

## Radically Non-Ideal Climate Politics and the Obligation to at Least Vote Green

AARON MALTAIS

Email: aaronmaltais@gmail.com

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### ABSTRACT

Obligations to reduce one's green house gas emissions appear to be difficult to justify prior to large-scale collective action because an individual's emissions have virtually no impact on the environmental problem. However, I show that individuals' emissions choices raise the question of whether or not they can be justified as fair use of what remains of a safe global emissions budget. This is true both before and after major mitigation efforts are in place. Nevertheless, it remains difficult to establish an obligation to reduce personal emissions because it appears unlikely that governments will in fact maintain safe emissions budgets. The result, I claim, is that under current conditions we lack outcome, fairness, promotional, virtue or duty based grounds for seeing personal emissions reductions as morally obligatory.

### KEYWORDS

Individual obligations, global warming, emissions, non-ideal, fairness.

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*'Had he been informed by an indisputable authority that the end of the world was to be finally accomplished by a catastrophic disturbance of the atmosphere, he would have assimilated the information under the simple idea of dirty weather, and no other, because he had no experience of cataclysms, and belief does not necessarily imply comprehension.'* Joseph Conrad, *Typhoon*.

### INTRODUCTION

If one accepts that there is a moral imperative to immediately reduce humanity's impact on the atmosphere it may appear to follow naturally that individuals ought to reduce their green house gas (GHG) emissions. However, much of the philosophical debate on individual responsibilities has focused on the problem that personal emissions reductions have virtually no impact on the environmental problem. This is chiefly thought to make it difficult to justify a *unilateral* obligation to make emissions reductions. The argument is that only large-scale collective efforts, especially governments' domestic policies and international agreements, can mitigate global warming. Until governments adopt effective mitigation policies, individual emissions reductions appear to be futile. Individuals cannot, it is argued, have moral obligations to take on the heavy burden of reducing their own emissions when few others are doing the same and when their personal efforts can have no morally important impact. If individuals have any obligations these chiefly involve politically supporting the adoption of collective efforts (Johnson, 2003, 2011; Sinnott-Armstrong, 2005).

One response to this argument is that even if unilaterally embracing a green lifestyle has little

environmental impact this choice does make it more likely that others will also adopt greener lifestyles. Living by ‘green virtues’ can thereby help produce the kind collective action that would bring about better outcomes in the long run (Jamieson, 2007). Another response has been to argue that it is inherently wrong to be complicit in causing something as harmful as global warming (Hourdequin, 2010, 2011; Sandler, 2010).

In section I, I argue that we are not limited to promotional or supposed inherent moral features of our emissions choices to defend obligations to unilaterally reduce personal emissions. I show that because mitigating global warming requires that we stay within a highly constrained global emissions budget, individuals’ emissions choices raise the question of whether or not they can be justified as fair use of what remains of a safe global emissions budget. This is true both before and after large-scale collective efforts are adopted. As a result, the emissions I make *prior* to the establishment of effective collective efforts can amount to a failure to do my fair share of remaining within a safe budget in the same way evading my part of a collective effort would be such a failure.

However, in section II I claim that radically non-ideal political conditions give us little reason to think that governments will severely constrain GHG emissions *within* the very short timeframe such a political response seems to be available. If these types of collective efforts do not appear to be approaching an individual’s emissions cannot, I claim, have any morally important impact on the environmental problem, cannot harm other agents, and cannot violate any standards of fairness. Moreover, in section III I argue that attempts to move from the inherent wrongness of being complicit in causing global warming to obligations to reduce personal emissions are also undermined by these radically non-ideal political conditions.

Like others, my reasoning leads me to the conclusion that the central obligation individuals have is to support the adoption of collective efforts. However, in section IV I argue that the specific form this support takes must be responsive to radically non-ideal climate politics. I argue that an obligation to ‘vote green’ can satisfy this requirement while more demanding forms of advocacy cannot be obligatory. In Section V, I address complaints that an obligation to vote green is far too weak or far too intrusive and demanding. I conclude with some thoughts on why it is worthwhile to follow the admittedly disheartening line of reasoning developed in this paper.

## I. INDIVIDUAL OBLIGATIONS TO ACT UNILATERALLY PRIOR TO COLLECTIVE EFFORTS

Accepting the premise that the current generation has a moral obligation to limit how bad global warming will be, Baylor Johnson (2003) and Walter Sinnott-Armstrong (2005) have argued that under current conditions individuals do not have duties to reduce their GHG emissions. Their argument is based on three central claims: 1) individual emissions are not harmful, 2) unilaterally reducing one’s own emissions does not make it more likely that others will make similar reductions, 3) individual emissions reductions have no meaningful positive effect and as a result cannot be morally obligatory until effective collective mitigation efforts are adopted.

The initial claim seems at first to confuse something being a very small harm with something not being harmful at all. The atmosphere currently contains approximately 824,000,000,000 tonnes of carbon (tC) (World Bank, 2010: 71). The total share of atmospheric carbon attributable to post-industrial human activities is approximately 229,000,000,000 tC,<sup>1</sup> which is roughly half the total amount of post-industrial emissions (the other half being absorbed by natural carbon sinks) (World Bank, 2010: 71). While humanity has emitted about half a trillion tonnes of carbon, the average person in an OECD country is expected to emit an additional 126tC over the remainder of their lives.<sup>2</sup>

These figures confirm that individuals can only make an extremely small difference to the total stock of GHGs in the atmosphere (CO<sub>2</sub> being the most important GHG). Still, my personal emissions increase the stock of GHGs in the atmosphere by a very small amount, which in turn increases the radiative forcing of GHGs by a very small amount, which in turn entails a very small increase in the mean temperature of the planet. However, if one defines ‘making global warming worse’ as making *more* people worse off or *hurt worse* due to temperature increases (Sinnott-Armstrong, 2005: 290–294), then one individual’s emissions appear to be far too small to be harmful. However, this conclusion has been challenged.

John Nolt (2011) calculates that the average US citizen’s lifetime emissions is responsible for the death or

suffering of two people out of an estimated four billion that will be seriously harmed over a millennium. Nolt arrives at this number by taking the percentage of total man-made emissions an average American is responsible for in a specific warming scenario and multiplying it with the total harm estimate for this scenario. Based on these numbers Avram Hiller argues that a failure to reduce my non-essential emissions is the moral equivalent of directly harming other agents (Hiller, 2011: 355–359). If this were true one could straightforwardly appeal to direct negative impacts on others in order to establish that individuals have strong moral reasons to reduce their non-essential emissions irrespective of what others do. Yet to assess if my emissions *considered in isolation* could cause such direct harms we cannot use Nolt's approach. Instead we need to ask questions like what harm would my emissions bring about if nobody else emitted or what difference would it make if I stopped emitting GHGs while others continued as usual, halved their emissions, or doubled their emissions?

In one sense Hiller does attempt to isolate the effect of a single individual in that he calculates the 'expected marginal increase in harm if an individual' emits GHGs at a certain level (Hiller, 2011: 358). To see what this entails, let us first say that we expect that four billion people will be killed by the emissions two billion average high-emitters make. Simplifying quite a bit, we conceive of human induced global warming as a series of shifts in the climatic system that cause 100,000 deaths each. Each of these thresholds are caused by a large aggregation of GHGs emission made up of the lifetime emissions of 50,000 emitters. I cannot know if my emissions will be the emissions that push the system past a threshold in one of the series of thresholds. Nonetheless, the chance that my emissions will push the system over the 50,000 mark in one of the series of thresholds is 1/50,000. This means that the expected marginal increase in harm from my emissions is  $1/50,000 \times 100,000$  or two deaths (Hiller, 2011: 358–359).

The problem with Hiller's approach is that it does not give us any reason to believe that it is empirically possible that my emissions choices could make the type of difference imagined above. Using Nolt's scenario we can very crudely calculate that the average high-emitter's lifetime emissions will contribute on the order of a billionth of a degree to a total 3°C increase in global mean temperature.<sup>3</sup> Hiller's argument is thus dependent on the claim that when my emissions cause an increase in the global mean temperature from 2.9999999896096°C to 3°C there is a small but normatively significant probability that this change will cause a large number of deaths.<sup>4</sup> However, simply conceiving of individual emissions as triggering harmful climatic thresholds for the purpose of calculation is not an argument for the claim that an individual's emissions can actually have this type of threshold effect.

Hiller claims that it would be 'metaphysically odd' to argue that the sum of a set of individuals' emissions causes a large harm but that each individual's emissions contribute no harm (Hiller, 2011: 354–355). However, this is not obviously the case. For example, the impacts flowing from a strengthened greenhouse effect are not just the result of the rate of warming and the global temperature peaking point, but also the result of this temperature stress persisting over time. Thus the effect of reducing the peaking point by a billionth of a degree and slowing the rate of warming by a fraction of a second may be to only faintly delay the harmful outcomes warming of 3°C would cause over time.

Because the effects of my emissions are dispersed over the entire planet, over an extremely long period of time, and over an extremely large number of people it seems plausible that the effect of reducing my emissions could be to trivially expand the range of time over which human induced global warming will be harmful as opposed to potentially reducing the harm global warming will cause.<sup>5</sup> In other words, we do not yet have a clear reason to think that there is a normatively relevant probability that a single average high-emitter could trigger a change in the Earth's climate that could cause a large number of deaths as Hiller claims. It may of course only appear that a billionth of a degree makes a trivially small difference, but in that case what we need is an empirical account explaining how temperature changes on this order lead to morally important harms.

Few approaches to morality will take the harmlessness of each individual's contribution to a collective harm to undermine each individual's obligation to do their part in a collective effort to avoid this harm. If we take the collective effort to be a requirement of justice, failing to do one's own part would violate standards of fair burden sharing. Moreover, a principled rejection of individual obligations to do one's fair share entails a normative standard

that would bring about bad outcomes compared to a rule requiring general contribution (Parfit, 1986: 75–86). This is why Johnson and Sinnott-Armstrong cannot simply point to their first claim, the harmlessness of an individual's emissions, to reject moral obligations to reduce personal emissions. In order to defend their position they must also establish their second claim that acting unilaterally is futile.

Because access to the atmospheric sink is genuinely open, agents directly enjoy the benefits associated with emitting GHGs but disperse the associated environmental damage onto everybody. This is thought to create a tragedy of the commons dynamic where any particular agent's emissions reductions do not make it any more advantageous for others to do likewise. This means that no agent expects to do better by choosing to reduce his emissions even though all the agents would do better if they each reduced their emissions. However, when depleting a local common resource (e.g. a fishery) there are clear connections between agents' resource usage and impacts on each member of the community's interests in maintaining the resource. These connections facilitate communication and learning among the community of users and can lead to successful management of the common resource (Ostrom, 1990). Yet, in the climate case these connections are much less straightforward.

The threats future warming pose are not directly linked to the goods that cause emissions such as transport, heating, consumer products, and meat production. Moreover, emitters externalise the associated impacts widely over the entire planet and over time on to future people. As a result, the groups that use the most resources are not the same groups that will be harmed the most by this resource usage. This type of externalising does not only mean that the benefits of emitting GHGs are unusually large in comparison to the gains from refraining from emitting, it also means that the impacts from one's emissions appear uncertain, far off, and abstract. Finally, there can be very large variations in incentives within the group of agents who gain the most from emissions. Companies and political communities with the largest direct benefits from the burning of fossil fuel have the strongest immediate stake in proposed reforms and a strong incentive and capacity to lobby for the status quo (see Johnson, 2003: 274–277; Stern, 2011: 213–218).

Given this kind of commons problem there is good reason to doubt that unilateral personal emissions reductions will contribute in a meaningful way to bringing about collective schemes for regulating, monitoring and enforcing emissions reductions. This brings us to Johnson's and Sinnott-Armstrong's third claim. Prior to the implementation of effective collective efforts obligations to reduce personal emissions would entail large costs to avoid doing something that is both harmless and does not generate incentives for others to reciprocate. As a result, individuals chiefly have obligations to support the establishment of government mitigation policies as opposed to making personal lifestyle changes (Johnson, 2003: 283–284; Sinnott-Armstrong, 2005: 304). Critics have countered that personal emissions reductions are not wasted because they promote and demonstrate the feasibility of greener lifestyles. Before addressing this line of reasoning in section III, I will show that there clearly can be an obligation grounded in fairness to reduce one's emissions before collective efforts are adopted.

Avoiding dangerous levels of global warming requires that atmospheric GHG concentrations peak and then stabilise at some safe level. Recent studies indicate that a total anthropogenic emissions budget of approximately a trillion tonnes of carbon would give us about a 50% chance of keeping warming below 2°C (Allen et al., 2009; Meinshausen et al., 2009). Half of this budget has already been emitted and on current trajectories the next half will be emitted within approximately 40 years.<sup>6</sup> There is a debate about how much risk we should accept in setting a temperature target and about which targets are realistic goals. However, these debates do not change the fact that any effective mitigation policy must aim at some highly constrained emissions budget (see Shue, 2009).

The emissions the group of high-emitters make prior to the establishment of a collective response affects the ways in which all agents are going to be constrained by a safe global emissions budget. My personal emissions deplete this budget in exactly the same way both prior to and after the implementation of policies to maintain it. Consequently, the question of fair use of the budget is raised both prior to and after the implementation of collective mitigation policies. If I have a moral obligation to support the collective implementation of an emissions budget and such a project appears achievable, it would be unfair if I also flagrantly exploited my comparatively large capacity to emit and my temporal position of not currently being subject to constraints. The large majority of those who will

have to operate within the global emissions budget will not enjoy this combination of advantages.

In theory one could address the above concern by taking past emissions into account when distributing what remains of the global emissions budget once the collective scheme is in place. However, by continuing to emit in an unconstrained way (i.e. without emissions limits or costs) what I *de facto* do is shift, at least to some extent, constraints onto others. A fair distribution of a reasonably safe global emissions budget that takes post 1990 emissions into consideration entails that highly developed regions will have to make large cuts in domestic emissions and finance significant emissions reductions in less developed regions (Baer et al., 2008: 74-76). As time goes by I am increasing the likelihood that I will not be able to contribute my fair share to satisfying these commitments (i.e. due to death or to too little time to meet my share of these commitments). By emitting unrestrictedly I am also taking advantage of political conditions that make it unlikely that a negotiated global scheme will result in very low or negative emissions entitlements for the world's most developed regions. Thus by continuing to emit in an unrestricted fashion I unilaterally shift the expected emissions constraints of maintaining a safe budget onto others.<sup>7</sup>

Because any environmentally effective emissions budget must have some significant bite on the unrestricted emissions of people like me I cannot avoid questioning whether or not some of the emissions I make fail to satisfy a plausible standard of fair use of the atmospheric sink. It of course remains true that my emissions choices can only affect future emissions entitlements (i.e. within the budget) in an extremely small way. But within the debate I am addressing we have already accepted that individuals can have duties to do their share of a collective project even when their contribution is extremely small. Thus, the point is that I can do my fair share prior to the establishment of collective efforts by reducing personal emissions that do not appear to be justifiable given 1) the kinds of constraints a safe emissions budget is going to impose on a set of agents and 2) an assessment of others' emissions needs within a global project to maintain such a budget.<sup>8</sup> Moreover, when effective collective efforts can only arrive in the future, contributing to these efforts before they are actually put into action may in fact be necessary if I am to do my fair share.

Unfortunately concerns over fair use of a global budget only arise if there is some reasonable probability that governments will heavily constrain GHG emissions. In the following section I will argue that this condition is in fact not satisfied. Because of the extreme nature of the cooperation problems involved in bringing about effective mitigation policies it appears unlikely that governments will take on such commitments.

## II. WILL EFFECTIVE COLLECTIVE EFFORTS ARRIVE IN TIME?

Global CO<sub>2</sub> emissions must be reduced to at least half of current levels by 2050 if we are to have even a reasonable chance of keeping warming below 2°C. The international community has been trying to address the peril of global warming for twenty years with little progress, and as a result we now only have within a decade to redirect the powerful trend of increasing emissions if we are to maintain such a target (IPCC, 2007b). The task is massive because on current trajectories CO<sub>2</sub> emissions are expected to be 40% greater than current levels by 2030 (International Energy Agency (IEA), 2010: 61).

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 an expectation that environmentally effective international coordination will be difficult to achieve and that individual states will not be strongly motivated to act unilaterally (Barrett 2005: 359–405; Sandler 2004: 212–34). Moreover, the very long atmospheric life of CO<sub>2</sub> 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. Lags in the climate system risk producing an incentive structure where no generation sees it as in their interest to mitigate and humanity gets stuck on a destructive pathway (Gardiner, 2001: 402-406).

Agents can of course have a concern for the welfare of future generations or find that the risks of global warming over their lifetimes are not tolerable. However, Chrisoula Andreou (2006) notes that when the

environmental costs associated with continuing to burn fossil fuels for an additional short period of time are low compared to the short-term benefits it can be rational to continue to use polluting energy infrastructures despite a long-term preference to move over to non-polluting infrastructures. The idea is that for any given year in a series we have both a rational preference to pollute for one more year and a rational preference for a final state of affairs with a very low accumulation of years of pollution ( $P < P+1$ ,  $P+1 < P+2$ ,  $P+2 < P+3$ , ..., but  $P+100 < P$ ). Like in Warren Quinn's puzzle of the self-torture, agents may find it difficult to identify a good point in time to stop producing small levels of environmental degradation that will eventually add up to an environmental catastrophe they do not prefer. The worry is that this kind of incentive structure can produce the type of delay that undermines the entire mitigation project (Andreou, 2006; 98-108).

Empirical evidence shows that there are conditions where common pool resources, including global commons, can be successfully protected on voluntary terms (Ostrom, 1990; Barrett, 2005). However, a closer look at the nature of the political challenge climate change has produced does not lead to optimism. Work on the political economy of climate change highlights six key obstacles that together have produced extremely unfavourable conditions for effective climate politics:

- 1) The large number and variety of actors that must be coordinated (Ostrom, 1990; Sandler, 2004).
- 2) The scale and sway of the fossil fuel industry and its constituencies (Dangerman & Schellnhuber, 2013).
- 3) Divergence between which countries face the most harmful impacts of climate change and which countries face the largest mitigation costs (IPCC, 2007).
- 4) Large upfront costs to cut emissions while pay-offs in terms of avoided climate change arrive largely over the much longer-term (Gardiner, 2001).
- 5) The lack of a natural leader - i.e. the lack of an economically powerful state with strong *unilateral* incentives to cut emissions and entice others to cooperate (Barrett, 2005).
- 6) High technological cost, complexity, and uncertainty (Kannan, 2009).

The problem of ozone depletion is the most comparable global commons problem to climate change, but in that case the above obstacles were either not present or not present to nearly the same degree. The number of actors to coordinate were fewer and more similar, the relevant industry interests were much smaller and not as entrenched, those facing the greatest mitigation costs had the most to gain from protecting the ozone layer, recovery of the ozone layer was expected comparatively much sooner, the United States (the largest emitter) had strong incentives to act unilaterally and lead internationally, and alternative technologies were much less costly and complex (for a more detailed overview see Maltais, *in press*). The important point to notice then is that both the general type of cooperative problem climate change has produced and the obstacles specific to the climate case *all* create strong incentives for delaying significant mitigation efforts. Together this package of incentives can produce devastating political feedbacks.

Delay significantly raises the cost of future mitigation efforts and locks us into expanded polluting energy structures over a much longer period. This undermines our capacity to make rapid reductions in GHG emissions. 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 it is not just that immediate action is required to get onto a reasonably safe emissions trajectory. Without immediate action there is good reason to expect that the preference for short-term interests can actually get much stronger.

Adopting policies that would limit global warming to some safe range appears to be technologically feasible and well within economic means (IEA 2010: 523). Moreover, energy need not be scarce despite the fact that the amount of GHGs we can safely emit is strictly limited. There are also large potential co-benefits of reforming energy infrastructures. Still, based on an understanding of current conditions and emissions trends, the kind of commons

problem global warming presents us with internationally and intergenerationally, and an understanding of the time constraints imposed by climate developments and energy structure inertia, it is extremely difficult to argue that we will stay within a strict emissions budget over the next half century. There is some shifting towards low carbon energy structures and it would be unwise to predict that these structures we will not someday dominate. Moreover, technological advances and market changes for renewable energy may even bring about rapid changes. Still, there should be considerable doubt that a rapid and comprehensive scaling up of low-carbon energy structures will soon be set in motion because governments will shortly enforce effective emissions budgets.

We cannot rely solely on the types of analyses that treat agents as chiefly motivated by self-regarding interests. Such assumptions would fail to explain the fact that many individuals, organizations, states and the international community have already taken some costly, even though inadequate, steps. However, self-regarding interests are *some* of the important motives agents have. My account is pessimistic about the prospects for major mitigation efforts because it is far from clear that there is significant movement to address the barriers to cooperation existing incentive structures create and that appear to best account for the political inertia we have witnessed to date. This is especially true given that 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.

As explained in the previous section, it is the prospect that a strictly limited emissions budget will be imposed that raises the question of whether or not I am using my fair share of this budget. However, if we have an expectation that such a budget will not be imposed the argument that I am unfairly exploiting the emissions opportunities that remain no longer works. As we have seen, the difference to future climate impacts the average high emitter can make appears to be morally insignificant. If it is unlikely that we will collectively impose a seriously constrained global emissions budget, the upshot is that there are neither fairness-based nor outcome-based reasons for seeing personal emissions reductions as morally obligatory under current conditions.

### III. DO I HAVE AN OBLIGATION TO REDUCE MY EMISSIONS REGARDLESS OF WHAT OTHERS DO?

Dale Jamieson has suggested that rather than make assessments of the expected utility of one's individual efforts, those concerned with producing better outcomes should non-contingently adopt a set of 'green virtues' (Jamieson, 2007: 167). The idea is that this is the psychological stance individuals should take in order to produce needed changes in societal norms and rules. (Jamieson, 2007: 168–169). As Jamieson puts it 'green virtues would never take hold if their particular expressions were systematically exposed to the test of utility; so if we think that having green virtues is utility-maximising overall then we ought not to so expose their expressions (except in extreme cases, of which, I have been assuming, this is not one)' (Jamieson, 2007: 175).

The extreme cases qualification is necessary because if 'there is some threshold of cooperation that must be surpassed' but 'this threshold will not be surpassed regardless of what I do, then it might be best for me to act in some other way than to exemplify green virtues' (Jamieson 2007: 177). What I have argued is that even though major reform is clearly achievable, as a political problem global warming does present us with an extreme case.

For a standard common pool resource the establishment of green virtues can feed off of the self-regarding value each user places on the resource being sustained and on norms of fair reciprocity among these users. As we have seen, in the climate case when some of my contemporaries reduce their emissions they do not provide *me* with a good or an opportunity to reciprocate as it is usually conceived. In response to this problem Jamieson is pointing out that individuals can still have an impact on what others think they ought to and can do by choosing and thus promoting more sustainable lifestyles. Nevertheless, achieving a proliferation of *acting* on green climate virtues all over the world will predictably take longer than for other environmental values. This concern becomes acutely relevant if addressing the problem is environmentally, technologically, and politically time constrained, as I have suggested.

I am not claiming with certainty that collective efforts to aggressively constrain GHG emissions are not forthcoming. Moreover, to defend Jamieson's argument it is sufficient to establish that prescribing green virtues has

a reasonable likelihood of bringing about better outcomes (Jamieson, 2007: 179–180). However, if there does not appear to be a realistic likelihood of bringing about better outcomes because it appears unlikely that effective collective efforts are forthcoming burdensome personal emissions reductions cannot be a moral requirement (Parfit, 1986: 100–102; Jamieson, 2007: 177).

The argument so far leaves open the possibility that there is something intrinsically wrong about failing to reduce my emissions. The idea here is that individuals have a special responsibility for what they do irrespective of whether or not it has any impact on outcomes or any implications for fairness (Williams, 1973: 93–100). For example, one might argue that it is intrinsically wrong to work for a company that trades in natural resources stolen from a poor country's people by its corrupt leaders. I have a moral obligation to refuse to participate in this exploitation even if this will have no impact on the company's ability to fill the otherwise attractive position. My personal GHGs are not, I will argue, intrinsically wrong in this way.

No damage or noticeable change happens to the natural world from my emissions considered in isolation. As a result these emissions do not amount to a failure to recognise the intrinsic beauty and value of natural environments. Second, an individual act of emitting GHGs in our radically non-ideal political conditions does not amount to being complicit in a harmful, exploitive, and/or inherently wrong project. Each individual emitter is involved in harmful pollution of the atmosphere, but the question is what moral status do my personal emissions have when it appears that overall emissions aggregation will continue to increase largely unhindered? In these circumstances my emissions cannot be inherently morally wrong because of the wrongness of emissions aggregation. If my emissions are inherently bad *irrespective* of what others do this badness must be grounded in something about these emissions considered in isolation. Yet, considered in isolation my emissions are not, for example, like an individual and private act of racism that is inherently wrong even if the act has no effect whatsoever on others.

The implication is that given current conditions I cannot have a moral obligation to reduce my emissions because harmful outcomes, unfairness, and/or intrinsic wrongdoing are not avoided by doing so. Contrast this with a situation where there are large-scale and effective collective efforts and I choose to evade doing my small part in them. This individual choice makes only a tiny difference to outcomes but is a failure to do my fair share. In addition, my unwillingness to cooperate entails a failure to appreciate the inherent values the collective project aims at, standards of personal integrity, and my role as a member of a moral community (Hourdequin, 2010). The point is that virtue or duty based obligations to reduce one's GHG emissions are in one way or another necessarily bound-up with moral reasons for reducing emissions due to their aggregative effects (Lichtenberg, 2010: 568).

#### IV. THE OBLIGATION TO AT LEAST VOTE GREEN

Given the need for large-scale collective action, Johnson argues that individuals ought to 'organise' (Johnson, 2003: 283–284). Sinnott-Armstrong tells the environmentalist to come down from his hut on the mountaintop to 'work for political candidates' (Sinnott-Armstrong, 2005: 304). Jessica Nihlé'n Fahlquist argues that it is reasonable to expect individuals to create, support, and join environmental organisations (Fahlquist, 2009: 121). At the same time it has been recognised that avoiding the appearance of hypocrisy, false or not, is crucial for the credibility of these types of advocacy (Hourdequin, 2010: 447–451; Johnson, 2003: 284–285). The conclusion is then that individuals have moral obligations to invest heavily in political advocacy and indirect political reasons to reduce their own emissions in support of this advocacy.

Some individuals must act as first adopters, advocates, and political leaders if we are going to change our current path. The argument here does not recommend against pursuing these roles, but it does show that it is problematic to claim that we each have an *obligation* to take on these roles. The average individual can only anticipate having a very small impact on getting governments/collectives to use their capacity to act. As a result, what can be morally obligatory for individuals in general must also take into account the likelihood of effective collective action. Because we are forced to judge this likelihood as low, one cannot defend the view that agents should see heavy investment in advocacy and personal lifestyle changes as morally obligatory. Instead, our obligations under current conditions should entail only low costs because we have a realistic expectation that



effective collective action will not occur and that our personal efforts will be wasted. Personal obligations should also be implementable and potentially effective within the near term in response to the limited timeframe for an environmentally effective response. An obligation to vote for those parties/political agendas that will best promote the necessary reforms can satisfy both of these requirements.

Voting signals a willingness to accept the costs, along with others, of a serious collective mitigation effort.<sup>9</sup> In an extremely small but aggregative way voting also directly supports the adoption of the costly policies in question.<sup>10</sup> Other kinds of political action can clearly be more effective and adopting a greener lifestyle may very well produce more positive societal change. Some individuals can surely have a large impact on what others do by adopting these promotional strategies. Still, it remains true that the average individual can only be expected to make a very small difference to how others act with any of the promotional strategies they might adopt. Thus voting green is like other promotional strategies an individual can adopt in that the expected effects are small. However, voting can be morally obligatory because its very small impact is a corollary of its very small cost to the voter. Voting also has the potential to be effective over the short-term even if it is hard to be optimistic that a wave of green voting will occur. There are of course large potential costs associated with voting green (i.e. those associated with the implementation of green political agendas), but these only arrive once there is an argument in fairness for accepting them.

Once it appears that there is a reasonable likelihood that effective collective efforts will be forthcoming, it follows that a failure to act unilaterally to mitigate one's own non-essential emissions can entail an unfair exploitation of a safe global emissions budget. With this in mind, one might simply reject my assessment of the obstacles to effective collective action. If it can be shown that things are not nearly as difficult as I paint them to be, high emitters may very well have reasons grounded in fairness to undertake at least some immediate and unilateral personal emissions reductions. At the same time, we should also hope that my account is not too optimistic and that a moral obligation to vote green is itself defensible.

## V. OBJECTIONS TO AN OBLIGATION TO VOTE GREEN

The argument for an obligation to vote green intentionally makes weak demands. However, it still seems far too weak to be a plausible account of what individuals ought to do about a pollution problem they contribute to. It also seems far too intrusive to suggest that individuals have obligations to vote in a certain way. With regards to requiring too little, one might complain that even the low probability of effective collective efforts should be enough to justify obligations to make beneficial, no cost, or very low cost emissions reductions. This argument does respond to the unlikelihood of effective collective action and we should view these types of emissions reductions as obligatory despite radically non-ideal political conditions.<sup>11</sup> However, this does raise a problem that I cannot address here, namely how to decide what counts as no or very low cost reductions.<sup>12</sup>

A different kind of objection is that voting on its own cannot be sufficient because mitigating climate change requires international action. However, one of the things to take from the analysis in section II is that a key ingredient to improving the prospects for international cooperation is for economically powerful states, many of which are democracies, to implement policies that produce investment in and adoption of new technologies and infrastructures at a scale that can genuinely improve and demonstrate our capacity to rapidly shift to low carbon economies. This means that individuals in wealthy democracies can help to address the international challenge by voting green domestically. Still, the upshot of my argument is that if you do not have low cost ways of engaging in advocacy you do not have any such obligations in our radically non-ideal conditions. This conclusion forces us to acknowledge the special responsibilities citizens of economically powerful democracies and people in positions to influence public policy have to do something about the extremely poor political conditions for dealing with the threat of global warming.

Moving on to the concern that an obligation to vote green is too intrusive, it should first be made clear that I am not suggesting that individuals can justifiably be coerced to vote a certain way. Rather, the claim is that in order to demonstrate sufficient concern for the interests of those who will be harmed by global warming one at the very

least has a moral obligation to vote green. This claim does not challenge each individual's democratic and legal right to vote as they see fit. What it does challenge is the idea that how one votes has some special exemption from moral assessment.<sup>13</sup> A different objection is that voting green involves high costs like getting informed about the climate problem. This objection has some weight, especially given the extent of disinformation in the media in some countries. Still, there does not appear to be a lack of easily accessible information about climate change while ignorance often risks being self-serving.

Another complaint is that voting green could entail supporting all kinds of policies that one objects to. The appropriate response to such a situation is an all things considered judgement, although the scale of the potential harm from global warming is going to weigh heavily in any such judgement. Moreover, I am not arguing that one is limited to voting green in order to satisfy one's obligations. My claim is that the minimal level of support that is morally required is to vote green. Finally, one might object that if we follow my reasoning people will have a long list of obligations to vote in this or that way for this or that cause. If we do regularly find ourselves facing a set of problems as serious and as politically intractable as global warming this will not show that my argument is too intrusive but will instead speak to the poor state of the world.

## CONCLUSION

I have shown that the simple fact that addressing climate change requires large-scale collective efforts does not undermine obligations for individuals to unilaterally reduce their GHG emissions before collective action is secured. There are conditions in which i) I can only do part or all of my fair of Collective Action X now, ii) Collective Action X can only arrive in the future, and iii) in order to do my fair share of Collective Action X I must do it before this collective action is underway. However, because the prospects for achieving effective collective action are so poor in the case of climate change it is nevertheless, I argue, extremely difficult to defend a moral obligation to make burdensome cuts in personal emissions. Following this line of reasoning has not been just another exercise in developing a couple of counter-intuitive turns and a conclusion designed to provoke. Moreover, the point has not been to argue against the crucial importance of political activism and personal choices in bringing about green reform. Rather, the main point of showing how difficult it can be to argue for moral *obligations* to reduce one's emissions has been to highlight how acute the political challenge we currently face actually is. In particular, I hope to have brought further attention to the severe difficulties caused by delaying large-scale mitigation efforts.

There has been an increasing focus among normative theorists on the question of personal responsibility for emissions reductions. My worry is that this is a sign of desperation at the political inertia and apparent political intractability of addressing the climate threat. Asking questions about personal responsibility is of course a natural reaction when existing political institutions appear to be inadequate and it is also unclear what kinds of institutional arrangements could be effective. However, the reasoning in this paper shows how extremely problematic political conditions have implications for our thinking about climate justice all the way down to the individual level. By pointing to these relationships I hope to have made the case that we should dedicate much more attention to non-ideal features of climate politics, especially to efforts to improve the underlying conditions for achieving large-scale climate cooperation. Sometimes we can be compelled to pay attention to a deeply troubled relationship by being told about all the things we must do to fix it. Sometimes, however, the only thing that will really get your attention is to hear that there is very little you must do.

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<sup>1</sup> Based on an increase of atmospheric CO<sub>2</sub> concentrations from the estimated pre-industrial level of 280 ppm (IPCC, 2007c) to a 2010 global mean of 388 ppm (U.S. National Oceanic & Atmospheric Administration, 2011). To convert ppm CO<sub>2</sub> to gigatonnes of carbon multiply by a factor of 2.123 (Enting, Wigley & Heimann, 1994).

<sup>2</sup> Yearly per capita emissions in the OECD are currently around 11.6tCO<sub>2</sub> or 3.16 tC (EIA, 2010: 133; World Bank, 2010: 71). The average median age in OECD countries is 39 years (Central Intelligence Agency, 2011) and life expectancy is 79 years (OECD, 2010). Thus 3.16 tC \* 40 years = 126tC.

<sup>3</sup> To make this estimate we first assume that in Nolt's 450 ppm scenario an increase in atmospheric CO<sub>2-eq</sub> concentrations from 280 ppm to 450 ppm will result in an increase in global mean temperature of 3°C (IPCC 2007b, p. 15). The total increase in atmospheric CO<sub>2-eq</sub> is 170 pmm or 360.91 GtC (170 ppm \* 2.123). Let us further say that roughly half of the average OECD citizen's lifetime CO<sub>2</sub> emissions add to the atmospheric stock of carbon while the other half will be absorbed by carbon sinks (3.16 tC \* 79 years /2 = 125 tC). If a 360.91 GtC rise in atmospheric carbon causes a 3°C rise in temperature then we can *very crudely* calculate that the average OECD emitter's carbon

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emissions in the 450 ppm scenario account for  $1.03904 \times 10^{-9} \text{ }^\circ\text{C}$  of this increase ( $3^\circ\text{C} / 360\,910\,000\,000 \text{ tC} = 1.03904 \times 10^{-9} \text{ }^\circ\text{C} / 125\text{tC}$ ).

<sup>4</sup> It may be the case that any action has some extremely small probability to cause a harmful event due to so called 'butterfly effects'. However if the probabilities are extremely low and/or *any* action could cause such an event there will not be any normative implications of the kind under consideration here.

<sup>5</sup> A different argument is that tiny effects on many people add up to serious harms. If my emissions shorten four billion lives by one second each the sum effect would amount to 127 life-years. Disregarding potential non-identity issues, no agent who loses a second of life can claim that their loss morally outweighs my interest in making emissions. Moreover, there is no agent for whom the sum of moments lost is a bad thing. On a person-affecting account, without an intelligible answer to the question 'for whom ought I to reduce my emissions' there cannot be an 'ought to' reduce my emissions. When and/or whether we should adopt person-affecting accounts of morality is a hotly debated question that I cannot address here. Still, alternative views should give an account for why an individual emitter is obligated to make a large personal sacrifice to avoid at most trivial impacts on others for the case as I have described it.

<sup>6</sup> See <http://trillionthtonne.org/>.

<sup>7</sup> I owe a special thanks to Elizabeth Cripps for pressing me on these points. See her discussion of obligations to reduce personal emissions in her book *Climate Change & The Moral Agent* (Cripps, 2013: esp. 128-131).

<sup>8</sup> For the purpose of my argument it is not necessary to identifying what the standards of fair use ought to be in the full compliance or partial compliance conditions, although I recognise that these may diverge. Also note that considering the emissions needs of all the relevant agents will include things like the emissions necessary to build new energy infrastructures.

<sup>9</sup> This will of course work best when the party/policy one votes for is clearly identifiable by the public as green in the relevant sense.

<sup>10</sup> The argument is not that it is rational for individuals with green preferences to vote green but that individuals have a moral obligation to contribute the effort involved in voting green.

<sup>11</sup> I owe this point to Catriona McKinnon.

<sup>12</sup> It is not obvious how to arrive at a standard for what counts as no or very low cost reductions without introducing the kind of 'fair use of the global emissions budget' reasoning I have argued radically non-ideal conditions currently rule out.

<sup>13</sup> For a recent study supportive of this view see Brennan (2011).