

Global Warming and International Cooperation Now:

Failing international climate politics and the non-ideal duties of the wealthy

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Debates over the achievements of the international climate regime or whether or not the Copenhagen Accord was a meaningful political step forward are all premised on the fact that international cooperation is at best a difficult and slow process. Within the context of the state system we have and given our history it is not obvious how we should judge what has been accomplished so far. The Kyoto Protocol and the Copenhagen Accord can at best be described as first steps towards genuinely effective international cooperation, yet at the same time the United Nations process has produced an impressive system of scientific assessment, information dissemination, and mobilization of political will. The Copenhagen meeting was unprecedented in bringing over a 100 heads of state and government to negotiate over an agreement on a particular environmental issue. Yet despite this kind of progress, judged against what we know large scale political systems can achieve the international climate regime is a failure on a potentially unprecedented scale. The international community has been trying to address the problem of global warming for over thirty years and seriously for at least the past twenty. Little progress on curbing growing Green House Gas (GHG) emissions has been achieved, and recent assessments indicate that we now have *within a decade* to start aggressively redirecting these powerful trends of increasing emissions into a rapid trend of decreasing emissions if we are to avoid dangerous levels of warming.¹

There is increasing academic focus on identifying alternatives to the existing climate regime that could in a distinct way set in motion the massive changes on the ground that are demanded by the climate problem. Among political theorists concerned with the global cooperative challenges some go so far as to call for the introduction of a supranational arrangement that could provide the global public good of climate change mitigation in a way similar way to how

¹ IPCC, "Mitigation of Climate Change - Summary for Policymakers," in *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* ed. B. Metz, et al. (Cambridge: Cambridge University Press, 2007).

states provide domestic public goods.² Political scientists and economists operating from the assumption that the current state system is a constant have instead focused their efforts on assessing alternative designs for the international climate regime that depart in one way or another from the broad-based and emissions-targets focused UNFCCC process.³ Here we see suggestions on how the scope of agreement can be broken down or diminished either in terms of participants and/or objectives to improve the prospects for short-term cooperation.

The problem with both of these approaches is that neither focuses our normative attention where it should be here and now. The former approach correctly sees the problem in terms of cosmopolitan and intergenerational justice but fails to appreciate the very short time frame for action. The later approach correctly focuses on short-term policy prescriptions but exaggerates the degree to which the lack of cooperation can be addressed as an international regime design problem. The inaction we witness today is largely due to the extra ordinary malignancy of the global collective action problems we currently face and there is no simple way to redesign the structure of international negotiations so that cooperation will be more likely while also ensuring that environmental goals will be met.

A clear assessment of why international cooperation is so difficult to achieve shows that one of the few ways available to improve the prospects for cooperation is to reduce uncertainties about restructuring our economies to radically reduce GHG emissions. In this regard many individual wealthy states are specially positioned to improve the prospects for effective international cooperation. They can do this by 'going first' and implementing domestic policies that over the short term produce investment in and adoption of new technologies and infrastructure *at a scale* that can reduce uncertainty about what is required on the ground to tackle the threat of global warming. This empirical assessment raises a familiar normative question; can members of a political community that are willing to undertake their fair share of the global mitigation burden have duties of justice to do more in an effort to make it more likely that others will also cooperate? I will argue that in the case of climate change members of wealthy political communities do have additional non-ideal duties of justice to go first. These non-ideal duties are, I will argue, grounded in the special role highly developed states have played in creating the conditions that make meaningful international cooperation so hard to realize.

In Section 1, I will outline of why dealing with global warming presents such a difficult political challenge. Understanding the character of the international political problem in detail will make it possible to defend in Section 2 the claim that individual developed states are specially positioned to change the character of international climate politics by acting as policy, technology and infrastructure leaders. Finally in Section 3, I will address the question of whether

² See for example, Thomas Pogge, "Cosmopolitanism and Sovereignty," *Ethics* 103, no. 1 (1992)., Peter Singer, *One World*, 2nd ed. (New Haven: Yale University Press, 2004)., Aaron Maltais, *Global Warming and Our Natural Duties of Justice: A Cosmopolitan Political Conception of Justice* (Uppsala: Acta Universitatis Upsaliensis, 2008)., Gillian Brock, *Global Justice : A Cosmopolitan Account* (Oxford: Oxford University Press, 2009).

³ For some examples of this kind of analysis see Joseph E. Aldy and Robert N. Stavins, *Architectures for Agreement: Addressing Global Climate Change in the Post-Kyoto World*. (Cambridge: Cambridge University Press, 2007).

or not wealthy political communities can have non-ideal duties of justice, over and above their fair share of the global mitigation burden, to act as leaders.

Section 1 - *Why is Cooperation so Difficult in the Case of Climate Change?*

Human induced global warming is sometimes referred to by economists as the biggest and most complicated market failure in history and mitigation as the preeminent global commons problem.⁴ Empirical evidence shows that there are conditions where common pool resources, including global commons, can be successfully protected on voluntary terms.⁵ However this evidence does not lead to optimism in the case of climate change. The easiest way to understand why is to compare the case of climate change with the case of ozone depletion. Ozone depletion has the same basic characteristics of being a market failure (specifically a stock externality) where mitigation is a global public good that raises the theoretical prospect of a failure to achieve sufficient cooperation. However, in the case of ozone we find a great deal of mitigation success over just a few decades while there has been little success in curbing growing GHG emissions over a similar period of time.⁶ In this section I highlight five problem features that were positive for achieving international cooperation in the case of mitigating ozone depletion but that are negative in the case of climate change.

First, in the ozone case twelve countries accounted for 78% of the damaging emissions when the Montreal Protocol was ratified, just a few firms were responsible for a very large percentage of all production in the US (the largest emitter), and the numbers of economic sectors associated with chlorofluorocarbon (CFC) emissions were limited.⁷ Currently some twenty countries account for approximately 80% of global CO₂ emissions.⁸ However, the U.S. Energy Information Association estimates that energy related CO₂ emissions will increase by 39% between 2006 and 2030. On current trajectories China and India will account for 34% of global emissions in 2030, other non-OECD countries will account for 30%, and OECD countries will account for 36%.⁹ Because of the levels and distribution of emissions growth our planning today for mitigation must encompass most regions of the world. Even more importantly GHG

⁴ See for example, Joseph E. Aldy and Robert N. Stavins, "International Policy Architecture for Global Climate Change," in *Architectures for Agreement*, ed. Joseph E. Aldy and Robert N. Stavins (Cambridge: Cambridge University Press, 2007), Kenneth J. Arrow, "Global Climate Change: A Challenge to Policy," *Economist's Voice* (2007), Nicholas Stern, *The Economics of Climate Change: The Stern Review*. (Cambridge: Cambridge University Press, 2007), 1, Richard S. J. Tol, "The Economic Effects of Climate Change," *Journal of Economic Perspectives* 23, no. 2 (2009).

⁵ See, Elinor Ostrom, *Governing the Commons : The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 1990), Scott Barrett, *Environment and Statecraft: The Strategy of Environmental Treaty-Making*, paperback edition ed. (Oxford: Oxford University Press, 2005).

⁶ See Thomas Dietz, Elinor Ostrom, and Paul C. Stern, "The Struggle to Govern the Common," in *Uran Ecology*, ed. John M. Marzluff, et al. (New York: Springer, 2008), 612 (Fig.2).

⁷ Todd Sandler, *Global Collective Action* (Cambridge: Cambridge University Press, 2004), 217.

⁸ UNEP, "Global Green New Deal: An Update for the G20 Pittsburgh Summit," 21 (UNEP, 2009). Accessed online May 2010 at: http://www.unep.org/pdf/G20_policy_brief_Final.pdf

⁹ Calculated based on data from, Energy Information Association (EIA). "International Carbon Dioxide Emissions from the Consumption of Energy and Carbon Intensity Tables." International Energy Annual 2006. Washington, DC. Accessed online May 2010 at: <http://www.eia.doe.gov/emeu/international/carbondioxide.html>

emissions involve virtually all economic sectors. Having to coordinate many relevant actors with different kinds of interests in relation to a common-pool resource makes it less likely that cooperation can be achieved on voluntary terms.¹⁰

Second, ozone depleting pollution came largely from developed countries of the North and the costs associated with ozone depletion fell heaviest on these same countries.¹¹ In the case of climate change highly developed nations are responsible for the majority of the current stock of GHGs in the atmosphere and will continue to have much higher per-capita emissions levels than developing countries.¹² As such the greatest mitigation costs will fall on developed countries while it is expected that developing regions of the South will tend to be more vulnerable to the effects of climate change due to a combination of a greater share of the most negative impacts, greater dependence on climate sensitive natural systems, and less capacity for adaptation.¹³

Third, in the ozone case the US estimated that it would incur large economic benefits from unilateral reductions.¹⁴ The fact that the US was the largest single emitter combined with its incentive structure and influence gave credibility to its push for international action, and made the US a natural leader. As a result a set of similarly placed developed countries were willing to cutting their emissions, make transfers to secure developing country participation and technological uptake, and to accept the costs associated with using the potential of trade restrictions to influence participation in and compliance to international treaties.¹⁵ In the case of climate change there is no single country that has clear welfare interests in aggressively mitigating unilaterally given that even the biggest emitters will need most of the world's major players to also act if they are to secure meaningful environmental benefits.

Fourth, measurable recovery of the ozone layer was expected to arrive by 2025 with benefits from recovery arriving already in 2050.¹⁶ In the case of climate change the very long atmospheric life of CO₂ creates long time lags before we see the impacts of mitigation efforts. As a result any costs we take on now will benefit future generations much more than they could benefit us and regardless of the climate effects future generations are suffering any mitigation

¹⁰ Elinor Ostrom, Roy Gardner, and James Walker, *Rules, Games, and Common-Pool Resources* (Ann Arbor: University of Michigan Press, 1994), Sandler, *Global Collective Action*, Chapters 2 & 10.

¹¹ Ozone depletion is worse at higher hemispheres and lighter skinned people run a higher risk of skin cancer associated from this depletion.

¹² See Energy Information Association, "International Energy Outlook: 2009," (Washington, DC: EIA, 2009), Figure 88.

¹³ See IPCC, "Climate Change Impacts, Adaptation and Vulnerability - Summary for Policymakers," in *Climate Change 2007: Climate Change Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* ed. S. Solomon, et al. (Cambridge: Cambridge University Press, 2007).

¹⁴ Scott Barrett, "Critical Factors for the Successful Provision of Transnational Public Goods," (Stockholm, Sweden: Secretariat of the International Task Force on Global Public Goods, 2004), 24.

¹⁵ Scott Barrett and Robert Stavins, "Increasing Participation and Compliance in International Climate Change Agreements," *International Environmental Agreements: Politics, Law and Economics* 3 (2003): 365.

¹⁶ It is now expected that somewhere between 2030 and 2070 the ozone will recover to 1980 levels (Patrick L. Barry and Tony Phillip, "Good News and a Puzzle: Earth's Ozone Layer Appears to Be on the Road to Recovery," (National Aeronautics and Space Administration, 2006)).

they undertake will also largely benefit generations after them.¹⁷ In addition to the timeframe of costs versus benefits, there was also more certainty about the pay offs from mitigation in the ozone case. The US expected a benefit to cost ration of 170:1 for the Montreal Protocol and 65:1 for *unilateral* action leaving room for a large margin for uncertainty.¹⁸ One of the most positive cost-benefit assessments for mitigating global warming, *The Stern Review*, finds that mitigation costs of no more than 1% of yearly global gross domestic product (GDP) will allow us to avoid yearly damages of 5% to 20% of global GDP at the end of this century and thereafter.¹⁹ It is important to note that the Stern review, like most similar assessments, makes assumptions about perfect policy implementation and full global cooperation, but as soon as we make moves away from such assumptions the costs of mitigation can rise quite dramatically.²⁰ Assessing future welfare damages based on already uncertain assessments of the physical impacts along a range of possible warming scenarios when we know that real world policy responses and mitigation efforts will be imperfect is going to produce very large uncertainties on both the mitigation cost and expected damage sides of such estimates.²¹

Fifth, in the ozone case effective international action was greatly aided by the availability of inexpensive and relatively uncomplicated replacement technologies.²² In the case of climate change the cost and scope the technology problem are many orders of magnitude more challenging.²³ Although some combination of Carbon Capture and Storage (CCS), nuclear, and large scale renewable appears in theory to have the capacity to meet energy and climate demands, Kannan notes that these alternatives “are fraught with a range of uncertainties... political (nuclear), technical (challenges in large scale deployment of CCS and wind), perceived market risks (private vs. public sector investment, desirable discount rate, carbon price, electricity price volatility), future cost assumption (global technology diffusion, resources price) and prospective for R&D (marine stream, nuclear fusion) and so on.”²⁴

The comparison of the ozone and climate cases is summarised in Table 1.

¹⁷ Stephen M. Gardiner, "The Real Tragedy of the Commons," *Philosophy and Public Affairs* 30, no. 4 (2001): 404.

¹⁸ Scott Barrett, *Environment and Statecraft: The Strategy of Environmental Treaty-Making*, paperback edition ed. (Oxford: Oxford University Press, 2005), 228.

¹⁹ Nicholas Stern, "Stern Review: The Economics of Climate Change (Executive Summary)," (2006). Accessed online May 2010 at: http://www.hm-treasury.gov.uk/media/4/3/Executive_Summary.pdf

²⁰ John P. Weyant, "A Critique of the Stern Review's Mitigation Cost Analyses and Integrated Assessment," *Review of Environmental Economics and Policy* 2, no. 1 (2008): 79, 83, 86-87.

²¹ See for example Geoffrey Heal, "Climate Economics: A Meta-Review and Some Suggestions for Future Research," *Review of Environmental Economics and Policy* 3, no. 1 (2009), Dieter Helm, "Climate-Change Policy: Why Has So Little Been Achieved?," *Oxford Review of Economic Policy* 24, no. 2 (2008), Tol, "The Economic Effects of Climate Change."

²² Barrett, *Environment and Statecraft: The Strategy of Environmental Treaty-Making*, 234-35.

²³ For example, the IEA estimates that getting onto a 450 ppm trajectory would require up to 2030 an extra 10.5 trillion US dollars in energy investment over the 26 trillion dollars needed just to keep up with energy demand (International Energy Agency, "World Energy Outlook 2009: Executive Summary," (Paris: IEA, 2009).

²⁴ R. Kannan, "Uncertainties in Key Low Carbon Power Generation Technologies," *Applied Energy* 86, no. 10 (2009): 1874.

Table 1: Five features that determine the prospects for mitigating the depletion of global common-pool resources

	OZONE DEPLETION	GLOBAL WARMING
	Positive for international cooperation	Negative for international cooperation
1. Number of actors	A few key actors with similar interests and limited number of industry players	Several important and diverse actors and virtually all major industries
2. Where damages will be most sever and where mitigation costs will be highest	Tend to coincide territorially	Tend to diverge territorially
3. Natural Leaders?	Yes, the United States	No
4. Timeframe of Impacts and Level of Certainty About Benefits from Mitigation	Near term benefits from mitigation Exceptionally positive cost/benefit assessments (CBA) gives us a high level of certainty	Benefits come far off into the future Less positive CBAs and more modelling uncertainty gives more uncertainty generally about both costs and benefits
5. Technical Complexity and Costs	Low, known, and inexpensive	High, unknown, and expensive

Climate change has characteristics of a collective action problem to protect a global common-pool resource where the credible threat of free-riding makes effective self-enforcing international coordination on mitigation policies difficult to achieve. The long time lag between mitigation costs and gains from avoided global warming create further incentives for inaction or delay. These features of the problem combined with the levels of cost, technical complexity, and uncertainty involved in restructuring our economies means that in practical terms, as Dieter Helm puts it, it is “hard to think of an international problem which lends itself less to a coherent, credible, and sufficiently, robust and comprehensive general agreement. To put it in perspective, limiting nuclear proliferation is trivial by comparison.”²⁵ Given the extremely limited amount of time for action the question should be which of features 1 though 5 can we do something about here and now?

Section 2: *The Special Role of Wealthy States*

In response to the challenges outlined above, especially since COP 15 in Copenhagen, there are increasingly calls for redesigning international negotiations to address the first feature from Table 1, the number of actors who need to reach an agreement.²⁶ The recommendation is for some alternative process or forum than the existing UN process that currently requires

²⁵ Helm, "Climate-Change Policy: Why Has So Little Been Achieved?."

²⁶ Robert Stavins, "Another Copenhagen Outcome" (2010), Accessed online May 2010 at:

<http://belfercenter.ksg.harvard.edu/analysis/stavins/?p=496>, David G. Victor, "Toward Effective International Cooperation on Climate Change: Numbers, Interests and Institutions," *Global Environmental Politics* 6, no. 3 (2006).

consensus from all participating states in order to arrive at binding agreements. There do appear to be good reasons to focus on the number of actors in international efforts. The territorial location of impacts, the lack of natural leaders, and the time frame of impacts (2-4) are most obviously attributes of the global warming problem that cannot be changed through regime design. Meanwhile opportunities to in some way limit the scope of international agreements seems promising given that some twenty states account for more than 80 % of global emissions. Yet, at the same time there are a host of reasons to be sceptical over the extent to which we could easily improve the prospects for international cooperation by focusing on smaller forums for agreement.

The first thing to note, is that it is not just the major states but all major economic sectors that need to be coordinated in a global mitigation effort. Second, we already have smaller forums where negotiating over climate change does take place, especially the G20 but also the Major Economies Forum.²⁷ These smaller groups have not yet produced cooperative results that can be said to getting us off the path of international inaction. As Depledge and Yamin point out, "engaging only the main emitters would still generate the same political conflicts as in the global regime as, almost by definition, it is they who have the strongest positions."²⁸ Furthermore, within the UN process itself it is usually only 20-30 important players that are active.²⁹ Note that the claim here is not that reform of the UN process is unimportant or that other more demarcated international forums are not necessary. There is a case for both of these positions.³⁰ However, there is also a risk in overstating the potential improvements international regime design can provide.

The proposal in this paper is that we should shift more focus onto the individual owners of this failing international process, states, especially highly developed wealthy states. These states are specially positioned to do something about feature 5 above, namely reducing uncertainty about the technological complexity and costs of making a transition to low-carbon energy systems and economies. Addressing uncertainty is crucially important because some of the most extensive empirical research on when international environmental regimes are affective and when they are not shows that the difficulty of addressing an environmental problem need not be that determinative of success or failure, but that the combination of a hard problem with uncertainty is toxic.³¹

Peter Haas makes the point that,

A concerted push for national-level research and development on energy alternatives across a wide portfolio of technologies could help build the political will

²⁷ Robert O. Keohane and David G. Victor, "The Regime Complex for Climate Change," (Cambridge, Mass.: Harvard Project on International Climate Agreements, 2010).

²⁸ Joanna Depledge and Farhana Yamin, "The Global Climate Change-Regime: A Defence," in *The Economics and Politics of Climate Change* (Oxford: Oxford University Press, 2009), 451.

²⁹ Ibid.

³⁰ See Keohane and Victor, "The Regime Complex for Climate Change."

³¹ For an overview see Helmut Breitmeier, Arlid Underdal, and Oran R. Young, "The Effectiveness of International Environmental Regimes: Comparing and Contrasting Findings from Quantitative Research " in *International Studies Association, 2009 Annual Conference* (2009).

for stronger international cooperation. Such a push is likely to be sustained in most of the major industrial and industrializing countries because it serves several policy goals: reducing dependence on high priced energy sources, reducing vulnerability to fuel supply interruptions, and stimulating niches in new green markets. By supporting national technological breakthroughs, better policy alternatives will become commercially viable and economic constituents for international action will be mobilized.³²

The claim is not that individual wealthy states have the capacity unilaterally solve the technology challenge for addressing climate change. We will need international cooperation to achieve carbon price signals internationally that will mobilize the scale of both public and private resources necessary, there will have to be technological and infrastructural innovation in a great number of states if we are to achieve economically viable alternatives, and we will need international agreements that can facilitate the diffusion of new technologies globally.³³ However, individual wealthy states are specially placed to be first adopters of policies, investments and technologies *at a scale* that can genuinely reduce uncertainty about the demands involved and make international cooperation much less politically difficult.³⁴

There are large lags in the development of new energy structures and,

Energy structures have long lifetimes, ranging from 10-15 years for cars to 20-60 years for energy supply facilities and plants to hundreds of years for buildings. Unless low-carbon technologies are deployed over the next two decades, the world will be locking-in to high enough CO₂ emission levels to break most reasonable emissions budgets.³⁵

Thus the short time period for action, the time necessary for technological learning, development and deployment, and the toxicity of uncertainty for international cooperation all give us good reason to focus on what wealthy states are or are not doing domestically to change the international inertia we are currently witnessing.

Section 3: *The Duty of Justice to Go First Domestically*

Accepting the reasoning from the former two sections we are faced with the question of whether or not the members of wealthy political communities can have duties of justice, via their respective states, to adopt costly domestic clean energy policies in an effort to make the

³² Peter M. Haas, "Climate Change Governance after Bali," *Global Environmental Politics* 8, no. 3 (2008): 5.

³³ Scott Barrett, "The Coming Global Climate-Technology Revolution," *Journal of Economic Perspectives* 23, no. 2 (2009), 69-70.

³⁴ One might think that an international technology agreement is an even better option, but many of the difficulties found in current negotiations would also inhibit international agreements for technological development (Scott Barrett, "Climate Treaties And 'Breakthrough' Technologies," *The American Economic Review* 96, no. 2 (2006).

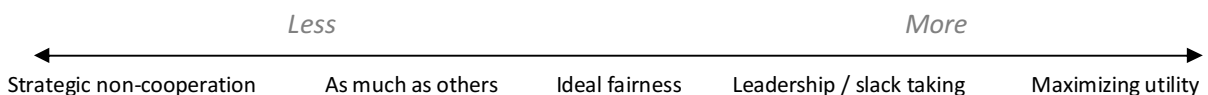
³⁵ Kelly Sims Gallagher, "Acting in Time on Energy Policy," in *Acting in Time on Energy Policy*, ed. Kelly Sims Gallagher (Washington, D.C.: Brookings Institution Press, 2009), 23.

prospects for international cooperation better. Given the non-ideal facts that international cooperation is weak, that we have a very short-time frame for action to avoid dangerous global warming, and that a *supranational* political solution is not available within this timeframe, do individual wealthy political communities have duties of justice to act as leaders?

Note that I am assuming that one can normatively defend the idea that individuals sometimes have duties that must be satisfied collectively via a shared political community (the relevant ones in this case being states).³⁶ I am also assuming that in the case of climate change political communities do have a duty of justice to cooperate with others to avoid dangerous levels of warming and to take on a fair share of the burdens in this cooperative scheme. I am also arguing, with good reason, that the prospects for being able to positively affect the problem of international non-cooperation by acting domestically as clean-energy leaders are good *compared* to the other options available. Finally, I am defining the burdens of leadership as being additional to a political community's ideal fair share. Acting as clean technology and infrastructure leaders with a context of weak international cooperation will be more costly than employing least cost alternatives to achieve steadily increasing reductions assuming perfect international cooperation. More generally the point of leadership is to take on costs aimed at eventually getting to conditions where most states are doing their fair shares, and as such these costs are additional to a political community's ideal fair share to a significant extent.

There are five broad options agents can take in the face of non-cooperation: maximize utility despite others' failure to contribute, do more than one's ideal fair share but not aim for a maximizing standard, do one's ideal fair share, do as much as others are actually doing, and finally do less than others are actually doing. Strategic non-cooperation (doing less than others) can be normatively relevant in global public goods cases because strategic non-cooperation is often one of the few avenues available to compel other states to cooperate. Figure 1 below gives a spectrum of the non-ideal options available in the face of non-compliance or non-cooperation.

Figure 1: Range of non-ideal options in the face of non-compliance or non-cooperation



I will not address the option to maximize utility as it is beyond the scope of this paper to discuss reasons for not adopting utilitarianism as a foundational theory of practical reason. I will be chiefly concerned with the case for ideal-fairness versus the case for taking up the slack to some extent, although at the end of the section I will speak to doing less than one's ideal fair share. The discussion to follow will take the form of asking if a political community that is already taking on their ideal fair share of the global mitigation burden could have a non-ideal duty of justice to take on the additional burdens of leadership. This approach does not assume that any

³⁶ This assumption requires a full defense of its own (see for example Seumas Miller, "Collective Moral Responsibility: An Individualist Account.," *Midwest studies in Philosophy and Education* 30 (2006).). Note however that non-ideal facts about the means available to do something about climate change should improve the plausibility of this type of reasoning for my case.

actual states are in fact already doing their ideal fair share, nor is it intended to understate the importance of financing adaptation.

Within the normative literature on climate change there are a host of proposed criteria on how to identify fair shares of the mitigation burden including: historic responsibility, equal emissions rights, equal sacrifice, and capacity to pay. I will not give an account of which principle or combination of principles is the correct one for identifying each state's fair share. This paper is only concerned with principles for dealing with the problem of non-cooperation based on the assumption that some standard for establishing fair shares (i.e. ideal) has been identified. Specifically for the case of climate change, Simon Caney has defended the position that wealthy states ought to take up the slack when other states fail to cooperate while David Miller has argued that it cannot be a demand of justice to do so.³⁷ The discussion to follow is advanced in relation to the arguments advanced by these two theorists.

Caney argues that distributing the burdens of addressing climate change based on the polluter pays principle is in various respects inappropriate or insufficient.³⁸ One reason for this is that in any real world effort to address the problem of climate change there will be non-cooperators. Caney argues that we cannot simply accept such failure to take on burdens because they would result in major violations of rights not to be made to suffer avoidable and harmful global warming, especially those of the poor and future generations.³⁹ Because the polluter pays principle does not give us guidance on who ought to take up the slack created by non-cooperation an additional principle is required. He argues that if "the choice is of either ascribing duties to the poor and needy or allowing serious harm to befall people (many of whom are also poor and needy) or ascribing duties to the most advantaged it would seem plausible to go for that third option."⁴⁰

Miller accepts the idea that people have rights not to have harms from global warming avoidably imposed on them and that these rights will entail duties of justice among existing agents to share in mitigation burdens.⁴¹ He also agrees that when a great harm will be caused by non-cooperation this fact gives those with a capacity pay strong moral reasons to take up the slack of non-cooperators, however these moral reasons do not amount to a duty of justice. Miller argues that appealing to a capacity to pay as grounds for additional non-ideal duties of justice would fail to treat individuals or political communities as 'responsibility-bearing moral agents.'⁴²

³⁷ Simon Caney, "Cosmopolitan Justice, Responsibility, and Global Climate Change," *Leiden Journal of International Law* 18 (2005), David Miller, *Taking up the Slack?: Responsibility and Justice in Situations of Partial Compliance*, ed. C. Knight and Z. Stemplowska (Oxford: Oxford University Press, forthcoming).

³⁸ Caney, "Cosmopolitan Justice, Responsibility, and Global Climate Change," Simon Caney, "Environmental Degradation, Reparations, and the Moral Significance of History," *Journal of Social Philosophy & Public Affairs* 37, no. 3 (2006).

³⁹ Caney, "Cosmopolitan Justice, Responsibility, and Global Climate Change," 768.

⁴⁰ *Ibid.*: 772.

⁴¹ Miller, *Taking up the Slack?: Responsibility and Justice in Situations of Partial Compliance*.

⁴² *Ibid.*

Miller helpfully suggests that we imagine, as a thought experiment, that an enforcer comes on the scene even when we know that this will not happen. When the enforcer is unable to get non-compliers to cooperate the question to ask is if the enforcer could be justified in turning her attention to the compliers and forcing them to take up the slack. The thought experiment is helpful because it sharpens our reasoning about how weighty of a duty is at issue by introducing a distinction between moral duties that we can justifiably be coerced to fulfill (i.e. by political authorities) and those we cannot be justifiably coerced to fulfill.⁴³ Following Miller I will call the former duties of justice and the later moral duties, although I would expect that these terms run the risk of less clarity than the distinction itself.⁴⁴

Miller offers the following example to illustrate,

A poor person has been robbed. I cannot force the thief to hand back what he has taken, but I can force a rich person (not involved in the robbery) to hand over an equivalent amount to the victim. The cost to the rich person, we can assume, is considerably less than the cost that the theft has inflicted on the poor person.... How does this bear on the justice or injustice of the proposed enforcement? It would not be just to force the rich person to hand over his money. If I can persuade him to do so by appealing to his concern for the poor man, that would be good. But given that he is not responsible for the original theft, compulsion would fail to respect him as an agent. This shows what is wrong...with...what we might call 'justice consequentialism' which instructs us to act so as to bring about the outcome with least injustice regardless of the means we use⁴⁵

The concern is that by assigning non-ideal duties based on a capacity to pay wealthy agents would regularly acquire duties of justice whenever they could prevent great harms. Such a principle would *generally* fail to be moved by the normative standards that 1) individuals should only be held responsible for their own duties of justice and 2) that treating individuals as rights bearers requires that these rights cannot regularly be violated to arrive at outcomes that are considered just. The implications of the way Caney presents his capacity based argument appear to go far beyond cases like climate change.

Let us accept that there is at least some strong intuitive force behind the concerns Miller highlights. Nevertheless, accepting Miller's principle and applying it to the case of avoidable and damaging climate change seems to lead to a problem. If we have a duty of justice to stop harming by mitigating climate change but that duty amounts to no more than our fair share under ideal conditions, then given what we know about the international cooperative challenges we also know that simply doing our ideal fair share is not likely to get us off the path of inaction. Mitigating our own emissions will reduce our contribution to the stock of GHGs, but

⁴³ The enforcement criterion is only taken to be one among several useful ways in which we can give a more specific account of how weighty a duty is.

⁴⁴ A murder (without further qualification) seems to be primarily an immoral as opposed to unjust act if we take the concept of justice to be bound up with political institutions. The threat of murder would justify coercion by an enforcer irrespective of the institutional context or lack thereof.

⁴⁵ Miller, *Taking up the Slack?: Responsibility and Justice in Situations of Partial Compliance*.

it is the lack of extensive international cooperation to prevent dangerous increases in *the total stock* of GHGs that is harming future generations. If we adopt as a general principle for all agents that they do not have duties of justice to do more in non-ideal conditions we knowingly make it likely that the unjust harm of unmitigated climate change will not be avoided. The concern is that following Miller's principle agents will not see the demands of leadership as entailing a weighty duty and that no one of them will act to move us towards improving the prospects for international cooperation.

The clear objection to this worry is that if most agents did their ideal fair shares, as they could, the harm would be avoided. Reasoning about non-ideal problems using the kinds of thought experiments common in the literature, such as those employing drowning people in a pond, will rightly lead one to think along these lines. In straightforward ponds examples the content of the burdens that must be distributed in ideal conditions is not different than the content of the burdens that must be distributed in non-ideal conditions. However, I will argue that in the real world case of climate change the non-ideal problem is not just the same distributive problem that exists in the ideal plus the simple moral failure of some duty bearing agents to cooperate. Rather, what we have in the case of climate change is the problem of sharing mitigation burdens and the *separate and additional* problem of having very poor *conditions* for collective action. What I am proposing is that members of wealthy political communities have additional non-ideal duties of justice to do their fair share in addressing the additional problem of improving the prospects for international cooperation. Wealthy political communities have this additional duty in virtue of the disproportionate benefits their members enjoy as a result of the processes that have created what may be the most important global cooperation problem the world has faced.

To defend these propositions, I will first show that it does make sense to say that non-ideal conditions present use with a separate and additional problem that is not present in ideal conditions. Next I will show that my argument for additional non-ideal duties of justice does not run up against Miller's concerns about failing to treat political communities and their members as responsibility-bearing moral agents. Finally I defend my argument against the claim that the appeal to historic responsibility is not appropriate for the case of climate change.

Separate and additional non-ideal duties of justice

Imagine that four hoodlums each push one person into a pond and all four of the victims are now drowning. Each of the four hoodlums has a duty of justice to rescue the person that they pushed into the water. Two hoodlums are slacking (murderers) while two hoodlums are doing their fair share (rescuers). The rescuers could both, without reaching excessive demands, save the two remaining victims. On Miller's view the rescuers each have strong moral reasons to save the remaining drowning people but they do not have a duty of justice to do so. In other words, it would be wrong for an enforcer to coerce them into saving these additional people. Obviously this view is already controversial given the extent of the harm involved, but let us here accept Miller's position.

There are two distributive questions in this standard pond example, 'what is a fair share for each of the duty bearing agents,' and 'does the fact of non-compliance change what a fair share

is for individual agents?' However, this second distributive question is entirely the fault of non-compliers and if we tell compliers to treat non-ideal conditions as presenting them with a separate and additional problem where they are once again to count as duty-bearers we are telling them to share a set of burdens that exist purely in virtue of the moral failure of some set of agents among them. This appears to fail as a standard of justice because it gives unjust agents the power to make someone else picking up their slack a condition for this other agent being counted as just. It seems problematic to adopt a principle where others' failure to do what justice requires *directly* legitimizes the use of coercion by an enforcer on an individual who is acting in accordance with what justice requires.

I have proposed that the global cooperative challenge in the climate case is something additional to the plain fact of non-cooperation one finds in typical pond examples. To defend this reasoning I must make the case that this feature of non-ideal circumstances is not simply due to the blatant moral failure of some agents. I must also show that those willing to cooperate can plausibly be demarcated as duty-bearers in a way that does not give power to maliciously unjust agents to actively manipulate conditions so that others acquire duties to take on burdens that rightfully should be theirs. To advance these arguments it will be helpful to make a comparison between standard pond cases and the case of climate change.

In the case of the pond we have good guys and bad guys but in the climate change case one cannot easily conceive of actors in this way. A significant part of the explanation for different political positions in climate politics is that these states find themselves in different circumstances. In addition to general moral concerns over the impacts of climate change on human welfare (that appear to be widely held), governments are concerned with the nearer term economic welfare of their states, with the longer term impacts climate change will have on their territories and economic interests, with their relative position to other states economically and within the sphere of international politics, with the domestic political implications of any international commitments they take on or fail to take on, and so on. Even at this very basic level of analysis it is already clear why, for example, small island states that potentially run the risk of disappearing find the ambition of limiting global warming to 2 °C to be far too risky, while for India and China their domestic conditions make it of crucial importance to ensure that economic growth is not seriously hampered by the international climate regime.

In standard pond thought experiments there are no understandable reasons for why the slackers fail to act. They are acting immorally in a fairly immediate and blunt fashion that runs counter to our intuitions about reasonable costs and about how we would normally expect individuals to respond in like situations. However, in the real world climate case we can identify a range of features among the political obstacles to achieving cooperation that make inaction not justifiable but understandable. In fact, inaction in the climate change case is *typical* given the kind of global public goods problem it presents states with and given the fact that the costs for mitigation must be met over the short term while the large majority of benefits arrive far off into the future. The case of global warming is only special in the level of difficulty involved in establishing a set of institutional conditions that can deal with the cooperative problem.

Finally, the climate change case is not only about rectifying an unjust harm but about stopping an ongoing and increasing *harmful process*. It is the process of industrialisation, the development of highly consumptive economies, and the globalisation of these economic structures lead by wealthy industrialised states that have been the chief drivers of human induced global warming. These exact same processes have also been the chief drives in creating the international cooperation problems we now confront.

Once we see how achieving conditions conducive to supporting collective action is the central problem we face in non-ideal conditions, we can also see how non-ideal conditions present us with an additional problem to the distributive question of assigning fair-shares of the mitigation burdens. On my view the members of wealthy states share in a duty to take on their fair share of a global mitigate burden *and* a duty to contribute to rectifying the conditions that have put humanity at risk of getting stuck in a highly destructive pattern of non-cooperation. Wealthy states have not of course intended to generate a highly problematic and dangerous global collective action problem, but their instrumental role in creating this problem and the relative advantages such countries have in virtue of this role nonetheless generate remedial duties of justice to act as leaders.

The upshot of my argument so far is that we can defend the view that wealthy political communities have duties of justice to take on additional burdens so as to address the failure to cooperate by other agents. However, unlike Caney I defend this claim by appealing to a principle along the lines of a ‘beneficiaries of polluting processes pay’ principle. Those members of the political communities that have been primarily responsible for leading us into a global cooperation problem, have most benefited from these global processes and have special remedial responsibilities to lead us out. As a result the duty I am proposing is limited to fair shares of the demands of leadership, while Caney’s principle ends up entailing the more demanding claim that the wealthy ought to cover the duties of those that fail to act when the harms involved are great simply because the wealthy have more capacity to do so.

One advantage of my argument is that it shows that it is too simplistic to think of the potential demands of justice in non-ideal conditions as only having to do with the mitigation burdens non-cooperates fail to satisfy. Furthermore, because highly developed political communities can be identified as duty-bearers with the primary *responsibility* (not simply capacity) to do address the non-ideal global cooperative challenge, it seems that Miller’s hypothetical enforcer would be justified in using coercion to get these agents to satisfy their non-ideal responsibilities just as it is justified in doing so to get agents to take on their fair share of the mitigation burden. As we will see in the next section, my argument also avoids the kinds of objections Miller has advanced in response to Caney’s approach.

Treating members of political communities as responsibility-bearing moral agents

The central concerns with insisting that compliers to do more in non-ideal conditions are that it would 1) not treat individuals or individual political communities as responsibility-bearing moral agents and 2) that adopting and advertising such a principle would give those who act unjustly the opportunity manipulate conditions so that others are encumbered with their duties of justice. As to the first concern, the additional duty of justice to address the global cooperative

problem is placing responsibility to do something additional on those agents that have a capacity to do so *because* of what capacity to pay indicates about a political community's remedial responsibility for non-ideal conditions. As to the second concern, assigning responsibility for the duty to improve the prospects for international cooperation in the way I have describe does not give those who are unjust the power to manipulate conditions so as to unfairly place burdens on those who are fulfilling their duties. This is because it is a combination of features that have created the climate change global cooperation problem and no state has the power to maliciously manipulate *this set* of features. There is of course the problem that some wealthy states may strategically wait for other's to go first in the transition to low carbon economies. However, it should be recalled that what I am proposing is that members of political communities take on their fair share of the leadership burden, not that these collectives should take on burdens until a global transition to low carbon economies is achieved.

The actions of states may of course be giving the appearance that there is a serious international collective action problem when in fact all we have is unmitigated moral failure to act. This is a genuine worry. Although we can distinguish broadly between conditions characteristic of the difficulties human communities can have at a range of scales to provide collective goods and simple moral failure to act when it is neither costly nor difficult, there is no clearly identifiable point at which we move from one to the other. However, the problem of assessment cuts both ways. If we misrepresent conditions as simple moral failure we will place expectations on the international regime that it cannot currently satisfy and fail to put enough pressure on individual wealthy states to go first and improve the prospects for international cooperation.

One might at this stage argue that the relevant normative facts are whether or not a political community could unilaterally fulfill their fair shares without reaching excessive costs and not the features of the global cooperative challenge. The argument I have advanced is clearly open to objections developed along these lines, but adopting such an objection will have general implications beyond the scope of the climate change case. For example, if one does not see collective action problems as normatively relevant then it will be difficult to argue for any duties of justice to support political institutions aimed a providing, for example, collective security, standards of public health, or redistributive justice. The set of individuals within these institutional arrangements could each act so that these goods are provided without reaching excessive costs, and if they each did act in this way the goods would in fact be provided. Thus asking an individual who is acting in a way that would make provision of some collective good possible in the absence of political institutions to accept being subjected to a political authority because too few others will act in a similar way without such institutional arrangements is asking the individual to take on additional burdens because of non-ideal conditions associated with empirical facts about collective action in human societies.

Historic responsibility in the case of climate change

My argument for leadership is founded on the idea that members of those political communities that have disproportionately benefited from unintentional but harmful processes have remedial duties of justice to collectively redress these harmful processes through their respective political communities. It is beyond the scope of this paper to give an extensive

defence of the admittedly controversial general propositions that it is possible to have shared duties or the claim one can have remedial duties based in benefits one has enjoyed. However, I will address to two objections to my use of historic responsibility that accept that there are at least some cases where these aforementioned propositions are correct but do not think that climate change is such a case.

Miller accepts the idea that members of a political community can have remedial duties to redress the harms associated with historic pollution that they are not responsible for causing but have nonetheless benefited from. However, he argues that climate change is not this type of case. This is because 1) historical emissions prior to 1985, the approximate year Miller adopts to represent the point at which the facts and risks of anthropogenic global warming were broadly clear, would not have on their own brought about dangerous levels of global warming, and 2) once these facts were known the current generation could have radically reduced their emissions.⁴⁶ The idea is that because we could have started to radically reduce GHG emissions in 1985, pre-1985 emissions need not have been harmful, and without a historical harm current generations cannot acquire a remedial duty to redress a historical harm.

The problem with this way of reasoning is that any period of emissions demarcated over a few generations does not produce a stock of atmospheric GHGs that is harmful. The right way to see the pollution causing global warming is as a part of a process of industrialization, consumption growth, and globalization. Once agents became aware that this historical process was a harmful one, as it was already in 1985, they could have started to significantly redirect it and this would have entailed costs. The distribution of burdens in 1985 would legitimately have taken into consideration the comparative benefits members of political communities had gained from the historical events that *set in motion* this harmful process of pollution. Because we, members of wealthy political communities, had up to 1985 enjoyed massive comparative benefits, it was at that time legitimate to assign us remedial duties to take on greater sacrifices in an international agreement to mitigate global warming.⁴⁷ The fact that we did not take drastic action once the facts about global warming were clear makes us morally responsible and blameworthy for post-1985 emissions in a way they were not for pre-1985 emissions. However, contra Miller this fact of moral failure can hardly release us from the remedial duties we already had in 1985.

Caney accepts the idea that there are cases where one can acquire remedial duties to redress some harm that one has not caused because one has nevertheless benefited from the harm. However, he objects to appealing to historic benefits in the case of climate change because existing agents cannot be said to have benefited from past emissions.⁴⁸ Caney advances this claim by appealing to Derek Parfit's non-identity problem,⁴⁹ namely that in the absence of the historical processes causing global warming a different set of people would have come into

⁴⁶ David Miller, "Global Justice and Climate Change: How Should Responsibilities Be Distributed? Parts I and II," *Tanner Lectures on Human Values* 28 (2009): 129-33.

⁴⁷ Another consequence of my argument is that it is not necessary to appeal to a right to emit GHGs in order to establish historical responsibility as Miller claims (*Ibid.*: 133.).

⁴⁸ Caney, "Cosmopolitan Justice, Responsibility, and Global Climate Change," 756-58.

⁴⁹ Derek Parfit, *Reasons and Persons* (Oxford: Oxford University Press, 1986), Chapter 16.

existence. Caney argues that in order to say that someone has benefited from pollution it must be the case that they are better off with the pollution than they would have been without it. However, because even small historical changes can greatly affect the specific identities of the children that will be born, without the processes that have caused global warming the current members of wealthy states would not have existed. Thus, unless we say that being born in itself is the kind of benefit that could generate remedial duties, we cannot claim that the current generation is better off than they would have been without GHG pollution because they would not have existed.

More needs to be said about Caney's 'non-identity thus no historical benefits' thesis, but if we accept that this reasoning represents a problem for my argument we should notice that it also appears to be a problem for Caney's further claim that we have duties to address the threat of global warming because future individuals have a right not to have the harmful effects of global warming avoidably imposed on them. Since those people that would come into existence under conditions of significant global warming owe their existence to the historical processes that will have caused this warming they cannot have been harmed by these processes and thus cannot have suffered rights violations. Caney introduces non-identity to challenge historic benefiting but the overall implications also challenge the notion of future harm. Obviously if one accepts the philosophical grounds on which the non-identity problem is identified and applies them to the case of climate change there are going to be some radical changes to our normative understanding of the problem. All I can say within the context of this paper is that my argument is no more in need of a good answer to the non-identity problem than any other theory of intergenerational justice that tries to establish that individuals have duties to do something about climate change via their political communities; or at least one that does not make the move of ascribing nations or states the status of moral agents in such a way that can generally entail using the actual individuals within a state or nation as a means to satisfying these concepts' interests or duties.

What about doing less than our ideal fair share?

If we see unmitigated climate change as an unjust harm it is fairly uncontroversial to reject only doing as much as others are doing. One's fair share is based on one's share of the harm, and the duty not to harm seems to clearly outweigh the kind of unfairness involved in taking on more burdens than others are actually taking on.⁵⁰ Doing even less in a strategic effort to get others to do their fair share does not appear to be a live option in the case of climate change. Because of the large time lags in technology development and stabilization of atmospheric GHG concentrations we do not have the time to employ this option. Furthermore, strategic non-cooperation raises serious problems of moral hazard because it amounts to *not* taking on costs now and imposing the risks almost exclusively on future generations.

⁵⁰ Miller, *Taking up the Slack?: Responsibility and Justice in Situations of Partial Compliance*.

Conclusion

Creating strong economic incentives for large scale investment in the development and deployment of low-carbon energy technologies is a central aim for any economically viable, environmentally effective, and just global climate regime. Energy consumption is powerfully linked to the wealth enjoyed by developed countries and development goals around the world. No major programme of reform can be politically and morally acceptable unless it secures the welfare benefits that we currently associate with high levels of energy use. As a result, development and transfers of new energy technologies is viewed as one of the most important outcomes of successful international climate agreements. However, given the unusual malignancy of the global collective action problems created by the threat of climate change we should also start to think of low GHG technological and infrastructural development and the policies that make them happen domestically as key inputs for facilitating international cooperation here and now.

This is especially important because of the risk that follows from dedicating too much of our focus on an international political setting that simply does not have the capacity under current conditions to achieve its goals. Concentration on the international process is letting states off the hook for their lack of domestic action. Political leaders can say that they want to work with other states to solve this problem while doing no more than disparaging the lack of international political will. However, once we see that one of the few opportunities to address the problem of international inaction is for individual states to lead the way through domestic energy policy, individual citizens will be in a much better position recognize the content of their non-ideal duties of justice and hold their political leaders accountable for making change happen.