endeavors.[93] Chávez's administration hopes to "deactivate domination mechanisms" set in place by the previous administration and the private companies that controlled oil production and exploration.[94] Since assuming office, Chávez announced that the private oil companies would be required to pay much higher income taxes to the State and that PDVSA would be given a 60 percent stake in the new ventures.[95] Stricter nationalization standards have been followed by a course of national wealth distribution in various public programs, including health care, education, pensions, and employment.[96] The challenges against the foreign companies have been largely successful because the foreign companies virtually have no choice

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87 Trinkunas, *supra* note 82, at ¶ 6.

88 Kozloff, *supra* note 9, at 7.

89 EIA, *supra* note 8, at 1.

90 Seth McNew, *"Full Sovereignty Over Oil": A Discussion of Venezuelan Oil Policy and Possible Consequences of Recent Changes*, 14 L. & BUS. REV. AM. 149, 150 (2008) (analyzing the history of the Venezuelan oil industry, the changes made by Chávez, and the repercussions of those changes on foreign oil investment within the country).

91 Uisdean R. Vass & Adriana Lezcano, *The New Venezuelan Legal Regime for Natural Gas: A Hopeful New Beginning?*, 36 TEX. INT'L L.J. 99, 103 (2001) (examining the economic and historic aspects of the Venezuelan gas business, the 1999 Constitution and new legislation affecting the industry).

92 McNew, *supra* note 90, at 150-51.

93 *Id.* at 149.

94 *Id.* at 153.

95 *Id.* at 154.

96 Mario J. Garcia-Serra, *The "Enabling Law": The Demise of the Separation of Powers in Hugo Chávez's Venezuela*, 32 U. MIAMI INTER-AM. L. REV. 265, 287, 275 (2001) (analyzing the new Venezuelan Constitution and explaining that President Chávez has taken advantage of his immense popularity by granting himself powers inconsistent with the new constitutional provisions, which could have devastating effects on Venezuela's future political and economic development).

but to accept the new terms if they wish to continue operating in Venezuela—those that have refused to acquiesce to the framework have had their oil fields seized by the State.[97] The nationalized energy sector grants the Chávez administration an opportunity to achieve greater control over the oil and natural gas industries as well as initiate new public programs.

B. Venezuela's Natural Gas Industry

Although oil has dominated the Venezuelan economy, "[it] will gradually run out around the world and more and more countries will turn to gas," a resource that Venezuela also boasts plentiful reserves of.[98] Although the Chávez administration leans heavily towards nationalization, it passed the Gas Hydrocarbons Law in 1999, which opens natural gas production to the private sector, in an effort to develop and expand the industry.[99]

Venezuela has begun extracting natural gas and initiating several large-scale projects, several of which involve constructing transboundary mega-pipelines.[100] Two of the largest and most controversial pipelines are the Antonio Ricuarte Trans-Oceanic Gas Pipeline, to connect Venezuela, Colombia and other Caribbean nations,[101] and the Southern Gas Pipeline, which, planned to run through Venezuela, Brazil and Argentina, has been called the world's largest gas pipeline.[102]

The 225 kilometer Antonio Ricaurte Trans-Oceanic Gas Pipeline[103] will also extend to Panama, Ecuador and the Pacific in order to facilitate increased trade with Asian countries.[104] Experts stipulate that the purpose of the pipeline is to completely diminish reliance on the United States and find an equal trading partner in Asia.[105] The pipeline will run along the border between Colombia and Venezuela, which is home to many indigenous communities.[106] Although there

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97 McNew, *supra* note 90, at 155.

98 Morsbach, *Venezuela Basks, supra* note 82.

99 EIA, *supra* note 8, at 7.

100 *See* Morsbach, *Venezuela Basks, supra* note 82 (explaining that Venezuela's massive spending on energy projects is to increase economic integration in South America's energy sector and diminish its dependence on the United States).

101 Chris Carlson, *Venezuela and Colombia Launch Gas Pipeline*, VENEZ. ANALYSIS, Oct. 15, 2007, http://www.venezuelanalysis.com/news/2730.

102 Kelly Hearn, *World's Largest Gas Pipeline Proposed to Run Through Amazon*, NAT'L GEOGRAPHIC, Jan. 4, 2007, http://news.nationalgeographic.com/news/pf/92421538.html.

103 Press Release, Chevron, Chevron and Ecopetrol Signed Contract with PDVSA to Export Natural Gas from Colombia to Venezuela (May 13, 2007), *available at* http://www.chevron.com/news/press/Release/?id=2007-5-13 (explaining the agreement between Chevron and PDVSA for the pipeline, which will deliver gas from Colombia to Venezuela and contemplates a future agreement for the delivery of gas from Venezuela to Colombia).

104 Carlson, *supra* note 101.

105 Morsbach, *Gas Pipeline, supra* note 10.

106 Carlson, *supra* note 101.

is continuing criticism regarding the environmental consequences, a great deal of the money invested was used for social spending programs.[107]

The Southern Gas Pipeline, on the other hand, has received immense criticism because it is proposed to run through several ecologically-sensitive regions, including the Amazon rainforest.[108] The pipeline is intended to extend about 8,000 kilometers and the cost has been estimated at about $21 billion.[109] Although the government has addressed the environmental and social concerns, it argues that economic independence and integration should move forward and asserts that the pipeline will help prevent gas shortages.[110] Although there are many interested investors, many doubt the project will ever be completed because of the project's sheer size and magnitude.[111] In addition, experts state that Chávez's geopolitical goals may take priority and blind him to the environmental and social problems that could arise.[112]

Activist groups opposing the construction of the pipeline argue that there are great threats to farming and fishing communities located near the site of the pipeline and assert that the government has not offered sufficient proof that the gas pipeline is sustainable in the long run or economically viable to outweigh the environmental dangers.[113] Greenpeace declared that construction of the pipeline will not only devastate the least-developed and least-studied areas of the rainforest, but the surge of construction workers will bring new diseases to the region that could be dangerous to remote indigenous communities such as those inhabiting the Guyana region, which has been referred to as the "planet's lungs."[114] Although it is argued that natural gas is safer for the environment, critics of the Southern Gas Pipeline point to the example of the Camisea Gas Pipeline in Peru where, in its short life-span, four major spills have already plagued the region and caused serious damage to the environment and local communities.[115] Natural gas, though argued to be less detrimental to the environment, still "poses greater operational risks, contributes to global warming just as oil does, will lead to deforestation all along the pipeline route, and is vulnerable to natural disasters or acts of sabotage."[116]

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[107] *Id.*

[108] Hearn, *supra* note 102.

[109] *Id.*

[110] *Id.*.

[111] *Chávez Calls for More Unity in South America*, *supra* note 10.

[112] Jens Erik Gould, *Plan for South American Pipeline Has Ambitions Beyond Gas*, N.Y.TIMES, Dec. 2, 2006, http://www.nytimes.com/2006/12/02/business/worldbusiness/02venezpipe.html (explaining that the pipeline is not only to stimulate economic integration in Latin America but also to reduce dependence on the United States and create a geopolitical energy bloc).

[113] Hearn, *supra* note 102.

[114] Gould, *supra* note 112.

[115] Humberto Márquez, *South America: Mega-Pipeline Bashed as Unsafe, Unneeded*, INTER PRESS SERVICE, Feb. 22, 2006 (LEXIS) (discussing the Southern Gas Pipeline and the economic, political and environmental issues raised as a result of its construction).

[116] Humberto Márquez, *Mega-Population—Costly and Controversial*, VENEZ. ANALYSIS, Feb. 25, 2006, http://www.venezuelanalysis.com/analysis/1636 (addressing the dangers stemming from the construction of the Southern Gas Pipeline).

C. The Natural Gas Industry and its Effect on the Environment

Although the Venezuelan economy is based almost entirely on the environmentally-dangerous oil and natural gas industries, President Chávez has paid increasing attention to the environment and global warming.[117] For example, his administration initiated a program called "Misión Arbol" to combat deforestation and encourage community-based sustainable development to help preserve Venezuelan forests.[118] In addition, PDVSA announced it would eliminate lead-based gasoline and has developed a plan to help recuperate and preserve the environment, decontaminate rivers, lakes and land, and reduce emissions.[119] Chávez requires the use of energy-efficient light bulbs in all government buildings and has initiated a large-scale plan to distribute those same bulbs to poor Venezuelan neighborhoods.[120]

The government has initiated several programs aimed at environmental protection, decontamination, and sustainable development; unfortunately, there are lingering fears about the future of Venezuela's environment. Many experts note that although the government's intentions and rhetoric promote environmental protection, the administration has been limited in its ability to carry out its promises.[121] There is an ongoing environmental crisis in Venezuela due to various problems, including "poor government decisions, an inept and corrupt bureaucracy inherited from past administrations, the economic legacy of three quarters century old oil economy, the political and economic global order along with the historical weakness of environmental movements."[122]

In particular, many fear the environmental and social repercussions stemming from the construction of the Southern Gas Pipeline because it would involve razing huge amounts of the Amazon Rainforest and developing ecologically-sensitive coastal areas.[123] Due to the ecological threats and doubts about sustainability, several directors and investors have been hesitant to continue participation even though the administration and its supporters remain adamant that the pipeline will yield economic and industrial benefits that outweigh the environmental threats.[124] Analysts have concluded that the myriad of potential environmental consequences was the catalyst to halt the construction of the pipe-

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117 Denvir & Riofrancos, *supra* note 72, ¶ 57.

118 Golinger, *supra* note 1, ¶ 3.

119 *Id.* ¶ 5.

120 Denvir & Riofrancos, *supra* note 72, ¶ 57; Golinger, *supra* note 1, ¶ 7.

121 Interview by Nikolas Kozloff with Jorge Hinestroza, Professor of Sociology, University of Zulia, General Coordinator, Federation of Zulia Ecologists (Oct. 9, 2006), *available at* http://www.venezuelanalysis.com/analysis/1997 (providing insight to the various contradictions within the Chávez administration regarding its environmental policies).

122 Denvir & Riofrancos, *supra* note 72, ¶ 40.

123 Sebastian Kennedy & Martin Markovitz, *Green Revolution? Venezuela's Socialist Reforms Float on a Sea of Oil*, 22 EARTH ISLAND J. 55, ¶ 26, Sept. 22, 2007, *available at* 2007 WL 19305334 (discussing President Chávez's social, economic and legislative reforms and how he will be able to fund a socialist revolution to address the problems of climate change).

124 *Id.* ¶¶ 26, 30.

line, which has, *for now*, interrupted Chávez's dream of South American economic integration and unification.[125]

Venezuela's main source of economic wealth is also its main source of environmental destruction—the energy industry. Although the Chávez administration has initiated environmental programs and reforms, there is "something of a Catch-22: Venezuela looks set to suffer environmentally, economically, or both."[126] Although Chávez has provided many new protections and guaranteed many new rights to the environment, several of his projects, such as the mega-pipeline projects, are likely to cause environmental damage and disrupt many local communities.[127] Chávez's determination to unify and integrate the South American economy also opens the way for environmentally destructive projects and social exploitation.[128]

D. The Venezuelan Environmental Legal Framework

Economic integration, independence, and unification are the ultimate goals for Venezuela. However, these goals threaten the environment and the local communities that are dependent upon its sustainability, protection and safety. Although President Chávez promises to protect the environment, it may be impossible for him to achieve economic success and environmental protection at the same time. Should an environmental catastrophe result from the Venezuelan projects, it will be necessary to determine what legal standards are available to achieve environmental justice.

In the international context, the three laws promulgated by the United Nations, the Stockholm Declaration, the Rio Declaration and the Basel Convention, offer possible legal rights and protections should industrial development cause environmental damage. The Stockholm Declaration focuses on air, water, and oil pollution arising from environmentally dangerous industrial activities and calls for the creation of new treaties based on the legal framework provided.[129] Water pollution is one of the most devastating effects of improperly maintained petroleum pipelines as illustrated by an environmental disaster in Ecuador, where, by 1992, more than thirty billion gallons of untreated waste were discharged directly into bodies of water that were the primary sources of potable water and fishing for the local indigenous communities.[130] In addition, the construction of these mega-pipelines will result in harm to renewable natural resources by causing great amounts of deforestation as well as disruption to the farming and fishing communities.[131] If this occurs, Venezuela could be in direct violation of the

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[125] *Id.* ¶ 29.

[126] *Id.* ¶ 9.

[127] Denvir & Riofrancos, *supra* note 72, ¶¶ 41-43.

[128] *Id.*

[129] Adede, *supra* note 33, at 34, 44.

[130] Holwick, *supra* note 40, at 200-01.

[131] Hearn, *supra* note 102.

Stockholm Declaration because it asserts, "vital renewable resources must be maintained and, wherever practicable, restored or improved."[132]

The Rio Declaration focuses on global cooperation to achieve sustainable development, which would protect the future by preserving state sovereignty while prohibiting states from causing damage to outside nations.[133] Several of Venezuela's new initiatives involve transnational pipelines, which could cause serious environmental damage to coastal regions in Colombia or Panama as well as in the Amazon in Brazil.[134] However, the Rio Declaration could also protect construction of the pipelines projects because it states that a worldwide goal is to eliminate poverty and equalize the standards of living for all social classes.[135] President Chávez has made it very clear that the pipelines would pave the way for Latin American economic independence, stimulation, and integration.

The Basel Convention focuses more particularly on the transboundary movement and disposal of wastes.[136] Similar to the effect of the Rio Declaration, Venezuela must be careful when it begins construction of its gas pipelines because they carry environmentally dangerous waste across boundaries. Unfortunately, this treaty has been widely criticized for being "'long on rhetoric and short on substance and effectiveness.'"[137] At present time, the Basel Convention is unlikely to be an effective method to establish environmental legal liability due to various problems.[138] Therefore, the Stockholm and Rio Declarations and the Basel Conventions are likely to be inadequate mechanisms to enforce environmental justice.[139]

The customary legal principles discussed above, the precautionary principle, and the polluter-pays principle, also provide possible grounds for environmental protection. Basically, the precautionary principle espouses the idea that it is better to prevent harm than to treat it.[140] The polluter-pays principle encourages entities causing environmental damage to pay the full cost of the damage.[141] Unfortunately, these principles would also be unlikely to provide adequate legal protection to those affected by damage caused by Venezuela's pipeline project.

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132 Stockholm Declaration, *supra* note 29, princ. 3.

133 Rio Declaration, *supra* note 38, princs. 1-2.

134 Kennedy & Markovitz, *supra* note 123, ¶ 26.

135 Rio Declaration, *supra* note 38, princ. 5.

136 Choski, *supra* note 21, at 510.

137 Widawksky, *supra* note 48, at 581 (quoting Peter Obstler, *Toward a Working Solution to Global Pollution: Importing CERCLA to Regulate the Export of Hazardous Waste*, 16 YALE J. INT'L L. 73, 94 (1991)).

138 See Choski, *supra* note 21, at 518, for an explanation of the Basel Convention's criticisms.

139 "[T]here is no United Nations instrument that expressly confers an internationally-binding human right in relation to the environment." Holwick, *supra* note 40, at 215. The Basel Convention has no formal policing mechanism, fails to provide an authority to enforce compliance, and uses vague terms when describing environmental protection. *See* Choski, *supra* note 21, at 519.

140 Botchway, *supra* note 42, at 213.

141 *Id.* at 212.

The problems warned of by these principles[142] are very likely to become realities if an environmental accident occurs during the construction or maintenance of the transboundary pipelines.

International codes of conduct are very similar to customary legal principles and offer potential methods to establish specific legal obligations and rights. These can be helpful because they can be more narrowly tailored to the particular needs of the environment and industry.[143] This option may prove beneficial to all Latin American countries involved with the pipeline projects because they are all interested in promoting economic interests and protecting their own natural environments, unlike parties that are transnational corporations that are primarily interested in economic gain. Although there is increasing "moral responsibility" concerning the protection of the environment, legal precedent regarding violations of international environmental legal codes is scarce and may not offer a suitable avenue for achieving environmental protection and justice.[144]

Should one of Venezuela's natural gas pipeline projects result in a massive environmental disaster, the best option for enforcing environmental rights and the rights of those affected by the damage is to allege liability based on violations of Venezuela's 1999 Constitution. The new Constitution includes provisions protecting the environment and land where local communities are dependent upon its preservation.[145] The new Constitution was drafted only ten years ago and Venezuelan jurists continue to search for a working legal system to provide justice to the people.[146] Previously, the Venezuelan legal system was only available to those able to afford legal representation; now the State offers legal protection to all citizens and provides more judges in the Supreme Court, increasing its capacity to hear more cases.[147] Due to the combination of greater constitutional protections over the environment and increased access to Venezuelan tribunals, environmental justice may be ascertainable under the new Constitution.

Although many international jurists praise the efforts to reform the Venezuelan legal system, having been plagued by severe corruption in the past, there is ongoing debate as to whether it is simply a way for Chávez to control the judiciary.[148] Since the 1999 Constitution, over three hundred judges have been dismissed or suspended for various reasons, such as slowing the judicial process and taking bribes.[149] However, those who oppose Chávez argue that the reasons

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[142] *See id.* at 212, 214 (explaining that there are problems regarding the polluter-pays principle when there are more than two entities involved in the effort to exploit the resource and with the precautionary principle where there are different economic levels of the parties involved).

[143] Cueto, *supra* note 6, at 609.

[144] *See* Holwick, *supra* note 40, at 186.

[145] CONSTITUCIÓN DE LA REPÚBLICA BOLIVARIANA DE VENEZUELA arts. 120, 127-129.

[146] Interview by Michael Albert with Fernando Ramón Vegas Torrealba, Justice, Venezuelan Supreme Court, in Venezuela (Sept. 24, 200[9]), *available at* http://www.zcommunications.org/znet/viewArticle/18887 (explaining the role of the law and legal system in the Bolivarian Revolution).

[147] *Id.*

[148] Hellinger, *supra* note 73, at 485.

[149] Lauren Castaldi, *Judicial Independence Threatened in Venezuela: The Removal of Venezuelan Judges and the Complications of Rule of Law Reform*, 37 GEO. J. INT'L L. 477, 479-80 (2006) (discussing

were pre-textual and that these were moves to politicize the judiciary.[150] Many judges fear dismissal for disagreeing with President Chávez, who has shown "scant regard for the rule of law" through tearing up contracts and refusing to negotiate.[151] In addition, although there are explicit provisions protecting the environment and indigenous peoples, legal analysis of the new Constitution has been an ongoing challenge due to lack of legal interpretation.[152] Although the Constitution offers greater legal protection and the new legal system offers greater access to justice without corruption, the judiciary may simply be a tool of the Chávez administration, and justice may not be awarded if environmental damage is caused by a State-run project.

IV. Conclusion

Venezuela's mega-pipeline projects have been lauded as Latin America's economic savior, offering independence, integration, and unification. Although impressive, these projects threaten the area's delicate ecosystems, including huge tracts of the Amazon Rainforest, Caribbean coastal systems, and innumerable fresh water sources. Supporters of the projects contend that the environmental risks are minimal and the economic advantages tip the balance in favor of industrial development. Alternatively, the environmental threats include deforestation, air, water and soil pollution, and disruption of natural environments, which local indigenous communities depend upon to survive.

Upon completion of the pipeline projects, a multitude of dangers will emerge that could result in severe environmental devastation, such as spills, leaks, and improper maintenance. Although the international laws promulgated by the United Nations may not offer adequate legal redress, international customary laws included in industry-specific codes of conduct may be more successful. However, these codes lack legal precedent and their enforcement could be based on moral responsibility rather than legal obligation. Ultimately, the most effective option for redressing environmental damage in Venezuela would be a suit brought under violations of its own Constitution. There is lingering doubt regarding the independence of the judiciary; however, Venezuelan jurists are still in the process of determining the most effective legal system and could provide an adequate forum and legal framework to eventually offer environmental justice.

whether the constitutional modifications are a good faith effort to bolster the rule of law and eliminate corruption or an underhanded attempt by the current administration to procure more political power and control).

150 *Id.*

151 *Chávez Squeezes the Oil Firms*, ECONOMIST, Nov. 12, 2005 (LEXIS).

152 Vass & Lezcano, *supra* note 91, at 101.