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2 December 2012

POL413: Global Environmental Politics
Climate change and democratic legitimacy

A child born in 2012 will be middle-aged in mid-century and can hope to live until 2090 or beyond. Based on modern estimates of climate sensitivity and business-as-usual greenhouse gas (GHG) emission scenarios, it seems likely that these children will live to see dramatic climatic changes gaining force through their lifetimes, including steadily rising sea levels, the increasing incidence and severity of extreme weather events, and major changes in weather and precipitation patterns globally. Furthermore, it seems likely that these consequences will endure for centuries or millennia after these GHGs are originally emitted. The normative and political significance of this has not yet been well integrated into political theory or the practice of democratic politics.

The power of democratic governments over individuals is primarily justified through the claim that these governments represent the preferences or the interests of the populations they govern. The modern democratic perspective has resulted from an evolution in the notion of who is part of the polity, with political franchise gradually expanding from a narrow set of property-owning males to include the poor, members of racial minorities, and women.[1] While the argument that popular consent legitimates the use of power by governments is generally convincing, it runs into problems when we start thinking about choices with irreversible long-term impacts, as well as those involving catastrophic risks. Because climate change involves both of these phenomena, it is worth considering whether the consent of the population alive and

[1] Stephen Gardiner draws a direct parallel between the problem of the tyranny of the majority in democratic societies and our ongoing dismissal of the interests of future generations, in relation to climate change. Stephen Mark Gardiner, A perfect moral storm : the ethical tragedy of climate change (New York: Oxford University Press, 2011). p. 143

voting today is sufficient justification for the important and irreversible choices that are being made now in relation to energy and climate change - choices that will have a substantial effect on the lives of human beings living for thousands of years in the future. The interests of these individuals are not being represented in the current political system, raising the danger that we will impose large costs and risks upon them in exchange for relatively trivial present-day benefits. If we accept the possibility that these people are appropriate subjects for moral consideration, it may follow that we are unjustly imposing costs and risks upon them. There are also additional lines of argument in the climate ethics literature that suggest that members of future generations are being ill-treated and that the democratic justification for our current choices is unsatisfying. If these additional claims are accepted, it makes sense to think about ways in which the interests of future generations can be better incorporated into the political systems of democratic states, either through institutional means or by calling on individual voters to alter their behaviour, including their engagement with the political system.

This paper will do four things. It will describe key elements of the scientific consensus on the causes and probable consequences of anthropogenic climate change. It will also examine the emerging climate ethics literature to consider what normative implications arise from climate science. After considering the relevance of these normative implications to the legitimacy of democratic governments, it will consider two general pathways to a more inclusive democratic politics that better takes into accounts the rights and interests of those in future generations. One option is to incorporate these rights and interests into the institutions of democratic states - for instance, by creating powerful individuals or organizations charged with defending them. Alternatively, individual citizens in democratic states can be called upon to make choices that take into account more than just their own immediate interests. Individual voters may have an

obligation to behave non-psychopathically toward members of future generations, and it may be possible to find some way to drive them to take that obligation seriously.[2]

This paper will focus on the normative politics of climate change from a human-centric point of view, in which the key ethical questions concern the impact of today's choices on human beings in the mid-to-distant future. This is not meant to exclude the possibility that there may be important normative obligations related to non-human animals or the rest of nature. Scientific assessments have highlighted the danger that climate change could disrupt the intricate relationships between species that constitute ecosystems, particular when climate change takes place alongside continuing habitat destruction and other forms of human disruption of the rest of nature.[3] Given that plants and non-human animals have a lesser ability to adapt intelligently to changing climatic conditions, it seems fair to say that whatever the strength of the moral case for preventing dangerous climate change for the benefit of human beings, the case becomes somewhat stronger when the interests of other species are given consideration as well. Also, it is worth noting the reality that human life is dependent upon the Earth's biological systems. As a result, the protection of non-human nature can indirectly serve human ends.

What is democratic legitimacy?

To begin with, it is necessary to establish a preliminary notion of what 'democratic legitimacy' means in the context of governmental decisions on climate and energy policy. While the question will be engaged in greater detail below, it is worth noting to begin with that there are two potentially quite different mechanisms through which legitimacy can be evaluated: in

[2] By 'psychopathic' behaviour, I mean behaviour that ignores the rights and interests of all parties other than those making the choice. Psychopathy is characterized by the absence of empathy and the willingness to use other people as means for advancing personal ends, even when such usage is harmful to them.

[3] See, for instance: Stephen J. Thackeray, et al, "Trophic level asynchrony in rates of phenological change for marine, freshwater and terrestrial environments," Global Change Biology 16.12 (2010): 3304-13,.

terms of the variously-informed and self-interested judgment of citizens at the time when the decisions are made, and in terms of the idealized perspective of observers who have full information about the consequences of choices and who are able to abstract their own interests from their judgment. In some cases, the judgment of the populace at the time of decision may accord well with a well-informed and dispassionate assessment undertaken by disinterested outsiders. In cases where the two assessments diverge substantially, it is worth considering whether this reflects a conflict of interest between the current generation – which stands to benefit substantially through continued unlimited fossil fuel use, and which will likely not suffer the worst effects of climate change – and future generations which gain nothing from our vacation flights to Hawaii and propane-fuelled patio heaters, but who may find themselves in a world of ever-rising oceans and dangerously unpredictable weather.

In order to develop an adequate conception of what legitimacy means in this context, we must consider some of the most salient features of climate science and the emerging climate ethics literature. I will now turn to each in turn.

Climate science

Even to summarize the extant climate change science far exceeds the scope of this analysis. That said, there are salient major features of climate science that bear upon the normative and political questions being considered here. Among these are the probable severity of unmitigated climate change, the likelihood of irreversible effects, and the possibility of catastrophic climate change (defined here, at a minimum, as the substantial disintegration of the Greenland and West Antarctic ice sheets). Each of these empirical claims about the nature of the climate system has normative consequences.

The most comprehensive analysis of the science of climate change is found in the reports of the Intergovernmental Panel on Climate Change (IPCC). Indeed, the four IPCC assessments of the peer-reviewed science of climate change probably represent the most comprehensive examination of any scientific question in human history. As a consequence of the level of scientific effort applied to questions about climate change, a robust understanding of the key dynamics has emerged, supported by multiple mutually-reinforcing lines of evidence. The strength of the scientific consensus is reflected in a remarkable statement from the national science academies of the G8 countries plus Brazil, China, India, Mexico, and South Africa.[4] The statement highlights the strength of the scientific consensus, the seriousness of climate change, and the need for governments to take action.

Unless humanity deviates from the course of burning all the available fossil fuels, the climatic consequences are expected to be substantial. In the Summary for Policymakers included in the *Fourth Assessment Report* of the IPCC, projected impacts include a "very likely increase in frequency of hot extremes, heat waves and heavy precipitation" and a "very likely precipitation increases in high latitudes and likely decreases in most subtropical land regions, continuing observed recent trends". The summary describes likely impacts on storm intensity, snow cover and permafrost, annual river runoff and water availability, and other changes in climatic parameters that are likely to have serious consequences for human civilization.[5] Above 2˚C of warming, the IPCC projects substantial impacts on water, including hundreds of millions of people being exposed to increased water stress, ecosystems (up to 30% of species at increasing risk of extinction), food (including decreases in the productivity of cereal crops),

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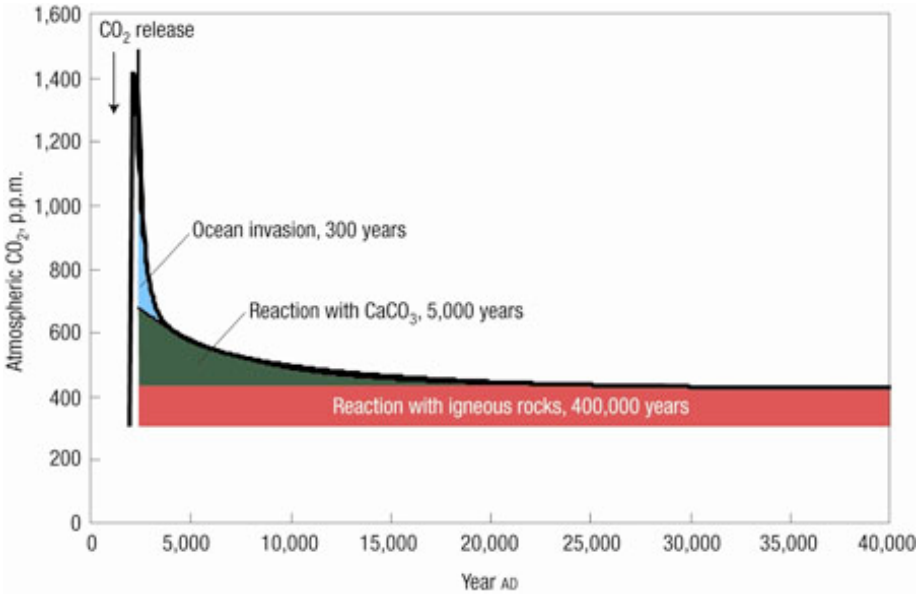
[4] Academia Brasileira de Ciéncias, Brazil, et al, G8+5 Academies' joint statement: Climate change and the transformation of energy technologies for a low carbon future, 2009). http://www.nationalacademies.org/includes/G8+5energy-climate09.pdf

[5] Intergovernmental Panel on Climate Change, "IPCC Fourth Assessment Report: Climate Change 2007," (2007). https://www.ipcc.ch/publications_and_data/ar4/syr/en/spms3.html

coastlines (millions more people could experience coastal flooding each year), and health (including through an increasing burden from malnutrition and disease and morbidity and mortality from heat waves, floods, and droughts). Impacts are expected on every continent, with substantial changes taking place between 2020 and 2050 in a world where GHG emissions are not controlled.

Another scientific fact about climate change with important normative consequences is the duration of the presence of GHGs in the atmosphere:



Source: (Inman 156-158)

Because of this, the GHGs emitted today will endure in substantial part for thousands of years: affecting the climate in which many future generations will live.[6] Furthermore, many of the projected effects of climate change are effectively irreversible. If we warm the planet enough to cause the disintegration of the Greenland and West Antarctic ice sheets, for instance, there seems

[6] Gardiner, p. 197

to be no prospect that the resulting sea level rise could be reversed in the foreseeable future. The losses associated with such changes would be permanent.

There is also a danger that positive feedback loops within the climate system could generate abrupt or catastrophic warming. Warming of the Earth causes the arctic ice cap to melt, for instance, and the replacement of relatively reflective ice with relatively unreflective seawater itself causes more warming. Other such feedbacks include the release of methane - a powerful greenhouse gas - from melting permafrost. Indeed, given the massive size of the methane reserve in permafrost, it is possible that permafrost melting could bring about truly catastrophic abrupt climate change on a scale sufficient to threaten human civilization as we know it.[7] Even the possibility of causing such massive and irreparable harm must have some bearing on the moral character of our energy choices. Even relatively limited amounts of warming threaten to push the climate system across thresholds that are significant for human beings. For instance, 1˚C of warming might commit us to the disintegration of the Greenland ice sheet, with seven metres of accompanying sea level rise. 2˚C of warming might add to that disintegration of the West Antarctic ice sheet, with a further seven metres of sea level rise.[8]

There are also features of climate science that help to explain the world's ineffective action to date; in particular, the time delay between when GHGs are emitted and when their full effects are felt disguises the seriousness of the problem. Like a naive alcohol drinker who drinks ten shots of vodka in rapid succession and then declares themselves not to be overly drunk (and vodka not to be overly intoxicating), politicians today are arguably not paying enough attention to the full extent of climatic change we are committing ourselves to by continuing to add tens of billions of tonnes of CO2 to the atmosphere every year.

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[7] James E. Hansen, Storms of my grandchildren : the truth about the coming climate catastrophe and our last chance to save humanity, Pbk. ed. ed. (New York: Bloomsbury, 2011).

[8] Gardiner, p. 190

Climate ethics

Moral philosopher Henry Shue highlights the innocence and defencelessness of climate change victims as an important part of the normative argument for taking more meaningful action on climate change now. [ADD MORE AND CITE] Shue also draws a distinction between 'subsistence' emissions associated with vital needs like food and shelter and 'luxury' emissions associated with non-necessities like recreational foreign travel. [EMERGENCY BLANKETS JEWELRY].

In analyzing the ethics of climate change, Stephen Gardiner describes a 'perfect moral storm' in which human psychology and our present institutional arrangements conspire to disregard the rights and interests of those living in the future. In particular, Gardiner draws attention to the problem of 'moral corruption':

> "In the perfect moral storm, our position is not that of idealized neutral observers, but rather judges in our own case, with no one to properly hold us accountable. This makes it all too easy to slip into weak and self-serving ways of thinking, supported by a convenient apathy or ideological fervor. Moreover, the devices of such corruption are sophisticated, and often function indirectly, by infiltrating the terms of ethical and epistemic argument."[9]

Under these conditions, there is an acute danger that weak arguments that support inaction on climate change will be widely accepted and that 'shadow solutions' will be adopted in place of those that could actually resolve the problem. For instance, we might create ineffective carbon pricing systems that grant valuable emission allowances to firms, but which do not effectively curtail GHG emissions.[10] Gardiner equates climate change to a 'perfect moral storm' in which

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[9] Stephen Mark Gardiner, A perfect moral storm : the ethical tragedy of climate change (New York: Oxford University Press, 2011). p. xii

[10] Also, the world for the most part continues to ignore the emissions that are embedded in imports, as well as those arising in response to the warming that has already taken place, such as methane being released from melting permafrost.

"the asymmetric power of the rich, the current generation, and humanity" is imposed at the expense of "the future of the planet, and the corresponding vulnerability of the poor, future generations, and the rest of nature." [11]

Arguably, one example of moral corruption can be found in prominent economic assessments of climate change that employ a high discount rate – most prominently, those of William Nordhaus.[12] The use of such a discount rate may seem defensible if we assume that the recent past is a credible guide to the next few centuries of human experience. If people really will continue to grow ever-richer and more capable of absorbing natural shocks, perhaps we should not be concerned about passing along major climatic threats to future generations. Unfortunately, what we know about the science of climate change seriously undermines the viability of such arguments. If the centuries ahead are likely to be characterized by severe global destabilization, we cannot count on the increased wealth of future generations to offset the harm from today's emissions. Also, the practical consequence of employing a high discount rate is to dismiss as irrelevant the interests of everyone living in the distant future. This clashes with ethical claims like the fundamental right of all people to have their interests considered, as well as ideas like the obligation of each generation to pass along a habitable planet to its descendants.[13] Shrinking away the harms of climate change by discounting also sits at odds with the likelihood of irreversible losses that would accompany substantial warming. We cannot buy back the Great Barrier Reef or the arctic permafrost once they are gone. Nor can we buy back lost species. By contrast, economic analyses that employ a low discount rate and thus show concern for the welfare of future generations tend to strongly favour aggressive action on climate change, most

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[11] Stephen Mark Gardiner, A perfect moral storm : the ethical tragedy of climate change (New York: Oxford University Press, 2011). p. 439

[12] See, for instance: William Nordhaus, "Critical Assumptions in the Stern Review on Climate Change," Science (New York, N.Y.) 317.5835 (2007): 201-2,.

[13] Gardiner, p. 175

importantly by limiting fossil fuel use.[14] Unless we implicitly choose to ignore the medium-to-distant future, the case for action on climate change is strong.

Contributions to the climate ethics literature are not limited to university academics. Indeed, one measure of the growing popular awareness and engagement with normative climate issues is the existence of popular accounts of the subject written for a general audience. These include books that make detailed proposals for the decarbonization of economies, such as British journalist George Monbiot's *Heat: How to Stop the Planet From Burning*.[15] They also include more limited analyses that concentrate on issues of ethics, uncertainty, and risk. Notable among these is the work of Greg Craven, an American high school science teacher who began by producing a YouTube video that sought to disentangle uncertainty about the seriousness of climate change from the decision of whether or not to mitigate GHG emissions.[16] He later produced a book on the same subject, intended for a non-specialist audience.[17] Craven's argument is that there are essentially four possible future worlds: two in which climate change proves very serious and two where it does not, and two in which significant action is taken and two where it is not:

	Climate change serious	**Climate change benign**
Action taken	Prudence rewarded	Wasteful mitigation

[14] N. H. Stern, The economics of climate change : the Stern review (Cambridge: Cambridge University Press, 2007) xxix, 692.
See also: World Bank, Turn Down the Heat: Why a 4˚C Warmer World Must be Avoided, 2012). http://climatechange.worldbank.org/sites/default/files/Turn_Down_the_heat_Why_a_4_degree_centrigrade_warmer_world_must_be_avoided.pdf

[15] George Monbiot, Heat : how to stop the planet from burning, ed. Matthew Prescott (Toronto: Doubleday Canada, 2006).

[16] Greg Craven, The Most Terrifying Video You'll Ever See YouTube, 2007). https://www.youtube.com/watch?v=zORv8wwiadQ

[17] Greg Craven, What's the worst that could happen? : a rational response to the climate change debate, 1st ed. (New York: Perigee, 2009).

No action taken	Global catastrophe	Inaction justified

In the world where climate change is not serious and nothing is done about it, humanity avoids the costs associated with an early transition away from fossil fuels. In a world where climate change is severe but strong action is taken, humanity pays the costs of mitigation but avoids the worst harms associated with climate change. In a world where climate change is not a serious problem but where aggressive action is taken to stop it, humanity needlessly gives up the benefits associated with extra fossil fuel use. Finally, in a world where climate change is serious and nothing is done, planetary catastrophe could result.

Craven argues that we can choose between the rows in the table above, by either taking action or not doing so. What we cannot do is choose between the columns. If we choose inaction, we commit ourselves to ending up in one of two possible scenarios: one in which climate change proves benign and we avoid wasteful investment in mitigation, and another in which climate change is severe and unmitigated, resulting in planetary catastrophe. By contrast, choosing an active path of mitigation sets up humanity to either end up in a situation where the money was well-spent or in another where the mitigation spending was wasteful, but climate change still wasn't a catastrophe. Craven argues that the risk of catastrophe that accompanies the choice to be inactive in the face of climate change is unacceptable, and therefore that we must choose to act even if we are not absolutely certain that climate change is as dangerous as most scientists fear.[18]

This echoes a point made by Henry Shue. He equates the decision to persist in the unlimited release of GHGs to playing Russian Roulette with somebody else's head - specifically,

[18] This conclusion accords with those of Gardiner and others. For instance, Gardiner claims that: "If our generation (on the wide understanding of the term) causes such an apocalypse through reckless activity, then we will have done a grave wrong". Gardiner, p. 170

with the heads of members of future generations. Even in the scenario where the trigger is pulled and no bullet is fired, the person whose head is being placed at risk can complain convincingly about being ill-treated.[19] Even in a scenario where we gamble and 'win' we are exposing members of future generations to a risk that may well be unacceptable.[20]

One important feature of many ethical analyses of climate change is that they change the structure of the choice being presented from one where each decision to consume fossil fuels is made at the margin to one in which people choose between whole future pathways of development. An individual confronted with the choice to buy a gasoline-powered vehicle, electric vehicle, or bus pass may think only about their own preferences and economic situation. By contrast, when asked to choose between one future characterized by continued fossil fuel dependence and worsening climatic destabilization and another characterized by an aggressive transition away from fossil fuels and relative climatic stability, it might be hoped that decision-makers and the public as a whole will find themselves inclined toward the safer and more empathetic choice.

Climate change and democratic legitimacy

'Legitimacy' can be a challenging term to define in a non-circular way. One promising avenue for engaging with the concept is to consider democratic government as a form of delegated authority and responsibility, with individual citizens handing off a certain measure of each to their governments. Gardiner explains that:

> "According to a traditional view in political thought, social and political institutions are legitimate because, and to the extent that, citizens delegate their own responsibilities and

[19] Shue, Henry. "Deadly Delays, Saving Opportunities: Creating a More Dangerous World?" in Climate Ethics : Essential Readings, ed. Stephen Mark Gardiner (New York: Oxford University Press, 2010).

[20] Stephen Gardiner adds that our obligation to employ the precautionary principle may be strongest when it is innocent others who risk having unacceptable outcomes imposed upon them. Gardiner, p. 414

> powers to them. On this account, if the attempt to delegate effectively has failed, then the responsibility falls back on the citizens again, either to solve the problems themselves, or else, if this is not possible, to create new institutions to do the job. If they fail to do so, then they are subject to moral criticism for having failed to discharge their original responsibilities." [21]

Delving deeper into the nature of democratic legitimacy, at least two distinct variants can be identified. There is legitimacy as popular perception, which reflects the belief within a polity that political power is being used in an appropriate way, in keeping with the democratic principles of the state and the consent and support of the populace. There is also a more abstracted form of normative legitimacy, which refers to a carefully considered analysis well-informed with both empirical data and normative analysis. An idealized version of this latter form could be the judgment of impartial observers located at no particular historical time, in possession of knowledge of the full consequences of different climate and energy choices and capable and willing to impartially assess the normative appropriateness of different choices.

This disjuncture connects closely to Gardiner's concept of moral corruption, as well as the notion of a conflict of interest between the current generation and all future generations regarding the optimal level of CO2 in the atmosphere and corresponding commitment to warming. If our circumstances as a generation that stands to benefit from fossil fuel use while also dying before the full impact of climate change is felt causes us to assign less priority to climate change mitigation than impartial observers would, we are arguably suffering from moral corruption and perpetuating an intergenerational conflict of interest.

Institutions to protect future generations

[21] Stephen Mark Gardiner, A perfect moral storm : the ethical tragedy of climate change (New York: Oxford University Press, 2011). p. 403 (see also p. 432-3)

Arguably, the greatest disadvantage borne by members of future generations is their lack of effective representation in legislative and judicial institutions. In Canada, parliamentarians respond to the preferences of existing voters, not those who will exist decades and centuries in the future. Similarly, the courts have generally interpreted the material interests of parties present today as far more important than those of future victims who cannot be present to make their own case. These institutional weaknesses are compounded by the geographical dispersion of climate change impacts. Most of the benefits of oil sands exploitation, to take one example, accrue in Canada, while most of the harm associated with the extra emissions is imposed on non-Canadians. Canadian institutions are not currently well designed to take this harm into account, and international institutions that have this mandate and the ability to influence Canadian behaviour do not yet exist.

New domestic institutions could potentially be created with the intention of asserting the right of future generations to a stable and reasonably agreeable climate. These could be modeled upon other hands-off mechanisms that governments have established to protect the interests of those in the future against the danger of predation by those focused exclusively on today's welfare. For instance, they could be modeled on central banks that have a mandate to maintain price stability regardless of the desire of every government to spur short-term economic growth during their own tenure, or upon pension or sovereign wealth funds that are charged with protecting funds for the benefit of those in future decades or even centuries. Alternatively, these new institutions could be modeled upon those that already exist with the intent of protecting the defenceless from exploitation, including the legal mechanisms used for the protection of minors.

What all these institutional approaches have in common is a desire to counterbalance the urgent demands of the present with consideration for the future. As with the constitutional

guarantees of minority rights that constrain the law-making power of the majority, these sorts of institutional arrangements exist precisely to limit the choices of those alive today, in recognition of how those choices risk being excessively present-focused and characterized by a disregard for the welfare of those in the future. George Monbiot comments on this curious aspect of the climate problem:

> "[The campaign against climate change] is a campaign not for abundance but for austerity. It is a campaign not for more freedom but for less. Strangest of all, it is a campaign not just against other people, but against ourselves." [22]

For institutions of this type to emerge, there would need to be a sufficient level of popular or elite will to create them. This may prove especially challenging to generate in multi-party democratic states. If one political party or government promises or implements such institutions, there will always be a temptation for competing parties to promise the abolition or non-implementation of the system. Given the excessive concern of voters about the rate of short-term economic growth, there will always be a temptation to scrap the protections of the future in exchange for a spurt of present welfare and an accompanying jump in political support. Still, the fact that pension funds have generally gone unraided in well-managed democratic societies, while independent central banks have for the most part operated without excessive political interference, suggests that such institutions may be able to emerge and remain viable provided the rationale for their existence becomes generally accepted by societal elites and the population at large. Achieving this requires overcoming the moral corruption described by Gardiner, along with a willingness to reject shadow solutions like waiting around for miraculous zero-carbon energy technologies to emerge.

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[22] Monbiot, p. 215

If governments took the threat from climate change seriously, they could choose to ration CO2 emissions as a strategic commodity - akin to the rationing of rubber or copper use during the second world war. Governments could establish carbon rationing boards and a carbon budget, with restrictions on the total quantity of fossil fuels that can be extracted or imported in a year. Rationing could be done in many different ways, including the per capita distribution of the quota amount with trading permitted after the fact, or the auctioning of permits to emit. The system could also incorporate treatment of the implicit emissions embedded in imports; for instance, anyone wishing to import an emissions-intensive commodity like steel could be made to pay a carbon price in the form of a carbon tariff paid at the border. These national emission budgets could be coordinated globally in order to produce an emission pathway compatible with any particular limit for warming, such as the 2˚C limit already widely endorsed by governments.

In some ways, however, the aspiration to embody the climatic rights of future generations through institutions puts the cart before the horse. For people to accept the creation of institutions that will limit their ability to use energy as they wish, there must be a pre-existing willingness to see such restriction as acceptable. If elites and the general public continue to reject the idea that emissions of greenhouse gases must be substantially restricted, it is unclear how institutions with that objective could emerge or endure.

A changed conception of citizenship

As an alternative or an accompaniment to improved institutional representation for future generations, it may be desirable or effective to try to alter norms of democratic participation. There is a perspective on democratic politics in which citizens are expected to use their vote and political influence only to advance their own interests, often conceived in purely material terms.

This kind of purely self-interested democratic participation can be considered narcissistic or even psychopathic when the choices being made impose such threats upon members of future generations. If citizens can shift their thinking to see themselves as part of a democratic polity that has an obligation to pass on a stable and habitable world, they may demonstrate a greater willingness to sacrifice the short-term benefits associated with unlimited fossil fuel use in order to lessen the burden of instability they are passing on to future generations, as well as reduce the risks they are imposing on the non-human parts of nature.[23]

This changed conception of citizenship would need to differ significantly from the narcissistic or psychopathic form of democratic participation described above, in which the rights and interests of future generations are treated as effectively irrelevant. The new conception would need to incorporate two critical elements: a realistic empirical understanding of the probable consequences of continued unlimited fossil fuel use, and a genuine willingness to constrain such use for the benefit of the world as a whole. These elements may be challenging to bring about, but their presence may be essential for any climate change mitigation strategy based on mandatory limits to succeed.

Conclusions

There are good reasons to believe that climate change challenges the legitimacy of democratic governments, both practically and theoretically. The claim that the climate and energy decisions of these governments adequately represent the interests of all morally considerable organisms is at odds with the reality that governments seem to be behaving with

[23] Some interesting discussion of the theoretical relationship between activist groups and the state - as well as the tactics used by activist organizations - can be found in: Miriam Catherine Smith, A civil society? : collective actors in Canadian political life (Peterborough, Ont.: Broadview Press, 2005).

reckless disregard for the rights and interests of members of future generations, as well as the non-human parts of nature.

The appropriate response to this situation is less clear. It seems plausible that institutions could be established to effectively curtail the emission of GHGs and protect the interests and rights of future generations, but that the political will to create such institutions does not exist. The concept of moral corruption and a conflict of interest between generations does a good job of explaining why this might be so. Overcoming those cognitive limitations may require the development of a new understanding of democratic participation, in which citizens must do more than simple seek to maximize their own short-term economic interests.[24] If such a transition could be achieved, it is plausible that it could be more durable and effective than a system based on the unpopular constraint of individual choices by powerful new institutions. Whether such a transition, or any effective response to climate change, can be achieved before a catastrophic level of warming is locked into the climate system remains to be seen, but will probably be decided within the next few decades. If, instead of looking at decisions to use fossil fuels one-by-one people considered the fact that we are putting the planet in peril rather than committing to a transition away from them, perhaps the willingness to make non-psychopathic choices could eventually follow.

[24] See: Gardiner, p. 441

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