BORROWING FROM OUR CHILDREN: THE CONGRESSIONAL FAILURE TO RESPOND TO CLIMATE CHANGE

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There is a Native-American proverb that observes "[w]e do not inherit the earth from our ancestors, we borrow it from our children."[1] This centuries old axiom has yet to find its way into American politics. The future of human civilization is uncertain. Our planet, undeniably, is in peril. Humankind's greatest challenge will be to manage our existence and defend the rarity of complex life from self-destruction. It is now evident that the challenge is made more arduous not solely because of apathy or complacency but because of shortsightedness. The power of human intellect, and its potential to eradicate our common threats, will be measured by whether it can be coupled with lofty ambition. Duties are needed that forecast a sense of urgency, a call for immediate collective action that produces meaningful responses, and legislation that protects the planet that we borrow from future generations.

The question of whether human life, its evolution, and the development of modern civilization have had a substantial impact on

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[1] *Sustainability Quotes*, DRURY UNIVERSITY, http://www.drury.edu/multinl/story.cfm?ID=11595&NLID=259 (last visited Feb. 18, 2011).

the planet that hosts it has been answered. Of the diverse forms of life on Earth, only humans have manipulated their ability to alter expansive areas.[2] Half the planet's surface has been transformed by "human activity."[3] It is a revolution marked by the "physical impact [humans have made on the] land [evidenced by] the lights that brighten our cities, the human presence is plainly visible from space."[4] Human activity, rivaled by no other species, is changing the planet's atmospheric composition. This activity has generated increased levels of greenhouse gases (GHGs), such as carbon dioxide (CO_2).[5] Some of these GHGs remain in the planet's atmosphere for decades and some even centuries. Scientists have determined with virtual certainty that atmospheric concentrations of GHGs will continue to rise over the next few decades.[6] These emissions have led to an "unequivocal warming trend" of 1.0 to 1.7 degrees Fahrenheit in the last century alone.[7] Its persistence will only further warm the planet causing radical climatic changes.

The Intergovernmental Panel on Climate Change (IPCC) has observed that the increase in global average temperatures is likely due to an "'increase in anthropogenic greenhouse gas concentrations.'"[8] Scientists have declared that unless human activity on the planet is dynamically altered, the "atmospheric concentrations of greenhouse gases [will] continue to . . . [increase and] average global temperatures and sea levels will continue to rise as a result and precipitation patterns will [irrevocably] change."[9] Scientists have determined with remarkable certainty that humankind is responsible for the greatest levels of GHG concentrations in our atmosphere, and that increased concentration

[2] *Earth from Space Online Exhibition*, SMITHSONIAN INSTITUTE, http:// www.earthfromspace.si.edu/ online_exhibition_human_presence.asp (last visited Nov. 22, 2009).

[3] *Id*.

[4] *Id*.

[5] *Climate Change: State of Knowledge*, U.S. ENVTL. PROT. AGENCY, http://www.epa.gov/climatechange/science/stateofknowledge.html (last updated Nov. 29, 2011).

[6] *Id.*

[7] *Id*.

[8] *Id*. (quoting Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.), *Climate Change 2007: The Physical Science*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html) (last visited March 18, 2012)).

[9] U.S. ENVTL. PROT. AGENCY, *supra* note 5.

perpetuates the planet's warming that threatens life.[10] Despite this, political will to address the impending cataclysm remains idle.

Methods for intervention remain a subject of debate. Logistics have gotten in the way of progress. The human impulse to survive has been quieted by a lack of ingenuity, a desire to pacify the situation rather than to remedy it. The lauded approach in the United States centers on GHG-emissions-reduction programs, particularly cap and trade programs such as the one that the House of Representatives (the House) passed on June 26, 2009, under legislation titled the American Clean Energy and Security Act of 2009 (ACES).[11] ACES marked the first time that the House approved a piece of legislation aimed at reducing GHG emissions in order to curtail the worsening effects of climate change.[12] The approved House bill's, however, suffers from a fundamental flaw — its inability to establish a domestic response to a global crisis. Cap and trade, as currently designed in the House bill, is ill-suited to implement a breakaway from the harmful activities that have produced the catastrophic conditions that the world now sits idly watching. The actual harm the program seeks to correct is left unaddressed.

Cap and trade does little, if anything, to eliminate the aggregate GHG concentrations in the atmosphere. Those concentrations are principally responsible for global warming. Cap and trade devises schemes that do no more than restrain discharges by nominal percentages over decades. They are impositions that, even at their most ambitious levels, accomplish nothing more than a delay of the inevitable. Legislation, such as the ACES bill, takes the greatest opportunity ever afforded to human civilization to improve its quality of life and reduces it to the greatest deferment of our collective history. Cap and trade asserts a moral indifference because it postpones the necessary and fails to recognize that, in dealing with climate change, difficult decisions must be made. Inevitably, both individuals and

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[10] *Id.*

[11] The ACES bill, also known as the Waxman-Markey bill, was narrowly approved by a vote of 219 to 212. *See* American Clean Air and Security Act of 2009, H.R. 2454, 111th Cong. (2009), *available at* http://www.opencongress.org/bill/111-h2454/action_votes.

[12] ACES marks the first time that the United States Congress has approved a piece of legislation aimed at reducing GHG emissions in order to curtail the worsening effects of climate change. *See* John M. Broder, *House Passes Bill to Address Threat of Climate Change*, N.Y. TIMES (June 26, 2009), http://www.nytimes.com/2009/06/27/us/politics/27climate.html?_r=2&hp.

nations will be weary about making concessions that derail their economic leverage. The United States Congress, however, must acknowledge these realities and formulate a declarative statement of leadership. Congress has a momentous opportunity to demonstrate that it understands the ethical weight of inaction, but, to do so, it must observe the failure of implementing a market system that defers necessary reductions and does little to promote a new era of innovation.

Cap and trade has garnered support because of the lack of certainty that clouds climate change's progression. While scientists have proven that an increase in GHG concentration exists and that human activity is responsible, they have been unable to answer questions that our culture of immediacy expects.[13] Determinations as to how much warming will occur, how fast the warming will happen, and what will be its concrete effect on the planet's climate system remain unanswered.[14] Without a sense of urgency, market-based incentive programs will prevail. This Article demonstrates why plans like the House Waxman-Markey bill[15] mislead our nation's conscience by articulating that something is being done, deluding the reality that the something is not enough.

This Article proceeds in three parts. Part I discusses how market-based emission reduction programs, particularly the cap and trade program in the House ACES bill, are intended to work and why such an implementation delegitimizes efforts to combat global climate change. This section highlights the inherent practical implementation flaws of this approach, particularly, the lack of meaningful changes that ACES purports to supply. Part II considers the emerging field of climate change ethics and how a market-based incentive program, like a cap and trade system, must engage the ethical considerations that govern

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[13] U.S. ENVTL. PROT. AGENCY, *supra* note 5.

[14] The Environmental Protection Agency (EPA) contends that the answers to these questions will "require advances in scientific knowledge in a number of areas," such as improved insight on:

"[N]atural climatic variations, changes in the sun's energy, land-use changes, the warming or cooling effects of pollutant aerosols, and the impacts of changing humidity and cloud cover;"

The comparative contribution to climate change of "human activities and natural causes;"

Projection trends for future greenhouse emissions and "how the climate system will respond within a narrow range;"

And, the potential for "rapid or abrupt climate change."

Id.

[15] *See* American Clean Air and Security Act of 2009, *supra* note 11.

domestic responses to a global calamity. This section demonstrates how the United Nation's December 2009 climate change summit in Copenhagen reasserted the importance of being able to strike an accord that weighs the interests of both the developing and developed worlds. Finally, part III recommends that substantial intervention that results in a significant revolution in the way human beings relate to their environment will require a legally cognizable moral duty from humans to the planet that houses them.

I. WAXMAN-MARKEY'S CAP & TRADE: A FLAWED RESPONSE TO CLIMATE CHANGE

Nearly four months after the House of Representatives passed its cap and trade measure, the Pew Research Center for the People and the Press's October 22, 2009 poll revealed that less Americans believed solid evidence of climate change existed than they previously thought.[16] Nevertheless, the poll does observe that sixty-five percent of people see global warming as a "very or somewhat serious problem."[17] Of those individuals, fifty percent reported being in favor of setting limits on carbon emissions, "including making companies pay for emissions, even if [it] led to higher energy prices."[18] These sentiments have only been disavowed by Congressional support of a plan that fails to address the imminent seriousness of climate change, a strategy that most Americans do not completely understand or are even aware of for that matter.[19] Only twenty-three percent of Americans correctly associated cap and trade with energy and the environment.[20] If cap and trade is a

[16] See *Modest Support for Cap-and-Trade Policy: Fewer Americans see Solid Evidence of Global Warming* THE PEW RESEARCH CENTER FOR THE PEOPLE & THE PRESS, Oct 22, 2009, http://people-press.org/reports/pdf/556.pdf. [hereinafter Pew Research Center]. Only 57% of Americans state that they see evidence of climate change. That number is down by 20% since 2006 and 14% since 2008. Of those surveyed only 36% reported thinking that global warming was "caused by human activity." *See* Matthew McDermott, *Just 57% of US Residents See Evidence of Global Warming & 23% Know about Cap-and-Trade*, TREEHUGGER (Oct. 23, 2009), http://www.treehugger.com/files/2009/10/57-percent-us-see-evidence-global-warming.php.
2009/10/57-percent-us-see-evidence-global-warming.php.

[17] *Id*.

[18] *Id*.

[19] A Pew Research poll indicates that only twenty-three percent of Americans know to what cap and trade refers. 55 percent of those surveyed reported not having heard the term before, and 30 percent asserted that they only heard a little about the program. *See* Pew Research Center, *supra* note 16.

[20] From the sampled polled, 29 percent believed cap and trade was related to health

relatively unknown concept to the vast majority of Americans, then why has such a plan received so much political support? The answer lies within its market-based approach, a flawed judgment that suggests that the market can address all our social ills. Ironically, notions that the market is best equipped to address climate change remain prevalent during the greatest economic downturn since the Great Depression. It is a time that reveals that, while the market has the proven potential to generate exorbitant amounts of wealth, it can also spiral out of control, producing consequences that no group is immune from without a vigilant body steering it. It is in this system that the 111th United States Congress has wagered the fate of our planet and our civilization.

Cap and trade is "politically favorable" because it is seen as "[possessing] economic efficiency advantages over a [carbon] tax [system]."[21] Cap and trade systems control the quantity of emissions and allow the market to determine the most desirable price. Proponents of this system assert that it "allows science to identify the level of emissions reduction necessary to achieve climate stabilization."[22] Ideally, the cap is set at the "scientifically sound level," which would produce the desired emissions reductions.[23]

Cap and trade basically functions by having the government set a limit on the amount of GHGs that are emitted into the atmosphere.[24] Emissions that exceed the government limit result in fines.[25] The government then disseminates a predetermined set of allowances to the industry.[26] These allowances can be distributed by being auctioned off, given away for free based on "historic levels of pollution," or some combination of the two.[27] The auction process is more ideal, but the polluting industry dislikes it for the obvious reason that the alternative free allocation "seemingly reward[s]" them.[28] This system creates a market-based incentive for industry to reduce its GHG emissions.

care, banking reform, and unemployment. *Id.*

[21] Heather Hosterman & Brian C. Murray, *Climate Change, Cap-and-Trade and the Outlook for U.S. Policy*, 34 N.C.J. INT'L L. & COM. REG. 699, 707 (2009).

[22] *Id*.

[23] *Id*.

[24] *Id*. at 707-708.

[25] *Id*.

[26] *Id*.

[27] *See* Matthew McDermott, *Cap and Trade Explained—The Short Attention Span Version*, PLANET GREEN, http://video.planetgreen.discovery.com/tech-transport/cap-trade-explained-short.html (last visited Feb 18, 2012).

[28] *Id*.

Essentially, a company that emits GHGs below the amount of credits it has been allotted can "sell those credits to some other company" that has not been as successful.[29] This process proceeds as the cap continues to be reduced over time, thus restricting the amount of GHG that industry can emit.

Supporters of cap and trade attest that a well-designed system can decrease the costs associated with achieving a given emissions target.[30] A well-designed approach grants companies "flexibility" in terms of how much GHGs they can emit.[31] The price of the allowance is adjusted through trading until emissions are brought down to the predetermined cap.[32] Ideally, this process establishes a market where allowances reach their "highest-valued use, protecting those emissions that are the most costly to reduce."[33] Supporters, however, recognize that the cost of achieving substantial reductions depends on the accessibility and cost of low and GHG-free technologies.[34] These factors can be addressed in systems that establish reduction targets well into the future because they supply "price signals" which allow companies to invest in the research and development of sustainable technologies.[35]

Waxman-Markey's cap and trade program, if implemented as proposed, is susceptible to causing more irrevocable harm than it will mitigate. The problems associated with the system's implementation are easily detected and for the most part can all be corrected. Private interest lobbying, however, has made it nearly impossible for lawmakers to address the proposal's shortcomings. What occurs most

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[29] *Id*. Under a cap and trade system companies are required to meet the cap and thus are left with the option of either purchasing or selling emission allowances "depending on their pollution abatement costs and the market priced of the emissions allowance." The companies that manage to cut their emissions at a lower cost than the allowance's market value will "abate more and purchase fewer (or sell extra) allowances, while [companies] that cannot cut their emissions below the allowance's market value will purchase more allowances." *See* Murray, *supra* note 15, at 708.

[30] *See* Robert N. Stavins, *A Meaningful U.S. Cap and Trade System to Address Climate Change*, 32 HARV. ENVTL. L. REV. 293, 295 (2008), *available at* http://belfercenter.ksg.harvard.edu/files/Stavins_Climate_Change.pdf.

[31] Companies would have to appropriately relinquish "an allowance for each ton of emissions. [Therefore companies] will undertake all emission reductions that are less costly than the market price of an allowance." *Id.*

[32] *Id*.

[33] *Id*.

[34] *Id*.

[35] Stavins, *supra* note 30, at 298.

often is a further disruption of a system already designed to not accomplish anything meaningful. Measures are now designed to solely appear as though they are aimed at addressing a critical issue. In reality, legislation is drafted in ways that do more harm than good, which defers what must be done now to another generation.

Climate change is the greatest threat facing human civilization and yet the best solution politicians and economists can come up with is a system that lends itself to partisanship and special interest. This is certainly the case for the recent incarnations of cap and trade proposals in the 111th United States Congress. The Waxman-Markey cap and trade bill, which narrowly passed the House of Representatives in the summer of 2009, marked the first time a climate change bill was adopted by either chamber of Congress.[36] While many celebrated this as a momentous shift in our politics, close examination raises concern for what the bill, if approved by the United States Senate, would actually achieve.

The House bill would place a cap on GHG emissions attributed to global warming below 2005 levels.[37] The emission reduction focuses on industries accounting for eighty-five percent of the national economy.[38] The program's emissions cut would start in 2012 and be completely phased in by 2016, and it is scheduled to run through 2050.[39] The targets would progressively increase with an initial three percent cut by 2012, seventeen percent cut by 2020, forty-two percent cut by 2030, and over eighty percent cut by 2050.[40]

While the eighty-three percent cut by 2050 would appear quite ambitious, the truth is that it is not a lofty goal at all, not when the bill is designed to give eighty-five percent of the systems allowances away for free during its first few years.[41] The Waxman-Markey cap and trade bill

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[36] John M. Broder, *supra* note 12.

[37] Kate Sheppard, *Everything You Always Wanted to Know about the Waxman-Markey Energy/Climate Bill—in Bullet Points*, GRIST (June 3, 2009, 6:43 AM), http://www.grist.org/article/2009-06-03-waxman-markey-bill-breakdown.

[38] Some of the industries that would be covered under the House bill include electricity producers, oil refineries, natural gas suppliers, and energy-intensive businesses focused on iron, steel, cement, and even paper. *Id.*

[39] *Id.*

[40] *See ACELA Summary and Comparison to the ACES Act*, Pew Center on Global Climate Change, http://www.pewclimate.org/docUploads/acela-summary-aces-act-comparison-oct2009.pdf (last visited Nov. 26, 2009).

[41] The percentage of free allowances would decrease over time. *See* Amanda DeBard, *CBO: House Climate Bill to Raise $973B*, THE WASH. TIMES (June 8, 2009),

represents what some have called "the final absurd expression of the failed pollution paradigm that has defined climate policy for over a decade."[42] The bill, while claiming to cut nearly seventeen percent of emissions by 2020, actually would permit "regulated industries to emit as much as a third more carbon in 2012 than they did in 2005 and close to ten percent more in 2020."[43]

The bill from the outset is also subject to the failing concession of early over-allocation. Aside from over-allocation, the bill also provides firms with the opportunity to bank as many of these allowances as it wishes.[44] While supporters of the bill would highlight that there is a strict penalty for exceeding emissions beyond its allowances, the fact is that the penalty is unlikely to occur since more allowances are distributed than are needed to meet the emission's target.[45]

The bill fails to establish any sort of stringency aimed at promoting innovation that will cut GHG emissions dramatically. The bill is set up to issue out eighty-five percent of allowances for free and only fifteen percent of the permits would be auctioned off at the start of trading program.[46] According to the EPA, the value of a permit to emit at least one ton of GHG would be worth around $11 to $15 per ton in 2012 and it would increase to about $22 to $28 per ton in 2025.[47] With over eighty percent of the allowances being given out for free, the House bill is forfeiting an exorbitant amount of revenue that can be used for research and development.

The use of cap and trade to incentivize innovation is the principal area where cap and trade is flawed. Most proposals that claim that emissions trading engenders innovation fail to properly define innovation.[48] Some scholars find it helpful to define innovation as

http://www.washingtontimes.com/news/2009/jun/08/cbo-house-climate-bill-raise-973b/.

[42] Ted Nordhaus and Michael Shellenberger, *The Flawed Logic of the Cap and Trade Debate*, YALE ENVIRONMENT 360 (May 19, 2009), http://e360.yale.edu/content/print.msp?id=2153.

[43] *Id.*

[44] *See* Sheppard, *supra* note 37.

[45] The penalty is set to be a fine two times the fair market value of the permits the firm should have acquired. *Id.*

[46] The percentage of permits auctioned off would increase overtime. *See id.*

[47] By 2012, the value of all permits would be $60 billion and $113 billion in 2025. *See id.*

[48] Economists characterize innovation as "the commercialization of an invention," as distinguished from "diffusion" which is the "adoption of a successful innovation by firms and individuals." *See* David M. Driesen, Design, Trading, and Innovation, MOVING TO

involving "both the invention and [the] use of something new."[49] Innovation, therefore, requires technological developments to be coupled with a shift in the practices of human behavior.[50] For this definition to hold true, cap and trade programs would have to strictly promote innovation whenever a GHG emitter or a firm develops a new technique in response to that program and then the emitter uses the technique to reduce pollution.[51] The view is that cap and trade makes the notion of environmental innovation appealing to all the parties involved in the system because it can "either offer qualitatively better environmental results or reduce the cost of [meeting] a particular [emissions reduction target]."[52]

Revenue from the fifteen percent of emissions allowances that would be auctioned off by the federal government in the in first few years of the Waxman-Markey program would be invested in particular ways. Roughly fifteen percent would be used to offset greater energy costs for lower income families.[53] Only 1.5 percent would actually be used to foster research and development for GHG free and energy efficient technology.[54] The bill does not make innovation, which could reverse the trends of climate change, a priority.

The bill also appears to focus more on adaptation rather than on mitigation. For instance, two percent of the total revenue from each year's auction, compared to the 1.5 percent for research and development, would be used to help the United States brace itself for the negative effects of climate change from 2012 through 2021.[55] After that period the total percentage would increase to four percent from 2022 through 2026, and eight percent after that.[56] Aside from only

MARKETS IN ENVIRONMENTAL PROTECTION: LESSONS AFTER 20 YEARS OF EXPERIENCE, 3 (Jody Freeman and Charles Kolstad eds., Oxford University Press 2005), *available* at http://www.law.syr.edu/Pdfs/0oxford.pdf.

[49] *Id.*

[50] Innovation is best defined by "borrow[ing] a concept found in patent law," that of implying a "non-obvious departure from prior practice." *Id.*

[51] However, this definition also implies that the emitter would "not generally accept diffusion of techniques invented before the program's onset as innovations." *Id.* The rationale is, but for a cap and trade's ability to induce innovation, polluters would not seek the development and implement of that innovation.

[52] *Id.* at 4.

[53] *See* Sheppard, *supra* note 37.

[54] *Id.*

[55] *Id.*

[56] *Id.*

reserving 1.5 percent for innovation the bill only allots, from 2012 to 2021, 0.5 percent to facilitate the American workforce's transition away from GHG dependent industries.[57]

Some of the allowances would also be given to corporations not regulated under the Waxman-Markey legislation. These corporations would be allowed to sell the allowances and use the revenue for very specific purposes. The bill provides that thirty percent of these allowances would be given to local electricity companies, which are typically regulated by state governments.[58] The profit from the sale of these allowances would be used to sustain low energy prices for consumers.[59] States would also receive about ten percent of the allowance but they would be required to use the proceeds to invest in renewable energy and related conservation efforts.[60] The Waxman-Markey bill fails to establish a meaningful commitment to climate change focused on innovation because it does not provide substantial support for development and emissions reduction up front. For example, the first substantial amount of funds dedicated to new energy technologies would not come to pass until 2025 when $190 billion would be set aside.[61]

A major flaw of the Waxman-Markey cap and trade system lies with its allocation of emission credits/allowances. Caps that are not "adequately stringent" are not likely to be effective even if the caps are met.[62] The over-allocation problem makes cap determinations irrelevant because there is a lack of will in the political system to set caps at levels that would achieve socially-desirable "environmental goals."[63] This imperfection is the easiest to correct. It requires, however, that lawmakers be courageous and take on the industries that fund their campaigns. Aside from being the easiest to correct, over-allocation has the potential to cause the most harm, so as to make the very

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[57] The percentage would subsequently increase to one percent from 2022 to 2050. *Id.*

[58] *Id*.

[59] *See* Sheppard, *supra* note 37.

[60] *Id.*

[61] $90 billion would go towards energy-efficient and renewable energy technologies; $60 billion would be reserved for carbon-capture and sequestration technology; $20 billion for electric and other alternative energy automotive technology; and the final $20 billion would go towards basic scientific research and development. *Id*.

[62] Lesley K. McAllister, *The Over Allocation Problem in Cap-and-Trade: Moving toward Stringency*, 34 COLUM. J. ENVTL. L. 395, 397(Spring 2009), *available* at http://www.columbiaenvironmentallaw.org/assets/pdfs/34.2/7._McAllister_34.2.pdf.

[63] *Id*.

implementation of cap and trade system an unworthy venture. The effects of over-allocation consist of low allowance prices, deference of emissions reduction, and the inevitable "buildup of large allowance banks."[64] One popular approach for correcting the system proneness to over-allocation is to set caps at levels that require emissions reductions that are as great as those that "would be achieved by maintaining the use of technologically and economically feasible emissions control technologies."[65] However, the basic problem with this proposed solution is that it is entirely speculative. It is difficult to know what types of standards the government would set if it ultimately chooses to use a cap and trade system over direct regulation. If the government adopts a cap and trade approach to combat climate change, regulators would be unable to determine with certainty what technology-based standards could accomplish without implementing an emissions reduction system first. Cap and trade, however, would avoid this form of direct regulation because it relies exclusively on the market to determine the value of allowances. In essence, this proposed solution would depend on comparative information that would remain unavailable if the cap and trade strategy is implemented.

Cap and trade programs, typically, have annual caps determined at the outset for the duration of the program. Hence, the regulated parties have the opportunity to know how many allowances they will receive in any given year.[66] It is important to observe that under most existing cap and trade programs more allowances are issued than are actually necessary.[67] The United States Acid Rain Program (ARP), the Los Angeles Regional Clean Air Incentives Market (RECLAIM), the Chicago Emissions Reduction Market System (ERMS), and the European Union Emissions Trading Scheme (EU ETS) have all suffered from over-allocation of allowances.[68] This trend of over-allocation

[64] *Id.*

[65] By initially setting stringent caps then overall system caps can be reduced to "levels warranted by feasibility." *Id.* at 398.

[66] If the cap and trade program permits "banking," then firms are able to save unused allowances for a later time or to trade them in the future. *Id.*

[67] *Id.*

[68] The ARP, credited for having diminished the level of sulfur dioxide (SO_2) emissions responsible for the acid deposition of the northeastern United States, had initial set of allowances allocated by multiplying the emitters' average fuel consumption during a baseline time period with an emission rate of 2.5 lbs of SO_2 per million BTU. Many of these firms were issued additional allowance for either installing pollution control devices that remove pollutants from exhaust streams, voluntarily reducing emissions before the program

demonstrates that caps have traditionally failed to be set at levels that yield meaningful reductions. In some of the cap and trade programs mentioned above, "absolute over-allocation" resulted in very few, if any, emissions reductions that could be attributed to the program.[69] However, most programs suffer from over-allocation during the initial implementation period. This is ultimately a consequence of politics, which many times works to garner support for the program but inevitably concedes the program's effectiveness.

Over-allocation circumvents the outcome of any cap and trade program by diminishing the value of allowances. It is basic economics; whenever allowances exceed the number needed to meet reduction targets their value is reduced.[70] Low allowance prices make ambitious

was implanted, and for "undertaking efficiency and renewable measures." Most disappointingly, many of the firms subject to this program were allowed to utilize some of the system's "substitution provisions," which basically allowed emitters to substitute other units for the units detailed in the statute and therefore qualify for allowances that were determined by the "historic emissions of those units."

Under RECLAIM, which is the oldest cap and trade program in the United States, allowances were also based on the historical annual level of emissions multiplied by a set emissions rate. RECLAIM, however, differed from ARP in that it determined allocations based on the highest emissions year over a multi-year period and not on an average. The problem with RECLAIM was that the baseline period it used suffered from an economic recession, thus, emitters were not functioning at their highest production levels. The result was that the allowances allotted were greater than in any of the years highlighted in the baseline period. RECLAIM was projected to allocate allowances in surplus of real emissions during its initial years of implementation. However, allowances were issued in "excess of emissions for five years."

The ERMS, initiated in 2000 to control volatile organic materials (VOM) in Chicago, allocated allowances based on emissions in a three year period. Each firm's "emissions baseline" was determined by averaging its two greatest levels. The cap for each year was then set 12% lower than its emissions baseline. The result was that every year allowances outnumbered emissions. In 2003 and 2004, "emissions were more than 50% below the cap." This program also allowed firms to bank allowances for use in subsequent years. In 2003, firms were able to bank double the number of allowances they used to cover their emissions.

The EU ETS, the world's first cap and trade program focused on reducing emissions affecting climate change, has multi-year caps set and it does not have a limit on how many allowances a firm can bank. The cap was defined by the sum number of allowances allocated to each European Union state. Most states allocated allowances for free. Only four states established an auction to disseminate allowances. From 2005 to 2007, over five percent more allowances were issued than were needed to cover emissions. *Id*.

[69] Absolute over-allocation occurs when emissions are lower than the cap and are expected to be "lower than the cap in the future such that the price of allowances collapses." *Id.*

[70] The market prices for allowances are significant because they signal the "marginal cost of abatement at the quantity of emissions allowed by the cap." McAllister, *supra* note 62, at 398.

reduction levels less likely to be met. This theory has been proven true by all of the existing American and European cap and trade programs. Observations from current cap and trade programs suggests that allowance prices have been low because of an "overly ample supply of allowances" and not "unanticipated declines in control costs."[71]

As a consequence of over-allocation, cap and trade programs, as a whole, have been unsuccessful in encouraging innovation.[72] The lack of innovation under many programs is associated with absolute or early over-allocation and a lack of strictness, which is overwhelmingly seen to encourage the largest strides for environmentally sound technological improvements.[73] In order for future cap and trade programs to be successful and worth the investment, their chief objective must be to produce significant environmental benefits, not just political posturing that aims to appease concerns over the harmful effects of industry practices. In order to achieve this goal, allowances can only be issued where they would foster a market price that stimulates consequential emissions reductions and technological innovation.[74] Essentially, the caps in these programs have to be significantly strict. The approach should look towards regulating the allowance market tightly by recognizing that cap and trade must create incentives for innovation that lowers long-term costs. The solution, potentially, could be found in "rewarding any means of reducing emissions" through the use of newly developed technologies in the short term.[75] Furthermore, the regulations governing this market should establish a means by which additional allowances are only issued when the emitters exceed the minimum reduction targets by a specific percentage.

Avoiding over-allocation is one approach but emission reduction targets that fail to demonstrate any measure of ambition and boldness will do little to change the business-as-usual attitude of polluters. Caps that seek monumental reduction percentages in the immediate term

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[71] *Id.*

[72] Margaret R. Taylor et al., *Regulation as the Mother of Innovation: the Case of SO2 Control*, 27 LAW & POL'Y 349–50 (2005).

[73] *Id.* at 350-51.

[74] *See* David M. Driesen, *Distributing the Costs of Environmental, Health, and Safety Protection: The Feasibility Principle, Cost-Benefit Analysis, and Regulatory Reform*, 32 B.C. ENVTL. AFF. L. REV. 1, 115 (2005).

[75] Robert Stavins, *Cap-and-Trade Versus the Alternatives for U.S. Climate Policy*, Belfer Center for Science and International Affairs (Oct. 5, 2009), http://belfercenter.ksg.havard.edu/analysis/stavins/?p=355.

rather than build up to them can force innovation to flourish as well as correct social behaviors concerning the environment by setting strict and completely feasible standards.[76] Legislation needs to stop being framed under the guise of low expectations; issues as perilous as climate change require audacity and recognition that sacrifice is necessary.[77] A program is not sufficiently rigid if its caps do not reflect the most advantageous level of emissions reduction.[78] This is the level at which the marginal advantage of an extra unit of emission reduction equals the trivial cost incurred by society for making that additional unit.[79] This standard for setting caps, while ideal, has proven impracticable due to the difficulty of computing social costs.[80] Cap and trade, and the market forces that guide it, are unlikely to put a value on the "priceless."

Apart from issuing free allowances, the House bill would allow emitters to purchase carbon offsets in order to meet a percentage of their emissions target.[81] Essentially, offsets would be used to fund third party clean-energy projects.[82] However, an offset in and of itself will never be

[76] Some scholars suggest that these standards can be modeled after those appearing in the Clean Air Act and the Clean Water Act. Some of these standards include the "lowest achievable emission rate," the "best available control technology," the "best available demonstrated control technology," and the "best available technology." McAlister, *supra* note 62, at 427.

[77] There are federal statutes which require regulators to "base pollution standards on what is technologically and economically achievable," rather than to set standards on what needs to be achieved. *See* Jason Scott Johnson, *Tradable Pollution Permits and the Regulatory Game*, THIRTY YEARS OF MARKET-BASED INSTRUMENTS FOR ENVIRONMENTAL POLLUTION: A RETROSPECTIVE, at 353 (Oxford University Press 2006).

[78] Environmental Protection Agency, TOOLS OF THE TRADE: A GUIDE TO DESIGNING AND OPERATING A CAP AND TRADE PROGRAM FOR POLLUTION CONTROL, EPA430-B-03-002, at A1-A2 (June 2003).

[79] *See* R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 41-44 (1960).

[80] *See generally* David M. Driesen, THE ECONOMIC DYNAMICS OF ENVIRONMENTAL LAW 21 (2003). In order to satisfy caps set at this level polluters would have to decrease emissions to "[t]he point at which the marginal cost of removing a ton of pollution equals the social benefit from having that ton removed." The costs attributed to emissions would reflect the overall "social and economic value of pollution reduction, creating efficiency in achieving social welfare." Byron Swift, *How Environmental Laws Work: An Analysis of the Utility Sector's Response to Regulation of Nitrogen Oxides and Sulfur Dioxide Under the Clean Air Act*, 14 TUL. ENVTL. L.J. 309, 378 (2001).

[81] Maria Savasta-Kennedy, *The Newest Hybrid: Notes Toward Standardized Certification of Carbon Offsets*, 34 N.C.J. INT'L & COM. REQ. 851, 861 (2009).

[82] Offsets are seen as an innovation of compliance markets. Firms, outside of purchasing allowances from other covered parties can now also meet their emission cut target by paying "another entity to cover its emissions when that entity otherwise would not be required to do so." *Id*.

able to succeed in mitigating climate change.[83] Still, Waxman-Markey would allow offsets to account for up to two billion tons of each year's total emission cuts.[84] The offset buy-in signals the lawmakers' failure to realize that the purpose of a cap and trade system is to cut emissions, not just offset them. While the Waxman-Markey bill is unlikely to ever make it to President Obama's desk anytime soon, there is still a possibility that some version of it reconciled with some version of the Senate Boxer-Kerry bill formally known as the Clean Energy Jobs and American Power Act[85] will be passed, and therefore close attention must be paid to the offset provisions.

Many projections have been made regarding the potential that the United States will adopt some form of a cap and trade system in the near future. More importantly is the fact that if such a system is adopted, a carbon offset market is "projected to grow exponentially because regulated entities will likely be allowed to meet a significant portion of their targeted reductions through offsets."[86] In dealing with the Waxman-Markey and Boxer-Kerry's inclusion of an offset option it must be addressed that while at least ten carbon offset programs exist, each with their own certification standards, to date there is no single "standardized certification program for carbon offsets" and thus there is a great potential for "fraud in the market."[87]

In a report released in September of 2008, the Government Accountability Office (GAO) warned of the lack of federal oversight in the carbon offset market.[88] Without some degree of vigilance in monitoring offsets certification, any domestic cap and trade program, especially the Waxman-Markey, will lend itself to racketeering. This is precisely why the bill had to name the Environmental Protection

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[83] *Id.*

[84] The two billion tons worth of offsets may account for up to 15 percent of emission cuts in 2012 and 33 percent by 2050. *See* Sheppard, *supra* note 27.

[85] *See* Clean Energy Jobs and American Power Act, S. 1733, 111th Cong. (2009), *available at* http://www.opencongress.org/bill/111-s1733/text

[86] *See* Savasta-Kennedy, *supra* note 81, at 864.

[87] *Id.* at 855-56.

[88] The GAO report stated that "[t]he proliferation of standards has caused confusion in the market, and the existence of multiple quality assurance mechanisms with different requirements raises questions about the quality of offsets available on the voluntary market, according to many stakeholders." *See id.* (citing U.S. Governmental Accountability Office, Report to Cong. Requesters, Carbon Offsets, *The U.S. Market is Growing, but Quality Assurance Poses Challenges for Market Participants*, GAO-08-1048, 56-57, app. VII (2008)).

Agency (EPA) as the main "adjudicator of what qualifies as a good offset and whether it is being used."[89] However, the bill's Senate counterpart, Boxer-Kerry, offers much less precision in its instruction as to what qualifies as an offset.[90]

The bill's offset provision hinders its mission of establishing American leadership in the climate change debate. Currently, high GHG emitting nations have either not made strong enough commitments or have just not committed to any reduction at all. India, like most developing countries, has refused to pledge a reduction of their emissions until developed nations have not only demonstrated a promise but have made "actual emissions cuts."[91] In turn, the developed nations, particularly the United States, have recognized that leadership is necessary and that a strong commitment on their part must come first.

Nevertheless, the United States and other industrial powers want some guarantee that their cuts will not be futile if China and India continue with their trend of ever-rising emissions.[92] The Waxman-Markey bill was to address these concerns by marking U.S. leadership, which was expected to facilitate commitments from developing nations. The bill, however, seemingly ignored the effects of offering an "estimated $13 billion a year," growing to over $80 billion annually in 2050, to allow GHG emitters to purchase international offset credits from the developing world.[93] Economists have suggested that these offset purchases would prompt "poor countries not to accept caps."[94] The bill's offset provision rewards a developing nation's unwillingness to cooperate with emissions reductions all while nurturing the potential for an international racketeering scheme.

The 219 to 212 close vote count is the one positive thing to take away from the bill's passage.[95] While partisanship and private interest

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[89] Russ Choma, *Climate Bill Breakdown, GRIST* (Oct. 8, 2009, 5:48 AM), http://grist.org/politics/2009-10-07-climate-bill-breakdown/.

[90] *Id.*

[91] William Antholis, *India and Climate Change*, WALL ST. J. (July 20, 2009), http://online.wsj.com/article/SB124787011359360457.html.

[92] *Id.*

[93] Steven Stoft and Dana Kirshner, *A Carbon Protect Racket*, CHRISTIAN SCIENCE MONITOR (July 27, 2009), http://www.csmonitor.com/ Commentary/Opinion/2009/0727/ p09s01-coop.html.

[94] Purchasing foreign offset credits only compensates international emitters for emitting "less than they would have emitted," while applying a cap would cut back on what "they would have emitted." *Id.*

[95] *See* American Clean Air and Security Act of 2009, *supra* note 11.

lobbying does deserve most of the credit, vigilance and a healthy dose of skepticism did play its role. A Democrat from Ohio, Congressman Dennis Kucinich, explained that he did not vote in favor of the Democratic plan because the bill was a "fragile compromise, which leads some to claim that we cannot do better."[96] Passage of the bill, beyond not producing a quality intervention, creates the illusion that the problem of climate change is being addressed.[97] The legislation asserts meaningless emission cuts because it does not require reductions below current levels until 2030.[98] The bill does nothing more than "kick the can down the road, by requiring the bulk of emissions to be carried out in the long term" and requiring minimal and insignificant cuts in the short term.[99] Kucinich, and the conscience of the program, were silenced. The eight amendments that the Congressman sponsored were not allowed to be heard by the entire House of Representatives.[100]

For all it is touted to achieve, the House bill fails to consider the program's costs. It is money that could be better spent on ingenuity and innovation that will change the human behavior that caused the harm to begin with. If leadership on global climate change is what the Waxman-Markey bill endeavored to signal, then the people of the world should be concerned that their leaders will follow suit. The proposed cap and trade bill is the wrong approach. The responsibility of sincerely addressing climate change, which then-candidate Obama spoke about, will continue to remain unappreciated if lackluster measures continue to gain traction at the highest levels of our government.[101] True reforms

[96] THE CLEVELAND LEADER, *Dennis Kucinich Lays Out Why He Voted Against Clean Energy Act* (June 27, 2009), http://www.clevelandleader.com/node/10478.

[97] Democratic Congressman Dennis Kucinich observed that passage of the bill "only create[d] the illusion of addressing the problem." *Id.*

[98] *Id.*

[99] *Id*. ("We are not only failing to take the action when it is needed to address rapid global warming, but we are assuming the long term targets will remain intact.").

[100] Three of the amendments sought to minimize the "damage that [would] be done by offsets," three others would have required "all federal energy to eventually come from renewable resources" in order to spearhead the transition to a "green economy," one amendment would have moved the year by which GHG cuts were "required from 2030 to 2025" in order to avoid the inefficient use of allowances, and finally the last amendment would have disqualified "trash incineration" as a means of renewable energy because, as Rep. Kucinich observes, it is a source of "environmental injustice in the country" since its harmful health effects are generated in facilities "disproportionately sited in" low income communities. Interestingly enough, incinerators generally emit more CO_2 "per unit of electricity produced than coal-fired power plants." *Id.*

[101] John M. Broder, *Obama Affirms Climate Change Goals*, N.Y. TIMES (Nov. 18,

and steadfast commitments can demonstrate that the "global political system is not unlike the global climate system, changes here make changes there."[102]

The House's cap and trade system is deemed an attractive option because it appears to be less "punitive" than a direct carbon tax and "more responsive" to market conditions.[103] However, as the European Union's experience with its trading system can show, the flexibility to respond to market conditions allows for a decrease in carbon value. The diminishing value of carbon causes the market pressure to reduce emission to waiver.[104] One potential solution to this problem is to avoid establishing cap levels for the full duration of the program. Although setting caps in advance has earned a lot of support because it allows firms to have a "predictable environment for making compliance decisions, this approach has some drawbacks."[105] Setting future caps at the outset of the program makes such caps impassive to unexpected environmental developments, economic circumstances, and technological development.

The cap and trade system that made its way through the House and began to be formulated in the Senate in early 2010 fashioned an imperfect solution to calamitous threat. These shortcomings, however, are not immune from cap and trade's more popular alternatives. The carbon tax, with all its limitations however, can provide better results, all while avoiding the flaws plaguing cap and trade's implementation. A tax-based climate change control program can "provide stronger and more stable incentives than [Congress'] cap-and-trade approach to get business and households to transition to low-carbon technologies and fuels."[106] A carbon tax also addresses cap and trade's inability to

2008), http://www.nytimes.com/2008/11/19/us/politics/19climate.html

[102] *The Wages of Waxman-Markey*, THE ECONOMIST (July 6, 2009), http://www.economist.com/blogs/democracyinamerica/2009/07/the_wages_of_waxmanmarkey (suggesting that while the Waxman-Markey bill "won't save the world alone" it can "change the political dynamics" affecting climate change policy).

[103] *Stop the Vote! Can a Cap-and-Trade System Really Work to Reduce Emission in the U.S.*, ENVIRONMENTAL NEWS NETWORK (Dec. 6, 2007, 9:04 AM), http://www.enn.com/pollution/article/26684/print.

[104] It becomes "cheaper to purchase credits instead of reducing [GHG emissions]." *Id.*

[105] *See* Stavins, *supra* note 30, at 299, 307 (arguing that weighing equally the integrity of long term emission reduction targets and the programs flexibility "is an important issue for the success [of any cap and trade program]").

[106] Robert J. Shapiro and Elaine C. Kamarck, *A Carbon Tax Would Be Sunnier*, POLITCO (Dec. 9, 2009), http://www.politico.com/news/stories/1209/30348.html.

account for the volatility of carbon prices. Conversely, a carbon tax sets a definitive price so that companies can "figure how much they might earn by developing climate-friendly fuels and technologies" and both they and consumers at large "can calculate how much [can] be saved by adopting them."[107]

Some scholars also suggest that the carbon tax is a more stable alternative over cap and trade when considered in the context of the world's current "financial market problem[s]."[108] The House program would essentially "create $1 trillion in new financial instruments—the emission permits for almost every form of energy—that would immediately be transformed into securities and derivatives and then traded on Wall Street."[109] A carbon tax avoids this scenario because there are no permits to trade, and thus it evades the fiasco of "increasing incidents of manipulation and insider trading" that has plagued the European Trading Scheme.[110] This alternative approach, of course, will not be invulnerable to special interest lobbying. However, because a carbon tax is "easier to understand . . . special-interest horse trading, and other attempts to wrangle exemptions will be much more obvious," and as a result adoption this measure will be much more transparent.[111]

Finally, both the House and Senate's cap and trade programs are weak proposals because they do not adhere to the "economic-induced innovation hypothesis."[112] If the theory holds true, then tough ambitious regulation, regardless if it comes in the form of a market-based instrument, needs to raise the cost of "routine compliance" in order to facilitate innovation aimed at avoiding the high costs of adherence.[113] A trading scheme that does not implement such a strategy will never encourage immeasurably needed innovation. Even innovation that would assure "long-term efficiency and enormous environmental improvement" would be unlikely produced.[114]

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[107] *Id.*

[108] *Id.*

[109] *Id.*

[110] *Id.*

[111] Shapiro & Kamarck, *supra* note 86.

[112] Induced innovation hypothesis is an economic theory that suggests that high costs will tend to encourage innovation. *See* Driesen, *supra* note 34, at 6.

[113] *Id.*

[114] Empirical data observes that trading is unlikely to facilitate even significantly inexpensive developments. Under most cap and trade programs only innovation that costs less than the "marginal cost of additional reductions at facilities with relatively low control costs can find a market." *Id.* at 28.

II. AN ETHICAL FRAMEWORK FOR RESPONDING TO CLIMATE CHANGE

In practice, both the Waxman-Markey and Kerry-Boxer cap and trade systems would fail to assert an ethical obligation between people, government, and their planet. These systems are plagued with flaws that make them susceptible to status quo thinking and ethical indifference. Any proposal to combat the harms of climate change must be framed around the moral implications that arise from inaction or ineffectiveness.

Any mitigating measure must be in sync with the emerging climate justice movement. Climate justice's purpose is to deal with the concerns that arise from "the intersection of climate change with race, poverty, and preexisting environmental risks."[115] The American response to climate change and its inevitable effects has not taken seriously the potentially devastating impacts that it and inadequate policies aimed at addressing it will have on poor and of-color communities. Unfortunately, despite the hopes of some, the recent discourse on climate change in the United States has not seriously pondered the plight of those most overlooked.[116]

There are views, however, which suggest that a cap and trade program can be salvaged, but only if it takes a hard-line stance in favor of environmental justice by incorporating a domestic clean development mechanism (CDM). CDMs are capable of producing extraordinary benefits. It would allow for "poor and of-color communities" to have a voice in the cap and trade market that would "otherwise exclude them".[117] These communities would be able to establish offsetting projects that would be consistent with new policy and improve the conditions of their communities simultaneously. This measure would ultimately allow the United States to take responsibility for its contributions to climate change all while addressing the domestic inequalities that have been overlooked for far too long. In doing so, any federal response to climate change would not so quickly fall victim to criticism that it is not "recogniz[ing] the direct kinship between social

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[115] Maxine Burkett, *Just Solutions to Climate Change: A Climate Justice Proposal for a Domestic Clean Development Mechanism*, 56 BUFF. L. REV. 169, 170 (2008).

[116] There is a supported view that legislators "crafting climate rules in Congress and beyond will have an unparalleled opportunity to implement policy that accounts for climate justice concerns," but that window is closing rapidly. *Id.* at 171.

[117] *Id.* at 172.

inequality and environmental degradation."[118]

Ultimately, in order for there to be any sincere attention to the social destruction that climate change will inevitably bring, a moral shift must emerge amongst the leaders and policymakers of the world. To date it appears as though both developing and industrial nations are suffering from a lack of moral conviction.[119] It is a deficiency that has produced the shortsightedness of legislative and economic proposals. The focus of any plan must stem from the admission that to go forth with the same attitude that has produced such grave harm would be immoral. This notion is ethically justifiable because as Donald Brown asserts:

> [D]istributive justice demands that the burdens of reducing a problem either be shared equally or based upon merit or deservedness, there is no conceivable equitably based formula that would allow the United States to continue to emit at existing levels once it is understood that steep reductions are called for.[120]

The greatest disappointment of the Waxman-Markey bill is that it refuses to make the difficult political decision that just happens to be the easiest ethical one. The bill both postpones the essential and ignores attempts to perfect its inherent inadequacies. It does not recognize that time is running out and that emissions cuts delayed will not be able to account for the aggregate concentration of GHGs in the atmosphere.

> Many scientists and policy makers believe that a doubling of CO2 from pre-industrial levels to 560 [parts per million] ppm may be unavoidable in the 21st century. This is so because the world's political and economic system cannot respond rapidly enough to make faster changes in some major polluting sources such as gasoline-powered automobiles or coal-fired power plants. . . . Even if all nations could have stabilized emissions in the year 2002, the concentrations of GHGs would continue to rise and would approach 500 ppm by the year 2100. After that, GHG concentrations in the atmosphere would continue to rise for several hundred years before stabilization would be achieved. Even to stabilize CO2 at 1,000 ppm will require reductions of emissions below current levels.[121]

The acknowledgement that climate change solutions require moral

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[118] *Id*. at 193.

[119] Donald A. Brown, *The U.S. Performance in Achieving Its 1992 Earth Summit Global Warming Commitments*, 32 ENVTL. L. REP. 10741, 10762 (2002).

[120] *Id*.

[121] *Id.* at 10756.

commitments will yield unprecedented results. CDMs, in particular, will be vital in harnessing such promises. They will be instrumental for "attracting an increased flow of investments to green EJ development zones and stimulating technology transfers to communities that might not otherwise benefit from these [innovations] in their early development and dissemination phases."[122] The CDM approach, however, is nowhere near perfect. This approach still hinges on the social sensitivities of a market that has proven itself unforgiving. Nevertheless, environmental scholars contend that without a domestic CDM, a "cap-and-trade approach will very likely repeat many old and dangerous mistakes."[123] "Carbon-trading," if not coupled with some assurance of climate justice, will inevitably aggravate the "negative effects of the co-pollutants that result from the same source."[124]

On the eve of the United Nations Climate Change Summit in Copenhagen, ethical considerations have become much more pronounced in the climate change debate in the United States Congress. As a result, a potential compromise has emerged between those who favor cap and trade and those who prefer a carbon tax. On December 11, 2009, Democratic Senator Maria Cantwell and her Republican co-sponsor Senator Susan Collins introduced the Carbon Limits and Energy for America's Renewal Act ("CLEAR") which calls for the implementation of a cap and refund system.[125] The CLEAR Act offers a potentially "attractive and effective climate policy alternative to traditional cap-and-trade or carbon tax policies."[126] The bill already surpasses Waxman-Markey and the Senate's Kerry-Boxer bill in terms of "simplicity, transparency, and equity."[127]

The bill, which is thirty-nine pages in length, would establish an "upstream cap on fossil carbon," a 100 percent auction open "only to energy producers and importers (and not Wall Street) with prices set by the market within a bounded price collar," and an "equal monthly

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122 Burkett, *supra* note 95, at 222.

123 *Id.*

124 Examples of co-pollutants include "toxic and cancer-causing hydrocarbons, mercury, and particulate matter." *Id.* at 234.

125 Sen. Maria Cantwell, *The CLEAR Act: A Cap & Refund Approach to Energy Independence and Climate Change Mitigation*, U.S. SEN. MARIA CANTWELL, 1 (Dec. 10, 2009), http://cantwell.senate.gov/issues/CLEAR%20Act%20Overview%20Memo.pdf.

126 *Id.*

127 *Id.*

distribution of auction revenues to every American."[128] The bill recognizes the need for climate change policy to reflect a degree of ethical responsiveness. CLEAR streamlines funding for clean energy research and development, programs that mitigate non-CO_2 greenhouse gas emissions, and "needs-based regionally-specific assistance for communities and workers transitioning to a clean energy economy."[129] The bill also appears to signal a stronger commitment to emissions reduction by not allowing offsets and thus "remov[ing] some of the incentive for American companies [not] to make the transition to a low-carbon [and GHG-free] way of doing business."[130]

The CLEAR Act's focus on an "upstream point of regulation" (producer/importer level), recognizes that there are fewer entities to regulate at that level and, as a result, there will be "fewer opportunities to game the system if the cost of allowances is imposed before fossil fuels are distributed among the many different energy-intensive industries."[131] Furthermore, this bill, unlike Waxman-Markey and Kerry-Boxer, auctions the allowances from the outset.[132] The auction process is also much more tightly regulated. The allowances are "tradable only among [producers/importers] and only via a government-hosted exchange with publicly listed prices."[133] The price of allowances at auction is another distinct feature between CLEAR and its congressional counterparts. The bill limits the price of allowances by "both a floor and a ceiling (commonly known as price collar)."[134] In the first years of the auction the prices would range between $7 and $21, but the bill provides for "an adjustment mechanism that would raise the band" to $16 to $40 by 2025, and to about $75 to $160 by 2050.[135] Additionally, the bill would require that "75 percent of auction revenue

[128] *Id.* The CLEAR Act keeps the emissions reduction targets outlined in the Waxman-Markey, bill but it does not rely on "free allowances to industry, unverifiable offsets, or other giveaways." *Id.*

[129] *Id.*

[130] Craig Gannett & Lauren Giles Wishnie, *Climate Change: Sen. Cantwell Introduces Alternatives to Gap and Trade*, DAVIS WRIGHT TREMAINE LLP (Dec. 15, 2009), http://www.dwt.com/LearningCenter/Advisories?find=168218 (last visited Feb. 17, 2012).

[131] *Id.*

[132] *Id.*

[133] *Id.*

[134] *Id.*

[135] *Id.* Earlier supporters of the CLEAR Act observe that the pricing mechanism creates predictability, which will make it easer "for businesses to plan for and finance the necessary investments." *Id.*

be returned to consumers" in the form of "nontaxable monthly cash dividend paid on an equal per-capita basis to all legal residents of the United States."[136]

The remaining twenty-five percent of auction revenue, although not returned to consumers, will be invested into a Clean Energy Reinvestment Trust Fund (CERT).[137] The Fund is meant to help "accelerate the nation's urgently needed transition to a cleaner twenty-first century energy system and other climate-change-related priorities," and as a result signals an unprecedented commitment to being ethically responsive in the implementation of climate change policies.[138] CERT would use existing Congressional budget and appropriations processes "exclusively to finance a variety of critical climate mitigation and adaptation programs as well as programs designed or administered by the Clean Energy Deployment Administration" while assuring that the implementation of the CLEAR Act remains deficit-neutral.[139] The anticipated use of the Fund would include: (1) providing "transition assistance to affected industries and workers experiencing economic dislocation due to climate change efforts"; (2) providing "mitigation and adaptation assistance to communities experiencing negative impacts from climate change"; (3) supporting "training programs to prepare workers for careers in energy efficiency, renewable energy and clean technology"; and (4) supporting "low-income energy efficiency loan programs."[140]

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136 Gannett & Giles Wishnie, *supra* note 130.

137 *See* Cantwell, *supra* note 125, at 6.

138 *Id.*

139 *Id.*

140 *See* Gannet & Giles Wishnie, *supra* note 130. The CERT Fund would also include investments for: "(A) targeted and region-specific compensation for early retirement of carbon-intensive facilities, machinery, or related assets in the United States that are stranded by new market dynamics; (B) mitigation of greenhouse gases other than carbon dioxide from fossil carbon and non-greenhouse substances that exacerbate or accelerate climate change (such as black carbon); (C) cost-effective domestic and international projects that verifiably reduce, avoid, or sequester greenhouse gas emissions, such as agriculture, forestry, or other land use practices; (D) investments in low and no carbon energy and fuels research, development, and deployment activities; (E) projects or initiatives that verifiably increase energy efficiency or energy productivity; (F) projects or initiatives that support residential fuel switching, particularly home heating oil; (G) weatherization and energy efficiency improvements of low-income and public buildings; (H) funding for climate change mitigation and adaptation projects, activities and research to increase the resilience of human populations and communities, fish and wildlife, and managed and unmanaged terrestrial, aquatic and marine ecosystems; (I) cost-effective projects that provide adaptation services in areas and countries in which climate change or ocean acidification impacts are

The ethical complications that emerge from the use of a cap and trade system are directly associated with this approach's exclusive focus on overall reduction instead of equitable concerns related to the systems "distributional effects."[141] Without directly addressing the disparate impacts of GHG emissions, any political decision on climate change policy will condemn future generations with a burden that should belong to the present generation.[142] Ultimately, cap and trade fails to meet the ethical duty to respond to climate change because it stands for the proposition that such a duty can only be fostered with a profit making incentive.[143] The CLEAR Act in its initial form appears to salvage the ethical integrity of a domestic climate change policy. The bill recognizes the urgency of the moment and establishes an ethical framework for altering the societal behaviors that have led to climate change.

III. CONCLUDING THOUGHTS: CAP AND TRADE AND ITS ETHICAL IMPASSIVENESS

Fixing rights and duties theory to emissions trading reveals that because "the right to a clean environment exists as a statement of positive law; a corresponding duty exists among others not to pollute."[144] In fact, international and domestic laws demonstrate that the right to live in a clean environment is legally cognizable, while no such right is

likely to be most severe; and (J) programs that protect or advocate for energy consumers relating to changes in rates and services as a result of the CLEAR Act." *See* Cantwell, *supra* note 125, at 7.

[141] Gannet & Giles Wishnie, *supra* note 130.

[142] "If we wait forty or fifty years before taking serious action, the die will have been cast and a thousand generations of our descendants will have to live with the consequences of the climate we bequeathed them." R.T. Pierrehumbert, *Climate Change: A Catastrophe in Slow Motion*, 6 CHI. J. INT'L L. 573, 580 (2006).

[143] Consider that fact that giving allowances to polluters will create windfall profits for those firms. These high-scale profits would result because cap and trade programs, as a Congressional Budget Office report reveals, "still result in higher prices for consumers and households but would not impose additional cost on [emitting] firms. Even if the companies received allowances for free, they would raise prices to their customers because the cost of using an emission allowance for production—rather than selling it to another firm—would be embodied in the prices that they would charge for their goods and services." Peter R. Orszag, *Testimony: Approaches to Reducing Carbon Dioxide Emissions*, CONGRESSIONAL BUDGET OFFICE (Nov. 1, 2007), *available at* http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/87xx/doc8769/11-01-co2emissions.pdf.

[144] Kirk W. Junker, *Ethical Emissions Trading and the Law*, 13 U. BALT. J. ENVTL. L. 149, 170 (2006).

recognized for polluting.[145] Nevertheless, proposals to establish a system of accountability fail to recognize this assertion. The Waxman-Markey bill claims that the cap and trade system will help reconfigure the way Americans use and make energy through the half-century mark. Unfortunately, Waxman-Markey will accomplish no such thing. It is even unlikely that it will achieve its primary goal of substantially cutting GHG emissions and turning around the trend of climate change.[146]

Michael Hoexter describes cap and trade programs as "ethical trap[s]," for they reassert the view that markets are better than government.[147] The notion appears ever more ironic in light of the financial debacle that world has borne witness to in the last year. The people of the world have been able to tap into the market's ability to generate wealth at an imaginable rate but they too have seen that if not regulated, a market will act on its fundamental impulse to use "resources profligately and without regard for its impacts in search of short-term favorable return on investments."[148] The only thing Waxman-Markey succeeds in doing is avoiding what direct government regulation can do, stamp a vote of no-confidence on business-as usual attitudes.

If Waxman-Markey, or some form of it, becomes the law of the land, then Congressman Kucinich's fear will become reality.[149] Cap and trade signals reluctance on the part of government to "take direct responsibility for carbon mitigation."[150] In this system, the government's accountability will be limited to setting the cap, and from that point forward, the carbon market takes the reins by determining

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[145] A vast number of laws and constitutions around the world "recognize the right of a legal person to enjoy a healthy or clean environment," but "nowhere will one find the act of polluting the natural environment explicitly established as a right for any legal person . . . in any international or municipal source of law." *Id.* at 161-63.

[146] John Entine, *The Last Word: U.S. Climate Bill-Cap-and-Trade Catastrophe*, ETHICAL CORPORATION, (Sep. 15, 2009), http://www.jonentine.com/ethical_corporation/2009_09_US_Climate_Bill_Cap-and-trade.htm

[147] Michael Hoexter, *Cap and Trade Derails Climate Ethics the Motive Force of Carbon Mitigation—Part 2*, FUTURELAB (Nov. 18, 2009), http://www.futurelab.net/blogs/marketing-strategy-innovation/2010/03/cap_and_trade_derails_climate_.html_0.

[148] *Id.* (arguing that cap and trade is an "effort to clothe the administrative and ethical role of government in the supposed ethics and/or efficiency of markets, in this case, the carbon permit market.").

[149] Rep. Kucinich observed that "passing a weak bill today gives us a weak environmental policy tomorrow." *See* Soft & Kirshner, *supra* note 93.

[150] *See* Hoexter, *supra* note 147.

carbon prices.

In the end, cap and trade makes it very difficult to discern who is responsible for climate protection, as the government will always be able to place fault in the market that it initially entrusted. Hoexter suggests that many may view the system's ability to "[insulate] climate policy from the vicissitudes of politics" as positive, but in reality all that this insulation does is make a nation's climate policy "ineffectual, non-transparent, and corruptible by system stakeholders who are interested in maintaining a fossil fueled status quo."[151] The process by which low GHG and GHG-free technologies are put in place to aid the cut of emissions will be directly controlled by market forces.

Cap and trade, as designed under Waxman-Markey and Kerry-Boxer, will never succeed in achieving an equitable reduction of GHGs. It will not foster the ingenuity and innovation that is necessary when it is needed the most. Weak caps and the over-allocation of allowances will never create profound commitments to cut emissions. The system institutes no incentive for firms to cut their pollution levels beyond what the cap already requires them to do. In essence, cap and trade lacks the impetus necessary for a moral and ethical response to climate change to take hold.[152]

The Waxman-Markey bill would allow start-up firms to acquire up to two billion offset credits every year.[153] The two billion tons of carbon dioxide that these offsets represent account for a greater percentage than the reduction that the bill would require each year through 2026.[154] "[U]sing this quantity of offsets would allow capped emitters as a whole to increase their emissions by [thirty eight percent] by 2012."[155] Even more preposterous is the fact that firms would not have to reduce their

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[151] *Id.* After the cap is set, Waxman-Markey, along with all the other carbon cap and trade system proposals, dares to suggest that the "supposedly impersonal forces of the market will determine the outcome; within the policy's design by intention no agent is simultaneously directing the investments process and responsive to the calls for climate action." *Id.*

[152] Cap and trade systems merely establish a floor. That is to say, once a firm's emissions are below the cap they have "no incentive to do better." *See Why Hansen is Right: Cap-and-Trade will Make the Climate Problem Worse, Not Better*, http://dl.getdropbox.com/u/390139/ifr/cap%20and%20trade.doc (last visited Dec. 1, 2009).

[153] Bill Barclay & Patrick McCully, *Initial Analysis of Offsets Provisions in the Draft of the American Clean Energy and Security Act of 2009*, INTERNATIONAL RIVERS (Apr. 15, 2009), http://www.internationalrivers.org/files/WaxmanIRRAN.pdf.

[154] *Id.*

[155] *Id.*

emissions back to 2005 levels for nearly two decades. Furthermore, "if all eligible offsets were used, the [twenty percent] reduction supposed to happen by 2020 would not actually be reached until 2036, [and] the reduction in 2050 would be only [fifty percent] rather than the stated [eighty-three percent]."[156]

The shortcomings of a traditional cap and trade approach are not based on speculation. This market solution's inability to address climate change is clear to anyone who reviews how the system is meant to function. Even cap and trade's creator, Dr. Thomas Crocker, has stated that he is "skeptical that cap-and-trade is the most effective way to go about regulating carbon."[157] Crocker's doubt is based on the position that cap and trade is "better suited for discrete, local pollution problems."[158] Cap and trade is also ineffective in combating climate change because economists have been unable to quantify the economic damage of climate change. Therefore, "without knowing how costly climate change is," the market would be unable to correctly determine "how tight a grip to put on emissions."[159]

The founder of cap and trade has recognized the system as ineffective in taking on the challenge of curbing climate change. What is needed is direct government regulation that establishes a moral duty not to emit harmful pollutants that risk placing our planet in peril coupled with a tax aimed at punishing those who breach that duty. Crocker has suggested than an "outright tax on emissions" is much more desirable because it would be "easier to enforce and [would provide the] need[ed] flexibility to deal with the problem" of climate change.[160] A carbon tax/emissions penalty would impose a duty on emitters, and would channel an ethical perspective that suggests that

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[156] *Id.* at 4.

[157] Jon Hilsenrath, *Cap-and-Trade's Unlikely Critics: Its Creators*, WALL ST. J. (Aug. 13, 2009), http://online.wsj.com/article/SB125011380094927137.html.

[158] *Id.*

[159] *See* Hoexter, *supra* note 147.

[160] *Id.* "Within the relatively efficient category of approaches that rely on the power of markets, a tax on emissions is generally more efficient than a cap-and-trade system. The reason is that although both a tax and a cap-and-trade system encourage firms to find the lowest-cost reductions at a particular point in time, a tax provides greater flexibility over time, allowing firms to achieve reductions when they are least expensive. In particular, a tax encourages firms to make greater reductions in emissions at times when the cost of doing so is low and allows them leeway to lessen their efforts when the cost is high." *See* Peter R. Orzag, *Implications of a Cap-and-Trade Program for Carbon Dioxide Emissions*, CONG. BUDGET OFF. (Apr. 24, 2008), http://www.cbo.gov/ftpdocs/91xx/doc9134/04-24-Cap_Trade_Testimony.pdf.

individuals are willing to penalize human behavior that puts all life at harm.[161]

While the United Nations Climate Change Summit in Copenhagen failed to produce a legally binding commitment to reduce GHG emissions, it has reframed the debate as an ethical issue. The ethics of climate change were inserted into the fold before the negotiations even began. To improve the likelihood that a global climate agreement could be reached at the Copenhagen conference, European Union leaders agreed to pay $10.5 billion over three years to help developing countries in the battle against global warming.[162] The developing world is seeking a long-term financing pledge for more than $100 billion each year from the industrial powers who have not yet answered how much they would offer in the long term.[163] In the days leading to the Copenhagen Summit, the United Nations confirmed that the European Union's pledge to support a global climate fund is up to $30 billion, the largest investment commitment to date.[164]

Copenhagen's inability to produce a binding agreement does not make it a failure. The United States, after years of standing indifferently against concerns of worsening climate change, helped form a consensus at the eleventh hour of the two-week negotiation. The agreement that was presented to the conference, facilitated by President Obama and the heads of state from China, India, Brazil, and South Africa, did not meet the goal of constructing a binding international treaty for 2010, provoking the most influential nations to acknowledge that there is a crisis and to began implementing domestic responses.[165]

The accord provides a system for monitoring and reporting progress toward those national pollution-reduction goals, a compromise on an issue over which China bargained hard. It calls for hundreds of billions of dollars to flow from wealthy nations to those countries most vulnerable to a changing climate. And it sets a goal of limiting the global temperature rise to two degrees Celsius above preindustrial levels

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[161] *See* Hoexter, *supra* note 147.

[162] James Kanter & Andrew C. Revin, *Europe Pledges Billions in Climate Funding*, N.Y. TIMES (Dec. 11, 2009), http://www.nytimes.com/2009/12/12/ science/earth/12climate.html?scp=17&sq=climate% 20change&st=cse.

[163] *Id*.

[164] *Id.*

[165] John M. Broder, *Many Goals Remain Unmet in 5 Nations' Climate Deal*, N.Y. TIMES (Dec. 18, 2009), http://www.nytimes.com/2009/12/19/ science/earth/19climate.html? scp=3&sq=climate%0change&st=cse.

by 2050, implying deep cuts in climate-altering emissions over the next four decades.[166]

While it is true that the plan does not commit industrialized or developing nations to specific goals for midterm and long-term emissions cutbacks, the measure is significant. It legitimizes the pledge of nations to work to control the progression of global warming, as it concedes that economic self-interest must no longer stall discussions on mitigating the harms of climate change.[167]

Not everyone is as optimistic about the symbolism of the Copenhagen meetings and, to a certain degree, with proper reason. Andreas Carlgren, the environment minister of Sweden, said that the "summit meeting had been a 'great failure' partly because other nations had rejected targets and a timetable for the rest of the world to sign on to binding emissions reductions."[168] The European Union went into the conference hoping to lead by example on emission cuts, but it has been greatly criticized by environmental and industrial groups for not directing other nations to follow suit.[169] The shortcomings of the Summit, however, should not eclipse the reality that climate change discussions are progressing. The discussion leading to Copenhagen, and following it, has forced climate change to be framed as a global ethical issue.[170] Developed nations, like the United States, can no longer excuse their positions on climate change on account of "national interest."[171] These nations will have to conform their national policies to what ethics, justice, and human rights demand of them. For example, each nation would be required to make an individual climate change policy that is equal to its fair share of emissions. Although there may be some disagreements as to what is fair, an ethical view would eliminate excuses that climate change policies may impose new costs or put certain industries at risk financially.[172]

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166 *Id.*

167 *Id.*

168 James Kanter, *E.U. Blames Others for 'Great Failure' on Climate*, N.Y. TIMES (Dec. 22, 2009), http://www.nytimes.com/2009/12/23/world/europe/23ihtclimate.html?scp=25&sq=climate%20change&st=cese.

169 *Id.*

170 Donald A. Brown, *Two Climate Change Matters Move to Center Stage in Copenhagen with Profound Implications for Developed Nations: Ethics and Adaptation*, ROCK ETHICS INST., http://climateethics.org/?p=331 (last visited Dec. 17, 2009).

171 *Id.*

172 *Id.*

In the United States, for instance, opposition to climate change legislation asserts that a "proposed bill [would] hurt the coal industry in a coal state, a position that seems to ignore the responsibility of people in coal states to protect poor people in Africa from climate change."[173] However, a glimmer of hope has emerged in the United States Senate. The Cantwell-Collins measure addresses the deep-seated ethical complications of past climate change policy proposals by implementing an ethical conscience cap and refund system.[174] The bill would return the majority of the revenue collected from setting a price on carbon emissions to consumers who will be paying higher costs for energy.[175] The average household is expected to receive an annual tax-free refund of about $1,100.[176] One quarter of the revenue collected will "be used for clean energy research, assistance to hard-hit communities, energy efficiency programs and reductions in greenhouse gases other than carbon dioxide."[177] Cantwell-Collins recognizes what Waxman-Markey and Kerry-Boxer have ignored. That is, if the issue is an ethical one, no nation can ignore its obligation to others around the world or its own most at risk regions in developing polices for climate change.[178]

Without implementing a measure that creates an ethical duty, no substantial shifts in human activity will emerge. This duty is essential if any of the world's governments are truly serious about addressing climate change. This duty is necessary because it asserts what basic contract law declares, that "'where a party does or promises to do what he is already legally obligated to do or promises to refrain from doing or refrains from doing what he is not legally privileged to do he has not incurred detriment'" because his activity is founded on a pre-existing duty.[179] Without establishing a duty "upon which the parties agree, there is a failure of consideration and thus a failure of contract."[180] The contract would create a duty between humans to safeguard their planet, and ultimately their home. This duty, which would never emerge under

[173] *Id.*

[174] John M. Broder, *Senators Offer New Climate Proposals*, N.Y. TIMES (Dec. 10, 2009), http://green.blogs.nytimes.com/2009/12/10/senators-offer-new-climate-proposals/.

[175] *Id.*

[176] *Id.*

[177] *Id.*

[178] *Id.*.

[179] *See* Junker, *supra* note 144 at 169 (quoting Joseph D. Calamari & Joseph M. Perillo, The Law of Contracts, § 4.9 (West, 4th ed. 1998)).

[180] *Id.*

a cap and trade system, recognizes the human right to a clean and protected environment. What emerges then is an ethical commitment to preserve the planet that welcomed life and not defer that responsibility to future world. Copenhagen's inability to conclude with a binding treaty should not overshadow the recent domestic developments that have taken a much more transparent and meaningful climate change policy. The Senate Cantwell-Collins CLEAR Act, a refreshing alternative to Waxman-Markey and Kerry-Boxer, imposes immediate obligations, placing the protection of our planet "in the public trust[, which] cannot be sold by the government nor licensed for sale by the government."[181]

[181] *Id.* at 166.