Shifting the Domestic and International Logjams on Climate Change: A New Defense of Cap and Dividend

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I. INTRODUCTION

Efforts to address the climate crisis appear to be at a standstill—in both the domestic and international arenas. Even the unrelenting gushing of oil into the Gulf of Mexico seems unable to dislodge the impasse. Efforts to pass a law limiting greenhouse gas emissions are floundering in the United States Senate amidst epithets of "Cap and Tax." Indeed, any effort to reorient the incentives driving our addiction to fossil fuels faces a fundamental dilemma. To shift incentives in the right direction, we need to put a price on carbon, but no one wants to be responsible for increasing prices on anything as we struggle to climb out of the worst economic downturn since the Great Depression.

Meanwhile, the international talks in Copenhagen last December exposed long-simmering North-South tensions and failed to produce an agreement. China and India understandably bristle at the suggestion that they should slow economic growth in order to help save the world from global warming when the United States has yet to regulate its own emissions. They point out that the vast majority of the historical emissions that put us in the pickle that we are in today came from the developed world, and that even now, if we measure on a per-capita basis, their emissions are only a tiny fraction of ours. In fairness, China and India have a point. Anyone who seriously considers how the capacity of the global atmosphere to absorb greenhouse gases should justly be

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distributed among the people and nations of the world comes to the unremarkable conclusion that it should be allocated in equal shares—on a per-capita basis. But any international agreement that takes that principle as its starting point will inevitably entail a significant transfer of wealth from the developed to the developing world—not something the American public is likely to eagerly embrace.

I want to suggest that there is an underexplored idea for domestic climate change legislation that has the potential to begin to break the logjam on both fronts, both domestically and internationally. A "cap-and-dividend" program would operate just like any other cap and trade except that the government would auction off all allowances (rather than giving them out to industries for free) and return all the revenues to each U.S. resident in equal shares in the form of a rebate check. This would put the money generated by selling tradable allowances in the pockets of consumers rather than in the pockets of industry. It would still raise energy prices, which is good if we want to get people to conserve and switch to renewables, but it would allow individuals who keep their carbon footprints within reasonable limits to break even or even make money on the deal.

Perhaps most importantly, however, such a program might have the capacity to engage people in new and positive ways and to entirely reorient the individual consumer's relationship with the fight against global warming. If rebate checks were presented as representing an individual's share of the cap—an entitlement to a particular amount of carbon emissions—it might help to reframe the climate crisis in a way that would resonate more closely with the developing world's perspective on the issue. Americans might begin to view climate change as involving the allocation of a public resource to individuals in equal shares. They might also begin to see why per-capita emissions are a more morally relevant unit of measure than aggregate national emissions.

II. THE INTERNATIONAL LOGJAM

Before the 2008 presidential election in the United States, the dominant narrative on international climate change negotiations had been the United States' recalcitrance. The Bush Administration was unwilling to participate seriously in climate talks and, until the very end of his presidency, was not even willing to acknowledge the reality of global warming.[1] So with the election of President Barack Obama, international

1. *See* Kristen Sheeran, *Beyond Kyoto: North-South Implications of Emissions Trading and Taxes*, 5 SEATTLE J. SOC. JUST. 697, 706-06 (2007).

climate negotiators breathed a sigh of relief. What had seemed the major impediment to progress for many years—the intransigence of the United States—was finally removed. In early 2009, many looked forward with great optimism to the talks scheduled in Copenhagen in December of that year aimed at negotiating a successor to the expiring Kyoto Protocol.[2]

But those high hopes were sorely disappointed when the long-awaited Copenhagen talks ended in failure. Unable to reach an agreement, a few of the key players instead hammered out a three-page nonbinding political agreement.[3] The agreement is not enforceable. But beyond that, the measures various countries agreed to are not sufficient to come anywhere near the stated goal to hold increases in global average temperature below two degrees Celsius.[4]

Part of the problem was that the recalcitrance of the United States in the early years of the twenty-first century obscured a far more profound and fundamental divide. Once the sharp differences between the United States and most of the rest of the developed world were removed, the deep divisions between the developed and developing world came bubbling to the surface. Many Copenhagen observers seemed surprised by the depth and emotional intensity of these divisions, but they of course had been there all along. Indeed, these divisions are inherent in the climate change problem itself. The developed and developing worlds are situated very differently with respect to climate change when it comes to both causes and effects.

With respect to causes, the developed world bears the lion's share of the responsibility, especially in historic terms. With just twenty percent of the world's population, the developed countries have contributed eighty percent of total accumulated greenhouse gases currently in the atmosphere.[5] In a cruel twist of fate, however, many of the worst effects will fall on the developing world. Some of this is simply the luck of geography. A number of the most severe and disruptive impacts of

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2. Daniel Bodansky, *The Copenhagen Climate Change Conference: A Postmortem*, 104 AM. J. INT'L L. 230, 230 (2010).

3. United Nations Framework Convention on Climate Change Conference of the Parties, Copenhagen, Den., Dec. 7-18, 2009, *Copenhagen Accord*, U.N. Doc. FCCC/CP/2009/L.7 (Dec. 18, 2009), http://unfccc.int/resource/docs/2009/cop15/eng/l07.pdf. Due to objections from several developing countries, the Accord was not formally adopted. The conference instead simply "took note of" the Accord. Bodansky, *supra* note 2, at 231.

4. *See* Kelly Levin & Rob Bradley, *Comparability of Annex I Emission Reduction Pledges* 1-2 (World Res. Inst. Working Paper, Feb. 2010), *available at* http://www.wri.org/publication/comparability-of-annexi-emission-reduction-pledges.

5. PAUL HARRISON ET AL., AM. ASS'N FOR THE ADVANCEMENT OF SCI., AAAS ATLAS OF POPULATION AND ENVIRONMENT 102 (2000), http://www.atlas.aaas.org.

climate change, including drought, sea level rise, and the spread of disease, are projected to be particularly harsh in the developing world.[6] But in other respects, the disparate impacts of climate change are driven by existing inequalities. Poor countries, as well as poor communities within developed countries, are likely to suffer more from climate change because resources and infrastructure are already stretched thin in poor communities, and because they have fewer resources to devote to adaptation.[7]

It is no surprise then that the developed and developing world view the problem in very different terms. Many in the developed world look at the large and rapidly increasing aggregate emissions from countries like China and India and argue that any effective international agreement must include binding emissions cuts by those countries. Indeed, many politicians in the United States have long taken the position that we should not agree to binding emissions cuts until the developing countries do the same.[8] The statistics on aggregate, countrywide emissions seem to support this view, especially in the case of China, whose emissions surpassed those of the United States in 2007 and are growing at such an astounding rate that even if all other countries cut their emissions drastically, China's emissions alone might well drive the world into catastrophic climate change.[9] On the other hand, China and India bristle at the suggestion that they should slow economic growth in order to help save the world from global warming. They point out that historically, the vast majority of the emissions that put us in the pickle we are in today came from the developed world, and that even now, if we measure on a per-capita basis, the emissions of developing nations are only a tiny fraction of ours.[10]

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6. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: IMPACTS, ADAPTATION, AND VULNERABILITY 294, 317, 383 (2007).

7. Richard S.J. Tol et al., *Distributional Aspects of Climate Change Impacts*, 14 GLOBAL ENVTL. CHANGE 259, 264–66 (2004).

8. That was the position the U.S. Senate took in the Byrd-Hagel Resolution in 1997, in the run up to the negotiation of the Kyoto Protocol (*see* Byrd-Hagel Resolution, S. Res. 98, 105th Cong. (1997); DONALD A. BROWN, AMERICAN HEAT: ETHICAL PROBLEMS WITH THE UNITED STATES' RESPONSE TO GLOBAL WARMING 37-39, 70 (2002)). This continues to be the position of many in the Senate today. *See* Anne C. Mulkern, *Coal Industry Sees Life or Death in Senate Climate Debate*, N.Y. TIMES, July 6, 2009, http://www.nytimes.com/gwire/2009/07/06/06greenwire-coal-industry-sees-life-or-death-in-senate-cli-49519.html. The article quotes a statement of Senate Minority Leader Mitch McConnell (R-Ky.) on *FOX News Sunday* on June 28, 2009: "I don't think putting clamps on our economy when you know the Chinese and the Indians are not going to do it is a good idea."

9. *See* Michael P. Vandenbergh, *Climate Change: The China Problem*, 81 S. CAL. L. REV. 905, 908 (2008).

10. *See* Bodansky, *supra* note 2, at 232.

And so, the two sides talk past each other. Often, they seem to speak entirely different languages. The developed world speaks the language of efficiency, worrying about whether emissions reductions are justified by cost-benefit analysis and insisting on the inclusion of market mechanisms, like emissions trading, in an international agreement.[11] Meanwhile, the developing world speaks the language of justice, arguing that they should not have to forego development in order to fix a problem they played little role in causing and demanding compensation for the harms projected to befall them.[12]

But with respect to what is arguably the most contentious issue confronting the international community on climate change—the question of who should pay for mitigation—the developing world is right to insist on the language of justice. The logjam will not be broken until the developed world begins to understand that. Efficiency is appropriate for talking about some issues. On the question of who should reduce emissions, for example, there is broad agreement that it will be most efficient, and therefore best, to first implement those emissions reductions that are cheapest (many of which will be in the developing world), and then move progressively toward those that are more expensive. Efficiency, in the sense of cost-effectiveness, is an appropriate goal in this context. And economic theory usefully demonstrates that either a cap-and-trade program or a tax scheme will produce an efficient and desirable result by inducing a given amount of emissions reduction for the cheapest aggregate price.[13] But just because a lot of reductions should occur initially in the developing world, it does not necessarily follow that the developing world should pay for those reductions. As the Clean Development Mechanism demonstrates, those who implement emissions reductions need not be the same people who pay for them.[14]

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11. Dale Jamieson, *Ethics, Public Policy, and Global Warming*, *in* MORALITY'S PROGRESS: ESSAYS ON HUMANS, OTHER ANIMALS, AND THE REST OF NATURE 282, 285 (2002) ("In recent years economic vocabularies and ways of reasoning have dominated the discussion of social issues. Participants in the public dialogue have internalized the neoclassical economic perspective to such an extent that its assumptions and biases have become almost invisible.").

12. *See* Louise Gray, *Copenhagen Climate Summit: Developing Countries Warn of 'Absolute Devastation,'* TELEGRAPH (U.K.), Dec. 9, 2009, http://www.telegraph.co.uk.earth/Copenhagen-climate-change-confe/6764877/Copenhagen-climate-summit-developing-countries-warn-of-absolute-devastation.html (quoting Lumumba Stanislaus Di-Aping, Chairman Chief Negotiator of the G77 Group, as saying the developed world has a "'moral obligation' to cut greenhouse gases").

13. TOM TIETENBERG, ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS 50-55 (6th ed. 2003).

14. Kyoto Protocol to the United Nations Framework Convention on Climate Change art. 12, U.N. Doc. VCCC/CP/1997/7/Add.1, Dec. 10, 1997 (1998), *available at* http://unfccc.int/resource/docs/convkp/kpeng.pdf.

Accordingly, the question of who should *pay* for emissions reductions is an entirely separate question. And unlike the question of who should reduce, which raises issues of aggregate social welfare, the who-should-pay question raises issues of distribution. As such, it raises questions as to which economic theory and the principle of efficiency offer no guidance.

It would, of course, be naïve to expect that future climate change negotiations would be driven solely, or even largely, by considerations of justice. But justice should at least be part of the conversation.[15] And if Americans had a better understanding of how climate change looks from the perspective of justice, our climate negotiators might be better positioned to at least speak a common language with negotiators from the developing world.

Fortunately, once one accepts that justice is the appropriate standard, the question of who should pay for climate change mitigation presents an easy case. The simplest and most elegant way to conceptualize the question is as a problem of resource allocation. Fundamentally, it is a question of how the capacity of the atmosphere to absorb greenhouse gases should be allocated among all the people on the planet. In general, when a group of people takes a resource that was previously held in common and divides it among the members of the group, the default assumption is that the resource should be divided in equal shares.[16] The Law of the Sea Convention, for example, requires that revenues from the exploitation of minerals on the sea floor be divided equitably.[17] The same principle is reflected in the State of Alaska's distribution of oil revenues from its permanent fund in equal shares to each resident of the state.[18]

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15. *See* Cecilia Albin, *Rethinking Justice and Fairness: The Case of Acid Rain Emission Reductions*, 21 REV. INT'L STUD. 119, 119 (1995) (arguing that agreements to address international environmental issues must "be viewed as fair and just if they are to be politically accepted, implemented and honoured in the long term," yet most research and negotiation focuses instead on economic effectiveness).

16. *See* H. PEYTON YOUNG, EQUITY: IN THEORY AND PRACTICE 163 (1994) ("[E]very distributive rule begins with some conception of equality . . . ."); Albin, *supra* note 15, at 124 ("The principle of equality . . . is partly rooted in the claim of natural law that, by virtue of shared human characteristics, all people should be treated the same. Any differential treatment must be justified with a special, legitimate reason."); *id.* at 126–27 (explaining that the equality principle "converges with common, intuitive ideas about 'intrinsic' or 'impartial' justice . . . and enjoys wide acceptability as a basis for concession-making which produces fair agreements").

17. *See* United Nations Convention on the Law of the Sea art. 140, Dec. 10, 1982, 1833 U.N.T.S. 397.

18. ALASKA STAT. § 43.23.025 (2008) (stating that the amount of dividends issued from the permanent fund is determined by dividing the number of persons eligible for a dividend by the amount of money available to pay dividends).

Under this logic, the capacity of the atmosphere to absorb greenhouse gases should be distributed in equal shares to each person on the planet. Indeed, most people who have looked at the problem from the perspective of justice have come to that unremarkable conclusion.[19] In the context of an international emissions trading program, for example, this would mean that emissions allowances would be allocated to each country on a per-capita basis. But any international agreement that takes that principle as its starting point would inevitably entail either a drastic reduction in developed country emissions (per-capita emissions in the U.S. are currently around twenty metric tons per year, compared to just over four and a half tons in China and just over one ton in India[20]) or a significant transfer of wealth from the developed to the developing world[21]—not something the American public is likely to eagerly embrace.

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19. *See* BRIAN BARRY, WHY SOCIAL JUSTICE MATTERS 257, 267-68 (2005); BROWN, supra note 8, at 213-15 (arguing that the per-capita approach is just because it treats all individuals as equals, provides all people with equal rights to use a global commons, and implements the polluter-pays principle); WILLIAM R. CLINE, THE ECONOMICS OF GLOBAL WARMING 353 (1992) (arguing a per-capita allocation "has the merit of equity"); FLORENTIN KRAUSE ET AL., ENERGY POLICY IN THE GREENHOUSE 220 (1992) (stating that a per-capita allocation "allow[s] a more rigorous equity approach: all human beings should be equally entitled to make use of global resources such as the planet's atmosphere"); *id.* at 222 ("The highest level of equity would be provided by [a per-capita allocation formula]."); AUBREY MEYER, CONTRACTION & CONVERGENCE: THE GLOBAL SOLUTION TO CLIMATE CHANGE 55 (2000) ("Since the world's atmosphere belongs equally to everyone if it belongs to anyone at all, the only basis on which such an agreement seems possible is that there must . . . be an equal quota allocation to everyone in the world."); PETER SINGER, ONE WORLD: THE ETHICS OF GLOBALIZATION 36, 43 (2002); Henry Shue, *Avoidable Necessity: Global Warming, International Fairness, and Alternative Energy*, *in* THEORY AND PRACTICE 239, 257-58 (Ian Shapiro & Judith Wagner DeCew eds., 1995) (arguing that carbon emissions are an essential of life, and that therefore, developed nations who emit more than their fair share deprive people in poor nations of one of life's essentials); ANIL AGARWAL & SUNITA NARAIN, GLOBAL WARMING IN AN UNEQUAL WORLD: A CASE OF ENVIRONMENTAL COLONIALISM 9 (1991) ("Several studies on the global warming problem have argued, and we argue ourselves, that in a world that aspires to such lofty ideals like global justice, equity and sustainability, this vital global common should be shared equally on a per capita basis."); Amy Sinden, *Allocating the Costs of the Climate Crisis: Efficiency Versus Justice*, 85 WASH. L. REV. 293, 297 (2010) ("[A] per capita allocation of emissions rights easily emerges as the best (i.e., most just) solution."); Amy Sinden & Carl Cranor, *Toward Distributional Justice*, *in* ECONOMIC THOUGHT AND U.S. CLIMATE CHANGE POLICY 237, 240 (David M. Driesen ed., 2010) ("[T]he equality principle requires that we distribute to each individual on the planet an equal share in the absorptive capacity of the atmosphere."); Charles Hawley, *The Isolation of America*, SPIEGEL ONLINE, Aug. 31, 2007, http://www.spiegel.de/international/germany/0,1518,503176,00.html. German Chancellor Angela Merkel advocates equalizing worldwide per-capita greenhouse gas emissions. *Id.*

20. These figures are for 2006. *See Carbon Dioxide Emissions (CO2), Metric Tons of CO2 per Capita (CDIAC)*, UNITED NATIONS STATISTICS DIVISION: MILLENNIUM DEVELOPMENT GOALS INDICATORS, http://mdgs.un.org/unsd/mdg/SeriesDetail.aspx?srid=751&crid= (last updated June 23, 2010).

21. *See* Sinden supra note 19, at 345 (arguing that a per-capita allocation of emissions allowances would entail the developed world paying to the developing world far more than the

III. THE DOMESTIC LOGJAM

In early 2009, with Barack Obama in the White House and democratic majorities in both houses of Congress, prospects for finally passing climate change legislation in the United States seemed excellent. And during that first spring, the House of Representatives passed a comprehensive cap-and-trade bill aimed at reducing U.S. emissions by seventeen percent of 2005 levels by 2020 and eighty percent by 2050.[22] In the fall of 2009, however, the legislation stalled in the Senate in the wake of the ongoing controversy over health care, and all hope that President Obama would sign a bill into law before the start of the international negotiations in Copenhagen in December evaporated. When the Democrats lost their sixty vote majority in the Senate with the election of Senator Scott Brown from Massachusetts in January 2010, prospects for a Senate bill sunk even lower.[23] And after Republican Senator Lindsay Graham walked away from the bipartisan bill he had been hammering out with Senators Kerry and Lieberman in April 2010, the pundits declared it "dead on arrival."[24]

At this juncture, it does not appear that even the Gulf Oil Spill could revive comprehensive climate legislation. Ironically, some have even suggested that the oil spill has made passage of a climate bill *less* likely.[25] Even after Graham's defection, Kerry and Lieberman included generous support for nuclear power and offshore drilling in the bill in hopes of winning Republican support. But as oil continued to wash up on Gulf coast beaches, those on opposite sides of the offshore drilling debate only became more entrenched in their positions. If compromise on offshore

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$100 billion per year promised under the Copenhagen Accord; the payment might well be more in line with the one percent of developed country GDP that several developed countries proposed in the lead up to Copenhagen).

22. *See* American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 702 (2009).

23. Darren Samuelsohn, *Sen.-Elect Brown's Win Adds More Question Marks to Senate Climate Debate*, N.Y. TIMES, Jan. 20, 2010, http://www.nytimes.com/cwire/2010/01/20/20climatewire-sen-elect-browns-win-adds-more-question-mark-48190.html.

24. Gar Lipow, *Kerry-Lieberman Has Zero Chance of Passing*, GRIST, May 19, 2010, http://www.grist.org/article/kerry-lieberman-has-zero-chance-of-passing; *see also* Kevin Drum, *Is a Climate Bill Dead?*, MOTHER JONES, May 11, 2010, http://motherjones.com/kevin-drum/2010/05/climate-bill-dead (calling bill "dead"); Andrew C. Revkin, *The American Power Act*, DOT EARTH (May 12, 2010, 3:57 PM), http://dotearth.blogs.nytimes.com/2010/05/12/the-american-power-act/ (calling bill's chances of passage "very unlikely").

25. *See Experts Weigh Chances of Kerry-Lieberman Energy Bill*, WASH. POST, May 16, 2010, http://www.washingtonpost.com/wp-dyn/content/article/2010/05/14/AR2010051404235.html.

drilling is necessary to get a climate bill passed, hopes for a bill may be slim.[26]

Why is it so difficult to take the steps that scientists agree are necessary to ward off catastrophe and preserve life on the planet as we know it? The problem is that climate change legislation presents a fundamental political dilemma. In order to prevent global warming from reaching catastrophic levels, we need to shift incentives away from the use of fossil fuels. And in order to do that, we need to raise the price of fossil fuel-based energy, that is, put a price on carbon. But for a lot of politicians, voting to raise the price of anything while we are still trying to climb out of the deepest recession since the Great Depression feels like political suicide.

Initially, the accepted political wisdom was that by avoiding a carbon tax, and using a cap-and-trade system to put a price on carbon instead, climate change legislation could be made politically palatable. But no sooner had the ink dried on the Waxman-Markey cap-and-trade bill in the House last spring, than Republicans had dubbed it "Cap and Tax." That phrase stuck and continued to dog efforts to pass a bill in the Senate.[27]

It is true, of course, that under either system, a tax or a cap and trade, the price of fossil fuel-based energy will go up. Indeed, that is the whole point. In order to create an incentive for people to avoid using fossil fuel-based energy, we have to make it more expensive. A tax does that by simply requiring polluters to pay a set fee to the government for every unit of pollution they emit. A cap-and-trade program does it by setting a cap on the total amount of pollution allowed, printing up and distributing a number of tradable allowances equal to the cap, and requiring each polluter to turn in an allowance for each unit of pollution she emits. Because a polluter has to purchase an allowance for each unit of pollution she produces, a cap-and-trade scheme has an effect similar to a tax. Both create an incentive not to pollute. And they do so by raising the price of the pollution-causing activity—in the climate change context, the price of fossil fuel-based energy.

There is a straightforward way out of this dilemma, of course. Policymakers have long understood that a tax intended to shift people's incentives does not necessarily have to impose a net loss on consumers. A revenue-neutral tax recycles tax proceeds back to the public in the

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26. *Id.*

27. *Times Topics: Climate and Energy Legislation*, N.Y. TIMES, http://topics.nytimes.com/top/news/business/energy-environment/climate-and-energy-legislation/index.html (last updated July 23, 2010).

form of a lump sum rebate check (or tax credit), but still imposes an extra price on each purchase of whatever the target item is (fossil fuels, cigarettes, alcohol), thus reducing consumption of that product. The British Columbia carbon tax takes this form.[28] In this country, though, even a revenue-neutral carbon tax is widely viewed as a political nonstarter because the term "tax" is so politically toxic.

But a cap-and-trade program can also be made revenue-neutral. In a version of cap and trade that is now commonly called cap and dividend, allowances would be distributed entirely through government auction, and the revenues collected simply divided up equally and distributed to all residents of the country in the form of a rebate check.[29] Such a scheme has been advocated by former Secretary of Labor, Robert Reich, among others,[30] and formed the basis for a bill introduced into the Senate by Senators Cantwell and Collins in December 2009.[31]

Cap and dividend has the virtue of simplicity and also has the capacity to help break the domestic logjam by defusing the argument that climate change regulation will be bad for consumers and therefore bad for the economy. These virtues apply just as well to a revenue-neutral tax, of course. But I would like to suggest that cap and dividend has another virtue as well, one that sets it apart from a revenue-neutral tax.

IV. CAP AND DIVIDEND: BREAKING THE DOMESTIC AND INTERNATIONAL LOGJAMS

Cap and dividend has the capacity to begin to break not only the domestic logjam, but the international logjam as well. Legal scholars have long recognized that it is important to pay attention not just to the direct incentives created by laws, but to their more subtle effects on

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28. *See* David G. Duff, *Carbon Taxation in British Columbia*, 10 VT. J. ENVTL. L. 87, 98-99 (2008).

29. *About the Commons*, ON THE COMMONS, http://onthecommons.org/about-commons (last visited Oct. 6, 2010). Peter Barnes, a founder of Working Assets, a socially responsible mutual fund, popularized the term "cap and dividend" and advocates this approach on his Web site, CAPANDDIVIDEND, http://www.capanddividend.org. *See, e.g.*, *How Cap and Dividend Works*, CAPANDDIVIDEND.ORG, http://www.capanddivident.org/?q=readfirst (last visited Sept. 16, 2010).

30. Robert B. Reich, *How About a Cap-and-Trade Dividend?*, WALL ST. J., June 4, 2008, at A21; PETER BARNES, CLIMATE SOLUTIONS: A CITIZEN'S GUIDE 54-59 (2008); *see* Dallas Burtraw, Richard Sweeney & Margaret Walls, *The Incidence of U.S. Climate Policy: Alternative Uses of Revenues from a Cap-and-Trade Auction* 23 (Res. for the Future, Discussion Paper No. RFF DP 09-17, Apr. 2009), *available at* http://www.rff.org/RFF/Documents/RFF-DP-09-17-REV.pdf ("[R]eturning revenues in a lump-sum manner in a so-called cap-and-dividend approach makes for an overall progressive policy [but n]ot surprisingly, expanding the Earned Income Tax Credit is even more progressive.").

31. Carbon Limits and Energy for America's Renewal Act, S. 2877, 111th Cong. (2009).

social norms as well.[32] This is particularly true in the context of climate change because climate change implicates the choices of individuals to a far greater degree than other environmental issues we have faced in the past.[33]

Most environmental problems of the past have stemmed primarily from the actions of large industrial facilities. But climate change is about a pollutant that is so ubiquitous, so widespread, and so tightly tied to one of the fundamental drivers of our economy—how we produce energy—that it is implicated in virtually everything we do. We are each adding to the store of greenhouse gases in the atmosphere every time we turn on our computers or get in our cars. Thus, while corporate decision making and corporate power are undoubtedly at the root of the problem[34] and must remain a primary target of any regulatory scheme to combat the climate crisis, individual decision making also plays a significant role in climate change.

Even if tomorrow we get all the electric utilities to cut their greenhouse gas emissions in half, if we as individuals keep leaving our computers on all night and buying bigger and better plasma TV screens, we are not going to solve the problem. Similarly, Detroit could start making more energy efficient cars, but if people keep increasing the number of miles they drive every year, it is not going to matter.[35] Studies

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32. *See* Richard H. McAdams, *The Origin, Development, and Regulation of Norms*, 96 MICH. L. REV. 338, 340 (1997); Lawrence Lessig, *The Regulation of Social Meaning*, 62 U. CHI. L. REV. 943, 949-50 (1995); Cass R. Sunstein, *Social Norms and Social Roles*, 96 COLUM. L. REV. 903, 910 (1996). McAdams defines social norms as "informal social regularities that individuals feel obligated to follow because of an internalized sense of duty, because of a fear of external nonlegal sanctions, or both." McAdams, *supra*, at 340.

33. *See* Amy Sinden, *Revenue-Neutral Cap and Trade*, [2009] 39 Envtl. L. Rep. (Envtl. Law Inst.) 10,944, 10,951.

34. Corporations are undoubtedly major drivers of the failure of our political institutions to confront the climate crisis and of the massive disinformation campaign that has created widespread public misunderstanding of the issue for the past two decades. *See* Amy Sinden, *Climate Change and Human Rights*, 27 J. LAND RESOURCES & ENVTL. L. 255, 265-66 (2007). And, indeed, corporations have had—and continue to have—an enormous influence on the decisions that individual consumers make, from buying SUVs to living in suburban McMansions. *See* Douglas A. Kysar & Michael P. Vandenbergh, *Introduction: Climate Change and Consumption*, [2008] 38 Envtl. L. Rep. (Envtl. Law Inst.) 10,825, 10829 (describing the prominent perspective that "views the modern consumer largely as a product of manufacturer and advertiser design, rather than as a sovereign rational actor").

35. *See* John C. Dernbach, *Overcoming the Behavioral Impetus for Greater U.S. Energy Consumption*, 20 PAC. MCGEORGE GLOBAL BUS. & DEV. L.J. 15, 19 (2007); *see also* Jack N. Barkenbus, *Putting Energy Efficiency in a Sustainability Context: The Cold Facts About Refrigerators*, ENVIRONMENT, Oct. 2006, at 11, 13, 16 (noting that though refrigerator efficiency has improved three- or fourfold since the 1970s, electricity demand from refrigerators "has remained comparable in absolute terms" as the size of refrigerators and number of units per household has increased).

have estimated that the emissions resulting from individual choices amount to thirty-two to forty percent of total U.S. carbon output.[36]

Social norms play a particularly important role in shaping individual behavior.[37] Accordingly, because tackling climate change means shifting not only corporate decision making, but individual decision making as well, it is important to think about potential climate change legislation not just in terms of the direct economic incentives it creates, but also in terms of its impacts on social norms.

If implemented thoughtfully, a cap-and-dividend program has the capacity to shift social norms by framing the climate change issue in a way that begins to bring into focus its moral content. The issuance by the government of a quantity of allowances equal to the cap—the legitimate or "safe" amount of greenhouse gas we as a community have decided to release into the atmosphere—and the distribution of the proceeds from those allowances to each individual in equal shares helps to frame the problem as one involving a limited but commonly owned resource to which each individual in the country has an equal claim. And once we frame the climate change issue that way within our own country, it is only a small step to extend that framing to the world as a whole. If we can see that justice requires that our own country's share of the absorptive capacity of the atmosphere be divided in equal shares among its citizens, surely we can see that the absorptive capacity of the global

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36. Michael P. Vandenbergh & Anne C. Steinemann, *The Carbon-Neutral Individual*, 82 N.Y.U. L. REV. 1673, 1690-91, 1694 (2007) (estimating 32% using statistics from 2000 and defining "individual behavior to include only those behaviors that are under the direct, substantial control of the individual and that are not undertaken in the scope of the individual's employment"); Shui Bin & Hadi Dowlatabadi, *Consumer Lifestyle Approach to U.S. Energy Use and the Related CO2 Emissions*, 33 ENERGY POL'Y 197, 205 (2005) (using statistics from 1997 to derive an estimate of 41%); *see also* GERALD T. GARDNER & PAUL C. STERN, ENVIRONMENTAL PROBLEMS AND HUMAN BEHAVIOR 258 (2d ed. 2002) (finding households responsible for 32.5% of U.S. energy use in 2000).

37. Social norms can sometimes shape corporate behavior as well, though the evidence on this is mixed. *See* Neil Gunningham et al., *Social License and Environmental Protection: Why Businesses Go Beyond Compliance*, 29 LAW & SOC. INQUIRY 307, 308 (2004) (arguing that environmental performance by pulp and paper manufacturing firms determined in party by "social license," that is, "the demands on and expectations for a business enterprise that emerge from neighborhoods, environmental groups, community members, and other elements of the surrounding civil society"); Dorothy Thornton et al., *When Social Norms and Pressures Are Not Enough: Environmental Performance in the Trucking Industry*, 43 LAW & SOC'Y REV. 405, 409 (2009) (arguing that social and normative pressures for better environmental performance are minimal in the highly competitive trucking industry made up of many low-visibility firms with low profit margins); Robert A. Kagan et al., *Explaining Corporate Environmental Performance: How Does Regulation Matter?*, 37 LAW & SOC'Y REV. 51, 58-60 (2003) (finding fourteen pulp and paper mills all overcomplied with legal water pollution requirements despite high pollution control costs); Alex Mehta & Keith Hawkins, *Integrated Pollution Control and Its Impact: Perspectives from Industry*, 10 J. ENVTL. L. 61, 65 (1998).

atmosphere is a common heritage of all humankind that must be divided in equal shares among all people on earth.

Thoughtful implementation of the program could make this framing more salient by drawing a clear connection between an individual's rebate check and her fair share of the cap—her "right" to emit some particular quantity of greenhouse gases. Thus, rather than simply mailing out dividend checks, the government could enclose with each check a clear notice explaining that it had just auctioned off, on that individual's behalf, her fair share allotment of, say, eighteen carbon allowances at a price of, say $13 each, and that the money in the enclosed check represents the proceeds from that sale. Perhaps the check itself might also state in bold lettering, something like: "Pay to the order of Jane Jones $250, the proceeds of her fair share allotment of eighteen carbon allowances, representing her right to emit eighteen tons of carbon dioxide or equivalent into the atmosphere." In this way, it might be possible to create, in some small measure, a symbolic link between the auction proceeds and each individual's fair share of the aggregate emissions cap, thereby helping to reinforce the notion that climate change policy involves the allocation of a scarce public resource.

This framing of the issue is far more consistent with the perspective of the developing world, and should make Americans far more amenable to an analysis of the international equity issues that views per-capita emissions rather than aggregate national emissions as the relevant unit of measure. Moreover, it could help to reinforce nascent norms in this country regarding individual carbon footprints and the moral imperative to minimize one's footprint.[38] If one's dividend is viewed as representing an individual's fair share of the absorptive capacity of the atmosphere, then one who keeps their actual carbon footprint at or below that amount would be doing her fair share in the fight against global warming. (This, of course, assumes that the cap has been set at a sufficiently low level to avert catastrophic climate change—a problematic assumption under the prominent bills now pending in Congress). If individual dividends came with a notice explaining the number of allowances, or "share of the atmosphere," the dividend represented in tons of CO_2, then one could imagine the dividend recipient sitting down at the computer and calculating her carbon footprint at one of the many carbon footprint calculators that have sprung up on the internet in recent years.[39] If her

38. *See* Sinden, *supra* note 33, at 10,952; Vandenbergh & Steinemann, *supra* note 36, at 1717-20.

39. J. Paul Padgett et al., *A Comparison of Carbon Calculators*, 28 ENVTL. IMPACT ASSESSMENT REV. 106, 106 (2008).

carbon footprint was more than her allotment of allowances, then she would know she was using more than her fair share of carbon and that she was going to come out behind financially. The money in her dividend check would be less than the extra money she would pay out in increased energy prices. But if her carbon footprint was lower than her allocation of allowances, then she would know she was coming out ahead—both morally and financially.[40]

Ultimately, the positions and attitudes of the international negotiators are shaped by the attitudes of the American public.[41] If the public's understanding of the climate change issue begins to shift in the ways described above, this could begin to have an impact on the dynamics that have so far stymied international talks.

V. CONCLUSION

On both the domestic and international fronts, efforts to address the climate crisis appear to have hit intractable logjams. On the domestic front, any effort to put a price on carbon seems like political suicide in the midst of the worst economic downturn since the Great Depression. On the international front, developed countries—particularly the United States—remain focused on the language of efficiency and markets, and

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40. While the match will not be perfect, we can assume that an individual's "fair share" allotment of carbon allowances should be worth an amount of money that roughly offsets the increased energy costs she would pay if she were using just her "fair share" of fossil-fuel-based energy, carbon-intensive consumer goods, and so on. This is because all the allowances issued will have to be bought up by fossil fuel producers to offset the CO_2 emissions embodied in each unit of fuel they sell. This will cause producers to increase the price of fuel and those price increases will be passed on to consumers all along the production stream, including consumers of fuel, electricity produced from fuel, goods that require fuel or electricity to produce, and so on. While, of course, there will be distortions, the total price paid to individuals for all of the allowances in the aggregate should roughly correspond to the total aggregate price increases throughout the economy due to the imposition of the allowance requirement on fuel producers. If these price increases, like the allowances, were evenly distributed among all consumers, then for each individual the price she received for selling her allowances would be roughly equal to the aggregate price increases she faced over the course of the year as a result of the regulatory program. In actuality, of course, the price increases will not be evenly distributed throughout the population. Those with carbon intensive life-styles—those who use a lot of energy or consume a lot of carbon intensive goods—will pay out more due to increased energy prices than they will receive from selling their allotment of allowances. On the other hand, those with low-carbon lifestyles will come out ahead—they will make more money from selling their allowances than they will have to pay out due to increased energy prices.

41. *See* Enrica De Cian & Alice Favero, *Fairness, Credibility, and Effectiveness in the Copenhagen Accord: An Economic Assessment* (Fondazione Eni Enrico Mattei, Working Paper No. 21.2010, Jan. 2010), *available at* http://papers.ssrn.com/sol3/papers.ctm?abstract_id=1564607 ("[An] important requirement for effective [international] climate policy is long-term credibility, which requires having a domestic constituency supporting the policy . . . .").

tone-deaf to developing country appeals that they think about climate change from the perspective of justice.

There are no easy answers to any of these dilemmas, but in the foregoing pages I have suggested that a cap-and-dividend approach to domestic climate change legislation might have the capacity to help to break both logjams. On the domestic front, because it would return the revenue collected from auctioning allowances to consumers in the form of a rebate check that should roughly offset increased energy costs, it would neutralize arguments that climate change legislation would impose financial hardship on consumers. At the same time, it might help to reinforce among the American public a justice-based conception of climate change that views the absorptive capacity of the atmosphere as a commonly held resource to which each individual has an equal claim. This might, in turn, begin to loosen the wedge currently separating the developed and developing worlds on the international front.