

Failing international climate politics and the fairness of going first

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Abstract

There appear to be few ways available to improve the prospects for international cooperation to address the threat of global warming within the very short timeframe for action. I argue that the most effective and plausible way to break the ongoing pattern of delay in the international climate regime is for economically powerful states to take the lead domestically and demonstrate that economic welfare is compatible with rapidly decreasing GHG emissions. However, the costs and risks of acting first can be very large. This raises the question of whether it is fair to expect some states to go far ahead of others in an effort to improve the conditions for cooperation. I argue that a costly obligation to act unilaterally and to accept weak initial reciprocity can be justified and does not violate standards of fair burden sharing. Rather, the costs of creating the underlying conditions within which we can hope to achieve meaningful international cooperation are non-ideal burdens for which we can appropriately assign fair shares.

Keywords: *Climate change, leadership, non-ideal theory, fair shares, international cooperation.*

Introduction

From the perspective of intergenerational and global justice the mitigation goals international climate negotiations are aiming for appear to be broadly the right ones.¹ Participants to the United Nations Framework Convention on Climate Change (UNFCCC) are in agreement that there is an imperative to limit how bad global warming will be. The purpose of their negotiations is to create international arrangements that will in one way or another ensure that humanity remains within a safe global budget for Green House Gas (GHG) emissions. Finally, negotiations are (ostensibly) aiming at identifying a principled basis for sharing the burdens of mitigation based the recognition that different parties have different capacities, development needs, and have contributed to the accumulation of GHGs in the atmosphere at different levels.²

However, due to deep-seated disagreements over each of these general goals the international climate regime is currently failing on a potentially unprecedented scale. The international community has been trying to address the peril of global warming for over twenty years but has made little progress on curbing emissions growth. Global CO₂ emissions (the most important greenhouse gas (GHG)) must be reduced to at least half of current levels by 2050 if we are to have even a reasonable chance of keeping warming within 2°C (International Energy Agency (IEA), 2012a, pp. 31-33). However, on current trajectories CO₂ emissions are projected to be 45% greater than current levels by 2030 (IEA, 2012b). Past inaction means that we have within a decade to start redirecting these powerful trends if we are to avoid dangerous levels of warming (International Panel on Climate Change (IPCC), 2007b, p. 23).

The continued delay of emissions reductions increases the cost of stabilizing atmospheric GHG concentrations, increases the risk that dangerous climate thresholds are exceeded, increases the level of warming and associated costs the world is committed to, increases the risk of irreversible ecosystem damage, and leaves future generations without sufficient capacity to aggressively reduce their own emissions. Henry Shue compellingly argues that the consequences of delay give the current generation a strong moral obligation to act now to avoid levels of warming that will undermine conditions for human welfare (Shue, 2005, pp. 272-275).³ Given the short-timeframe for action, satisfying this obligation requires heavy investment in a rapid shift to low carbon economies because “it is increasingly evident that there is no allocation of GHG emissions...that is both morally tolerable and, at present, politically feasible as long as most economies are dependent for energy upon carbon-based fuels...” (Shue, 2005, p. 265).

Because the community of states has not been effective in bringing about significant enough investment of this kind, Shue’s reasoning leads to the further conclusion that the most capable states must take the lead in demonstrating that economic welfare is compatible with rapidly decreasing GHG emissions (Shue, 2011). Thus, even though the goals of the international climate regime are the right ones, international cooperative challenges force us to ‘bring the state back into cosmopolitanism’ (Brown, 2011, p. 64). Not in the sense of giving up on the goals of the international climate regime but in the sense of recognizing capable states as key agents for achieving such principled ends (Ypi, 2010, pp. 540-543).

Of course the view that highly developed states should take on the largest burdens and act first is already recognized in the international climate regime. This more established notion

of climate leadership is also reflected in the academic literature. There is a sizeable body of literature on the extent to which more developed countries should take on larger burdens than less developed states when distributing mitigation and adaptation costs in an international climate regime (e.g. Caney, 2005, 2010; Baer, Athanasiou & Kartha, 2007; Page, 2008; Dellink et al., 2009). Other areas of research focus on the role of leadership within the process of international climate negotiations (Zito, 2005; Oberthür, 2008; Parker & Karlsson, 2011). There is also increasing academic attention on so-called 'mini-lateral' or 'carbon club' approaches. Proponents argue that a group of leading states that emit the largest share of GHGs are better positioned to implement an effective international climate regime than is possible via the existing United Nations process (e.g. Keohane & Victor, 2010; Carin & Mehlenbacher, 2010; Victor, 2011). In this vein, there are also new proposals for reforming the structure of UNFCCC negotiations that would secure some of the gains of mini-lateral approaches but that would not exclude those states most vulnerable to climate impacts in ways that raise serious issues of legitimacy (Eckersley, 2012).

The argument to be developed in this work follows from Shue and is different in important ways from the existing climate leadership literature. In particular, I will highlight the normative difference between claiming that some states ought to have greater comparative burdens within international agreements and seeing some states as having an obligation to unilaterally reform in order to help bring about conditions that make effective international cooperation politically feasible. As we will see, acting unilaterally as leaders within a context of weak international cooperation can create very large additional costs and risks. These additional costs and risks are especially demanding given that some agents must take them on *because*

there is good reason to expect that others will not reciprocate over the near term. The combination of unilateralism, weak initial reciprocity, and risk that efforts will be wasted makes the type of climate leadership I argue for distinct in kind from questions about the extent to which some states should do more than others within a shared global project. Political theorists working on climate change have focused quite heavily on distributive principles that assume some form of international burden-sharing but have yet to give sufficient attention to the more demanding forms of leadership argued for here.

Section I defends two claims: 1) that it is now urgent to improve the underlying conditions for achieving effective international action and that 2) achieving this goal requires economically powerful states to implement domestic reforms that rapidly accelerate our ability to make the transition to economies with very low GHG emissions. In Section II I ask if it is fair to expect some states to go first in demonstrating the compatibility of economic welfare and emissions reductions. I argue that the primary difficulty we currently face is not with the noncompliance of some agents with their ideal fair shares of the global mitigation burden but the very poor *conditions* for securing compliance with the demands of justice from *all* the relevant agents. As a result, I claim that a set of agents have obligations to take on the burdens involved in bringing about conditions in which an effective global response becomes politically feasible. These burdens are not things these leaders should do instead of their fair share of an effective international response but *over and above* their fair shares of an international burden-sharing scheme. At the same time, I argue that requiring something 'over and above' does not actually violate standards of fair burden sharing. Instead, the demands of leadership are non-ideal burdens for which we can appropriately assign fair shares. In Section III I suggest an

approach to identifying the particular states that have special responsibilities to act as climate leaders. Finally, I conclude with some reflections on the relevance of this line of argument for climate politics.

Who are the agents that ought to lead?

Before proceeding, it is important to note that I depart from the view that it is individuals that have duties of justice to take on a fair share of the global mitigation burden. However, to a significant extent addressing climate change will have to be mediated through states in order to tackle the institutional, infrastructural and economic challenges involved. As a result the discussion is framed in terms of the relative responsibilities of political communities even though states are treated as instruments for their members to satisfy their obligations.⁴

On my view, if a particular state has obligations of leadership this entails that its members have obligations to support in various ways the domestic policies it would take for their state to be such a leader. Elsewhere I have argued that individual members of economically powerful democracies have clear obligations to promote the adoption of climate leadership and that the political leaders of strategically placed states have particularly strong obligations to implement reform policies (Maltais, *forthcoming*). However, here it will be a useful simplification to develop the argument in terms of the responsibilities of political communities without addressing what this entails in practice for individuals, sub-groups, or organisations in different political communities.

I. Why climate leadership is necessary

Efforts to mitigate climate change have characteristics of a collective action problem to protect a global common-pool resource. The credible threat of free riding creates a theoretical expectation that environmentally effective cooperation will be difficult to achieve and that individual states will not be strongly motivated to act unilaterally (Barrett, 2005, pp. 359-405). Moreover, 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. Regardless of the climate effects future generations are suffering, any mitigation they undertake will also largely benefit generations after them. Stephen Gardiner has pointed out that this leads to a problem where no generation sees it as in their interest to mitigate and humanity gets stuck on a destructive pathway (Gardiner, 2001, pp. 402-406).

Empirical evidence does show that there are conditions where common pool resources, including global commons, can be successfully protected on voluntary terms (Ostrom, 1990; Barrett, 2005). However, outlining the now well-established comparison between the climate case and the much more successful case of reducing ozone depleting emissions demonstrates why this evidence does not lead to optimism. In the ozone case:

1. Just a few developed countries, economic sectors, and large companies were responsible for most of the emissions (Sandler, 2004, p. 217).
2. The impacts from depletion are strongest at higher hemispheres where the heaviest polluting countries were located.

3. Measurable recovery of the ozone layer from mitigation efforts was expected to arrive by 2025 with significant recovery by mid-century (NASA, 2006).
4. The United States had hugely positive cost to benefit expectations for mitigation. This made the world's largest emitter a natural leader with strong incentive to take *unilateral* action. These incentives also gave credibility to the United States' push for international action (Barrett, 2005, pp. 228-230).
5. Effective international action was greatly aided by the availability of inexpensive and relatively uncomplicated replacement technologies. Or more precisely by an eventual perception that alternatives were feasible that quickly turned out to be accurate once the prospect of regulatory pressures on industry started to actualise (Parson, 2003, pp. 123-126, 257-262).

None of the five problem features that were positive for international cooperation in the ozone case are positive in the climate case:

1. Although twenty countries account for 80% of global GHG emissions, emissions growth trajectories require that mitigation planning encompass most regions of the world (OECD, 2008, p. 25) and virtually all economic-sectors.
2. 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 (Energy Information Administration, 2010, p. 132). However, it is developing regions that will tend to be more vulnerable to the effects of climate change (IPCC, 2007a).
3. The very long atmospheric life of CO₂ creates much longer long time lags before we see the impacts of mitigation efforts (IPCC, 2007c, pp. 79-80).

4. The largest emitters also have few *direct* incentives for unilateral action because most of the world's regions need to act if large environmental benefits are to be secured. The most important cost benefit analyses for climate change are clearly positive, but as soon as we make moves away from common model assumptions of perfect policy implementation and full global cooperation the costs of mitigation can increase quite dramatically (Weyant, 2008, pp. 79, 83, 86-87). Assessing the economic impact of mitigation efforts along a range of possible warming scenarios and economic modelling assumptions when we know that mitigation efforts will be far from perfectly implemented produces large disagreements and uncertainties about the value of various investment strategies.
5. A reasonable chance of avoiding the most dangerous climate impacts requires *at least* a massive investment in the development and deployment of a large array of technologies and infrastructures over the next twenty years (IEA, 2010, p. 490).

Table 1. Comparing the ozone and climate cases

	OZONE DEPLETION	GLOBAL WARMING
1. Number of actors	A few key actors	Many actors / virtually all industries
2. Location of expected damages & mitigation costs	Tend to coincide	Tend to diverge
3. Timeframe of mitigation payoffs	Nearer term	Longer term
4. Level of certainty about mitigation payoffs	Exceptionally high	Considerably less certainty
5. Technical/infrastructural complexity & cost	Low	Far higher

The fact that there were significant political challenges and delays in the ozone case (Andersen, Sarma, & Sinclair, 2002, pp. 42-94, 347-348) should raise serious concern given the multiple incentives for delay in the climate case. This is because delayed action can in turn produce negative *political* feedbacks. Delays in mitigation can significantly raise the cost of future mitigation efforts and lock us into expanding polluting energy structures over a much longer period (Luderer et al., 2012). Delay also brings increasingly severe climate impacts and increased risk of nonlinear climatic disasters (Vaughan, Lenton, & Shepherd, 2009). At some point governments will predictably be faced with hard choices about investing in short-term measures to deal with major climate impacts versus prohibitively costly long-term mitigation. Thus, without immediate action there is reason to expect that the preference for short-term interests can get progressively stronger or even abruptly much stronger given abrupt climate impacts (Gardiner, 2011, pp. 185-209).

The assessment here can appear to both ignore other explanations of political inertia and to be too pessimistic. The first concern is less serious because the assessment above does not obviously compete with other explanatory factors such as states' concerns over sovereignty and relative position or the role of powerful actors with special interests in maintaining the status quo. The second concern is more serious. An exclusive reliance on a rational choice model would fail to explain the fact that many individuals, organizations, sub-state authorities, and states have already taken some costly steps. It is also important not to exaggerate political difficulties and to identify features of the problem that can facilitate cooperation. Adopting policies that would limit global warming to some safe range appear to be technologically feasible and well within economic means (IEA 2010: 523). It seems clear that energy need not

be scarce (especially if not wasted) despite the fact that the amount of GHGs we can safely emit is strictly limited. This is a major advantage over many other environmental problems.

The analysis above does not deny that many actors are motivated and effective in making reforms, nor does it deny that there are features of the emissions problem that are clearly favourable for major breakthroughs in cooperation and mitigation. However, self-regarding incentives for delay are *some* of the important motives agents have and the claim is that these incentives are fundamental to explaining why efforts to date have been characterised by contentious international negotiations, very weak emissions targets, non-participation of many states, failures to meet targets, and the postponing of meaningful emissions cuts to the future. Thus the assessment above should be understood as pessimistic in the sense that 1) it remains far from clear that there is significant movement to address the foundational barriers to cooperation existing incentive structures create, and 2) there is good reason to think that the *extent* to which agents are motivated by self-regarding short-term interests could increase as the effects of climate change compound.

How can we improve the conditions for cooperation?

Given the extremely limited amount of time for action a key political question is, which of features 1 through 5 described above (Table 1) can we do something about here and now? One concern is that the United Nations process artificially makes cooperation more problematic than it should be by requiring the number of actors who need to reach an agreement far too large (Feature 1). However, there are already smaller forums where negotiating over climate change does take place (e.g. the G20 and Major Economies Forum) and they have yet to take us off the path of international inaction. As Joanna Depledge and Farhana 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' (Depledge & Yamin, 2009, p. 451).

Noting that major emitting states have yet to collectively implement an effective mitigation agenda does not actually undermine arguments for why 'carbon club' approaches could have positive effects (see Victor, 2011, p. 241-262). Still, the point remains that it is not plausible to claim that the very low level of reform the world's most powerful economies and largest emitters have achieved to date is as a result of their being inhibited by the broadness of the UN process. Instead, the level of inaction we are currently witnessing is better explained by the underlying structure of the problem described above. This is why climate leadership is now urgently necessary. To actually improve the underlying conditions for achieving effective international action more focus has to be shifted onto those states that are specially positioned to accelerate our ability to make the transition to economies with very low GHG emissions (Feature 5).

Developing, demonstrating and deploying low-carbon technologies and infrastructures at commercial and societal scales clearly sets the stage for others to do the same. Moreover, some of the most extensive empirical research on international environmental regimes indicates that the difficulty of addressing an environmental problem need not be that determinative of success or failure. However, the combination of a hard problem with uncertainty is toxic (Breitmeier, Underdal, and Young, 2009). Although in theory the prospects for alternative energy structures are very promising, there is extensive uncertainty surrounding the practical application of these technologies (Kannan, 2009, p. 1874).

Peter Haas notes that investment in new technologies and infrastructures is most likely to be sustained in,

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 (Haas, 2008, p. 5).

The idea is that because sustained and effective investment is most likely to come from economically powerful states, their domestic efforts are central to building political will for action at the international level.

Low-carbon energy investment from both industrialised and rapidly industrialising countries is significant and was 260 billion US dollars in 2011. However, the IEA assesses that this annual amount needs to at least double by 2020, and that between 2010-2050 36 trillion US dollars in additional investment over 'business as usual' is required to get onto a 2°C trajectory (IEA, 2012a, p. 148, 137). Still, even though both investment needs and the structure of the international cooperation problem give some states good reason to go far ahead of others, is it fair to claim that these political communities have moral obligations to go first?

II. The fairness of expecting unilateral action

A recent study compared the costs of stabilizing atmospheric CO₂ concentration at less than double pre-industrial levels given full global cooperation in 2012 with a scenario in which OECD countries act alone in 2012, Brazil, Russia, India and China enter the climate regime in 2031, and the Rest of the World enters in 2051. In the leadership scenario the 2016 mitigation costs for OECD countries are approximately 200 billion U.S. \$, which is double the 100 billion U.S. \$ it would cost OECD countries in the immediate global cooperation scenario. By 2051 the OECD's mitigation costs in the leadership scenario are just under 800 billion U.S. \$ compared to 500 billion U.S. \$ for the full global cooperation scenario (Calvin et al., 2009). All regions lose in the leadership/delay scenario due to inefficiencies, but OECD countries have the largest increases in costs.

There are numerous assumptions in this type of modelling exercise such as who the leaders will be, what the stabilization target is, how reductions will be achieved, and the rate and cost of technological transitions. Moreover, the scenario described above is not really representative of unilateral leadership by states hoping to improve the prospects for effective international action. Still, the values cited indicate that the difference in cost between immediate and full cooperation and various leadership scenarios can be very large. In addition, there is no guarantee that leadership efforts will bring about effective international cooperation and there is no credit giving body states can rely on to get full recognition for their unilateral efforts when negotiating over burden sharing going forward. Can it be fair to expect some states to take on these additional costs and risks because the community of states is failing to act collectively?

Because the need for climate leadership is created by the failure of states to effectively satisfy a shared global responsibility one natural place to look for guidance are so called 'non-ideal' normative theories. Non-ideal theory has tended to be concerned with identifying principles for governing circumstances that frustrate the achievement of justice within established institutional arrangements and the failure of some agents to satisfy their fair shares of a collective moral burden or project (Murphy, 2000, pp. 15-16; Simmons, 2010, pp. 25-36). Noncompliance conditions are usually thought to raise the problem of whether or not complying agents can have duties to 'pick up the slack' created by other agents' failures to do what justice or morality requires of them (Miller, 2011).

Simon Caney notes that in any real world effort to address climate change there will be some level of harmful noncompliance. He argues that a failure to pick up this slack would violate the rights of the poor and future generations not to suffer avoidable global warming (Caney, 2005, p. 768). Caney suggests that if 'the choice is of either ascribing duties to the poor and needy or allowing serious harm to befall [future] 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' (Caney, 2005, p. 772). David Miller on the other hand expresses a central concern with this line of reasoning.

If a capacity to pay on its own generates an enforceable duty of justice to pick up the slack created by others we will fail, he argues, to treat all of the relevant actors as moral agents (Miller, 2011, p. 241). Even in a context where there is no legitimate enforcer, assigning enforceable duties of justice to pick up the slack can give malicious and elusive non-compliers the power to shift their duties of justice onto agents already complying. At the same time,

'taking the slack' becomes a condition for complying agents to be counted as satisfying the demands of justice. This fails to treat the involved actors as 'responsibility bearing moral agents' in the sense that each are held responsible for their own and only their own duties of justice. To avoid a situation where the demands of justice can be shifted in what appear to be illegitimate ways, Miller suggests that a capacity to pay can create strong humanitarian moral reasons for the wealthy to do more than their ideal fair shares but not a duty of justice to take on these burdens (Miller, 2011. p. 241-243).

Some will reject the idea that there can be moral obligations to take up the slack regardless of the outcomes (Murphy, 2000). Some will reject the notion that unfairness could justify a failure to do more when overall welfare is clearly increased by taking up the slack (Singer, 1972). Others will see some balance between fairness and outcomes as most compelling. What I will argue is that the need for strategically placed states to act unilaterally in the case of climate change does not actually raise this type of slack taking problem. Instead, the extra burdens associated with leadership should be treated as necessary start-up costs to secure conditions within which we can have some reasonable chance of achieving effective international action on climate change. These costs are separate and additional to the mitigation costs that ought to be distributed fairly *within* an effective climate regime. As such, they do not raise (at least in the first instance) the question of whether or not some agents can have duties to do more than their fair shares. Rather, the demands involved in creating conditions that can meaningfully alter current incentives for delay are subject to fair distribution in their own right.

The burdens of establishing a collective scheme

In the case of climate change the non-ideal problem is not the simple moral failure of some agents to satisfy duties that other similarly situated agents are readily satisfying. Rather, we have the more preliminary problem of having very poor conditions for securing compliance with the demands of justice from all the duty-bearing agents. It is industrialization, the development of highly consumptive economies, and the globalization of these economic structures that are currently the chief drivers of human induced global warming. These exact same processes have also created the circumstances that make international cooperation so difficult to realise. Achieving conditions favourable to redirecting these processes requires more than identifying principles for how to distribute mitigation costs within a collective scheme for managing a global emissions budget. It also requires identifying who has a responsibility to make such a collective scheme politically feasible.

The argument I want to defend is that the real costs of addressing global warming are the start-up costs of leadership plus the costs of an effective international climate regime once it is in place. Still, the need for leadership is created by the community of states' failure adopt immediate and full global cooperation to mitigate global warming. This is certainly a collective failure to comply with ideal justice and raises the concern that the demands of leadership exceed any individual political community's fair share. To respond effectively to this concern we need to make the case that the burdens of leadership are separate in a morally important way from the burdens that ought to be distributed fairly within an effective international effort to mitigate climate change.

Think for example of a system of taxation. We might first ask what a fair rate of taxation is for each of the relevant agents. Second we can ask what a justifiable level of slack taking is within such a system. However, there can also be the more preliminary question about who ought to have the responsibility to see to it that a system of taxation comes about in the first place. When assessing fair shares, it is important not to conflate the question about justifiable levels of slack taking within an established cooperative system with the question of responsibility for bringing about such a system. Conflating the two can falsely limit both the *kinds* of demands that considerations of fair shares can place on an agent and their *extent*. Given the challenges to effective cooperation in the climate case it is clear that responsibility for bringing about effective cooperative systems is the paramount political problem we immediately face. Thus, we do have a separate burden-sharing problem and can ask if requiring some states to satisfy such 'establishment burdens' violates standards of fairness.

Fair shares of the costs of leadership

Would singling out a set of states as having a special responsibility to lead unilaterally 1) fail to treat the relevant actors as responsibility-bearing moral agents and 2) allow those who act unjustly to shift their duties of justice onto others? By now it should be clear how I want to respond to the first concern. It is just too simplistic to think of the potential demands of justice in noncompliance conditions as only having to do with the slack created by a failure to satisfy ideal fair shares within an imperfect cooperative arrangement. A more fundamental noncompliance problem is having very poor underlying conditions for securing compliance with the demands of justice from all the duty bearing agents. The costs of leadership associated with

addressing this more fundamental problem do not, I have suggested, require some agents to do more than their fair share but are burdens for which we can appropriately assign fair shares.

We can conceive of the real costs of mitigating climate change as divided into 1) the 'climate leadership' costs that are necessary to bring about 2) the 'global scheme' costs of an effective international mitigation project. For both it is fair to expect some states to take on greater comparative burdens than others. In the first instance there is a sub-set of states that have the strongest obligations to act unilaterally despite some inefficiency, risk, and expectations of weak initial reciprocity. In the second instance it is fair to expect economically powerful states to take on greater comparative costs within a broad, reciprocal, and more cost effective global effort. Thus, the argument for climate leadership is about the ways in which some agents ought to execute their greater comparative burdens if we are to be successful.⁵

The main objection to this argument challenges the reasoning that we should to some extent treat the causes of weak international cooperation as an external fact about international political conditions and a problem for which we can assign responsibility. On this view cooperation problems are not external conditions that are a problem *for* agents but nothing more than the internal choices made *by* agents. Following this line of reasoning one might argue that a political community could not be required to take on economic costs and risks greater than what its fair share would be in a scenario in which there was immediate global cooperation. If following this principle in practice has limited positive impacts, the fault lies entirely with those political communities failing to take on their ideal fair shares.

In reply we can first note that if cooperation problems are not relevant to the burdens agents ought to share it will be difficult to argue for many duties of justice to support political institutions aimed at providing collective security, standards of public health, or redistributive justice. It is often the case that all the relevant agents can act in a way that would make provision of these types of collective goods possible without having to create any political institutions. If we ask a single agent doing their ideal fair share to accept being subjected to a political authority because too few others will act in a similar way without such an arrangement, we are in fact asking them to take on additional burdens because of cooperation problems in human societies. If one claims that such cooperative problems have no bearing on agents' fair shares of a collective burden or project, then asking our single agent to support political institutions requires that they contribute more than their fair share and risks being unjust. This is exactly the kind of reasoning anarchist theories often adopt to reject claims that individuals have such political obligations and I have not proven the anarchist position false here (Simmons, 1999, pp. 760-769). What I highlight though is that rejecting international cooperation problems as relevant to our thinking about the kinds of obligations agents can have will also have general implications that go much further than most theories of justice could tolerate.

Defending obligations of climate leadership by appealing to the poor underlying conditions for cooperation does seem to weaken the sense in which it is a moral failure that states have yet to create an effective international climate regime. However, it is not important for my argument to actually excuse the lack of effective cooperation to date. It is only important that it is normatively justifiable to take into consideration cooperation problems in reasoning about what kinds of obligations political communities have. I would suggest that strong

resistance to this later idea has more to do with the unfamiliarity of applying this type of reasoning beyond the confines of a single political community than with deeply held convictions about what role cooperation problems can have in determining agents' political obligations.⁶

As to the second concern, my argument 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. The structure of the cooperation problem described in Section I was not orchestrated by malicious agents but is the product of unintentionally harmful historical processes. It is a genuine concern that states may only be giving the appearance of a serious international cooperation problem when in fact the conditions for cooperation are good, but the problem of assessment cuts both ways. If we misrepresent current circumstances as favourable for cooperation we will place expectations on the international regime that it cannot currently satisfy and fail to put enough pressure on economically powerful states to improve the prospects for effective international cooperation.

There is the further concern that some economically powerful states may strategically wait for others to go first. However, what I am proposing is that members of a certain set of political communities should at least take on their fair share of the non-ideal burdens of leadership, not that they have duties to unilaterally take on burdens until a global transition to low carbon economies is achieved. This raises the question of whether or not leaders complying with the demands of justice ought to pick up the slack created by those who ought to lead but do not. Again, I am not addressing this slack-taking problem. My point is simply that it need not violate standards of fairness to say that some political communities ought to act unilaterally in an effort to improve the prospects for effective international cooperation. If this argument is

accepted then what is needed in some principled account for identifying exactly who ought to lead.

III. Who has the strongest obligations to act unilaterally?

Miller has developed a theory that aims to address conditions where it is morally unacceptable not to redress some global problem but where we lack strong global institutions to achieve this end. In such conditions 'it becomes crucially important to see whether we can have good reason to hold particular governments or nations responsible'(Miller, 2007, p. 99). Miller identifies six ways of acquiring such responsibilities: by being 1) morally, 2) outcome or 3) causally connected to the problem, by having 4) a capacity to act, by 5) benefiting from the problem, or by 6) having a communal connection to those harmed (Miller, 2007, pp. 100-104).

The list above overlaps considerably with principles appealed to in assessments of distributive climate justice such as polluters pay, beneficiaries pay, or capacity to pay principles. The aim here is not to add anything new to these detailed accounts but to use Miller's theory in a straightforward way to demarcate the population of political communities that ought to accept the most demanding features of climate leadership. The idea is that an assessment of who ought to 'go first' can be meaningfully informed by determining which agents are most strongly connected to the problem. A detailed account of distributive climate justice would require taking more into consideration.

The most direct way existing agents can be connected to the problem of global warming is by being morally responsible (1) for the emissions they have made since the environmental effects of these emissions have been widely understood (Caney, 2010, pp. 210-213). However,

some of the emissions existing agents have produced were made when the problem of global warming was not widely understood. Existing agents cannot be held morally responsible for their 'ignorant emissions', but they can be held outcome responsible (2) to some extent. This is because 'as free agents among other free agents, we expect to keep the benefits that result from our actions, and so we should also expect, in general, to bear the costs' (Miller, 2007, p. 101). Emissions made under ignorance of climate change were nonetheless made in a modern context where it was reasonable to expect that burning massive amounts of organic material could have unexpected environmental outcomes.

One might argue that the link between burning fossil fuels and global warming was previously 'so bizarre and unpredictable that it would be unreasonable' to hold agents responsible for this type of outcome (Miller, 2007, p. 101). To the extent that this claim can be defended, Miller's connection theory suggests that the causal connection (3) to heavy polluters still distinguish these agents from others. The normative significance of this last form of connection is clearly much weaker than the other two forms. Still, to the degree that causal responsibility is relevant it tracks onto to the same agents that have higher comparative levels of moral and outcome responsibility.

Although GHG emissions from more developed and developing regions are now on par and emissions growth is expected to come largely from developing countries, the per capita emissions in more developed countries have been and are expected to continue to be much larger than those in developing countries (EIA, 2010, pp.129-133). Thus in terms of moral, outcome, and causal responsibility it is the existing members of highly developed countries that are most distinctly connected to the threat of climate change. Moreover, developed countries

are responsible for the greatest shares of cumulative historic emissions⁷, leaving their current members with the greatest comparative benefits (5) from the emissions of now dead agents.⁸

There are also various forms of capacity (4) that connect political communities to the problem of global warming. Some states have greater economic resources (welfare capacity), more robust infrastructures and political and economic institutions (investment efficiency), and/or political cultures that are more supportive of green reform (political feasibility). Others states find themselves at stages of development where they can in a more cost effective way adopt infrastructures and technologies for redirecting emissions trajectories.

The capacity to address global warming is clearly strongest in those political communities with high per-capita emissions that correspond with high standards of development and technological capacity, more flexible economic and political institutions, and the ability to invest heavily in mitigation without undermining other basic welfare needs. Some rapidly developing countries do appear to have advantages in some aspects of capacity, especially with regards to the efficiency gains of adopting low carbon infrastructures in an expansionary faze as opposed to converting existing infrastructures. Moreover, as developing countries' emissions rates increase so do their well-off members' moral, outcome and causal connections to the problem. As such, I do not deny that economically powerful developing countries should take on some share of the demands of leadership. However, it remains true that the members of highly developed states remain more strongly connected to the problem in terms of overall capacity.⁹

How to weigh multiple forms of responsibility against each other is not obvious (Page, 2008), but highly developed states are more connected to the problem than others for *each* of the ways of acquiring responsibilities that appear relevant to the climate case. Thus, the type of climate leadership argued for in this paper singles out in the first instance those states that belong *both* to the group of ‘most responsible’ and ‘most capable to act unilaterally’. In practice, this means that the highly developed states within the G-20 unambiguously have the strongest connections to the problem and ought to recognise the strongest obligations to act despite reasonable expectations that others will not reciprocate over the near term.¹⁰

One clear problem with Miller’s state-centered connection theory is that it rules out the plausible conclusion that mitigating global warming requires that we created new state like coordinating institutions at the global level (Maltais, 2008; Moore, 2008, pp. 512-514). However, this criticism highlights Lea Ypi’s point that statist theories of global justice tend to be ideal when they should be non-ideal (Ypi, 2010, pp. 540-543). A connection theory is able to contribute to our thinking about climate justice in terms of giving use principled grounds for assigning responsibility among those political institutions that ‘are necessary and available to realise the claims of justice’ (Ypi, 2010, p. 551).

Conclusion

I have made three central arguments. First, there is good reason to see unilateral climate leadership by strategically placed and economically powerful states as necessary to creating the conditions in which we can hope to eventually achieve effective international action. Second, expecting some states to take on the additional burdens and risks of leadership does not violate

standards of fairness. Instead, the demands of leadership are part of the real costs associated with bringing about an effective system of international cooperation and are themselves subject to standards of fair distribution. Third, highly developed states are most strongly connected to the problem of global warming and thus it is appropriate to single them out as having the strongest obligations to act unilaterally.

What difference do these arguments make? If the prospects for international cooperation are so poor then surely the prospects for climate leadership are extremely poor as well. One important implication of my argument is that it forces us to ask if it is more likely that an effective international agreement will trigger major on the ground reform or that economically powerful states will commit to domestic reforms that will then make achieving effective international action politically feasible. There is no reason not to work on both of these approaches. However, if we rely too narrowly on international negotiations as the stimulus for reform we at best risk letting states off the hook for weak domestic efforts and at worst provide an opportunity for the international institutionalisation of delay. The argument developed here gives us strong normative grounds for rejecting the view that those most strongly connected to the problem can legitimately put off major reforms because they agreed in Durban in 2012 to implement an international agreement in 2020. The prospects for an effective international agreement will be most strongly affected by what economically powerful states do nationally in the interim.

The arguments developed here are also relevant to domestic debates about climate policy. Take for example the two states in which I enjoy citizenship, Sweden and Canada. Sweden is considered to be an environmental leader and has some of the most ambitious long-

term mitigation goals. However, as the actual reforms necessary to achieve these goals become clearer the view that there is little point in Sweden going far ahead of the rest is increasingly voiced. Sweden is a tiny country, the environmental effect it can have is negligible, and it is not in a position to exert much influence on the major emitters. It is not helpful, critics say, to expect a single country to lead in ways that risk its competitiveness. The analysis here tells us to reply that it is only after individual states unilaterally decide to go first domestically that we can expect to achieve meaningful international cooperation. If Sweden is not going to be one of these leading states then which states are?

Canada, on the other hand, is regularly described as a laggard in climate politics. Canada has increased its GHG emissions more than almost all other developed countries since 1990, it has failed to meet its commitments under the Kyoto protocol, ultimately withdrew from that agreement, and appears to be again struggling to meet the mitigation targets it set for itself after Copenhagen (Scofield, 2012). The argument here shows that the debate in Canada cannot continue to be about whether or not it should even try to meet its commitments. The debate should instead be about the enormous gap between the leadership position Canada ought to have been taking all along and the reality of its failed climate policies.

Notes

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¹ Things are less clear with regards to funding adaptation (Harris & Symons, 2010, p. 619).

² The Conference of the Parties (COP) 18 reiterated a commitment to keeping increases in global temperature to less than 2°C compared to pre-industrial levels and to the principle of ‘common but differentiated responsibilities and respective capabilities’ for long-term cooperation among Parties to the UNFCCC (<http://unfccc.int/resource/docs/2012/cop18/eng/08a01.pdf>).

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³ A worry with adopting such a point of departure is that it is dependent on the idea that inaction would harm future generations while such suppositions of harming run up against non-identity reasoning (Parfit, 1982). Assessing the seriousness of this concern is beyond the scope of this work.

⁴ Adopting this individualistic approach is able to incorporate the concern that wealthy segments of developing economies should bear burdens appropriate to their levels of wealth and emissions. It also recognizes that very poor members of wealthy states ought not to bear burdens appropriate for compatriots at average national levels of wealth and emissions (Harris, 2008).

⁵ The fair distribution of mitigation burdens within an effective global scheme should of course take into account the mitigation efforts states have unilaterally implemented.

⁶ Severe time constraints further strengthen the case for treating international cooperative challenge as an external political condition for which we can assign responsibility.

⁷ See the World Resources Institute’s Climate Analysis Indicators Tool (CAIT) Version 8.0 at <http://cait.wri.org/>.

⁸ There is an important debate about whether or not receiving benefits from historical emissions could be grounds for assigning greater comparative mitigation and adaptation burdens (see Gosseries, 2004 & Schüssler, 2011). I cannot address this important debate here. However, it should be clear that they types of arguments that bring into doubt that responsibility for emissions costs can be legitimately transferred over generations simply because associated benefits are so transferred will also bring into doubt the legitimacy of entitlement claims to benefits in general that have been transferred from past generations. In practice, this will strengthen the case that those with the largest capacity to pay should take on the largest comparative burdens.

⁹ Emissions trajectories in countries such as China and India will make a huge difference to environmental outcomes. However, having high levels of expected emissions does not translate directly into a greater overall capacity to invest in the kind of technological, political and infrastructural reform that could significantly strengthen incentives for all states to adopt low GHG economic models.

¹⁰ ‘Carbon club’ proposals raise problems of legitimacy because the countries that are least developed and most vulnerable to climate impacts will be given little influence on the aims and

structure of the resulting regime (Eckersley, 2012). The proposal here does not raise this type of legitimacy concern because it does not make any prescriptions about whether a mini-lateral or UN approach should be adopted. Instead, the focus is on unilateral green reform by individual states to improve conditions in general for international cooperation. Still, unilateral efforts will surely have effects on the content of future climate agreements that should be investigated.