Global Warming, Equity and Future Generations

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Abstract[2]

The phenomenon of global warming, the anthropogenic theory of its genesis, and some implications of that theory, are introduced as a case-study of a global environmental problem involving issues of equity between peoples, generations and species. We should favour the proportioning of emission quotas to population, if the charges of anthropocentrism, international injustice and discrimination against future generations can be avoided. It is argued that these charges can be countered satisfactorily, if emissions totals are set low enough for the needs of other species and generations, and if limits are set to the trading of quotas to ensure that all countries retain enough of their quotas to satisfy basic needs. The anthropogenic theory might instead be held to favour tying emissions quotas to aggregate historical emissions of the last two centuries. But intergenerational equity requires a sustainable international regime, based on universal principles rather than history.

Keywords: *carbon emissions, equity, future generations, species, quotas*

Addressing climate change is not an issue to which there is a scientific solution. Although there is a large measure of agreement about the science of climate change (see below), people with different values can still disagree about the actions that ought to be taken and the policies that ought to be adopted. Accordingly this issue is in large measure an ethical one, and, to the extent that values sometimes vary with cultures, a cultural one as well. Yet ethical issues are not beyond the sphere of reason, and in what follows I will attempt to sift different principles and approaches with a view to reaching a reasoned view about which principles and which approach ought to be followed. This, I would claim, can be attempted without the kind of ethical imperialism that seeks to impose the values of one culture upon others. For cross-cultural debate is possible in pursuit of ethical solutions, and many values are sufficiently shared as to make appeal to them not an expression of partiality, but a vital step towards finding common ground, and thus, in a manner of speaking, towards impartiality instead.

I shall nevertheless argue for one particular international approach to global warming, the one which proportions emission quotas to population. I will assume that the phenomenon of global warming is genuine, and that the anthropogenic theory of its genesis must be accepted, all this on the basis of successive reports of the Intergovernmental Panel on Climate Change (IPCC, 1996, 2007). These assumptions raise issues of equity between peoples, generations and species. They also place heavy responsibilities on those knowingly responsible for carbon emissions and capable of reducing global warming, and of sponsoring adaptations to it such that human needs can continue to be met. For polluters should pay, where they knowingly pollute and could have avoided polluting; failure to take precaution to avert disasters that one could well be causing is culpably negligent and reckless; and it is those capable of action to avert such disasters who can be expected to undertake it.

A fundamental principle concerning entitlements to emit greenhouse gases is that each person has as much entitlement to generate such emissions as everyone else. This principle is defensible on the basis that emissions entitlements should not be based on one's distinctive merit or on any other differentiating quality of persons, but on the human worth which most if not all ethical systems recognise in all human beings. This granted, then all human beings have an equal entitlement to satisfy their needs through use of the absorptive capacities of the atmosphere. Maybe the principle could be criticised if it could be shown that some rival principle would produce greater benefits overall; but in fact the leading consequentialist philosopher Peter Singer, in his book *One World*, treats this principle as optimal where benefits and costs are concerned (Singer, 2000). It is further supported on grounds of justice at pp. 21-22 of the widely acclaimed *White Paper on the Ethical Dimensions of Climate Change* (Brown et al., 2006).

Once this principle is accepted, there is already a case for sharing total allowable greenhouse gas emissions equally among the global human population, for in this way provision is made (where emissions are concerned) for meeting the needs of all those with needs in the present that may or may not be satisfied. Possible objections to this include the needs of future generations, and the needs of nonhuman species; in-

deed if this principle were to undermine provision for the needs of future generations, whether human or nonhuman, then there would be a strong case for modifying it in the direction of restricting the equal sharing of the total of allowable emissions to some large fraction of this total, rather than to this total in its entirety.

However, if a sustainable system could be put in place such that emissions never exceed whatever may be the allowable total for a given year, then the needs of every generation will be provided for; and, as long as this largely involves the continuing intactness of natural ecosystems, then the needs of future members of nonhuman species will be provided for as well. But just such a sustainable system is envisaged when the equal sharing of emissions entitlements is embodied in the system widely known as 'Contraction and Convergence' (Meyer, 2000), in which allowable totals are annually contracted to prevent too great an increase in average global temperatures ('Contraction'), and in which the entitlements of humanity are gradually adjusted until parity is reached ('Convergence'). Accordingly, implementation of the equal sharing of emissions among current humanity need not conflict with equity between generations, or embody discrimination between generations.

Another objection concerns the needs of current members of nonhuman species. To provide for these needs, the calculation of allowable totals for humanity has to take into account the emissions of other species, and the importance of allowing them to continue. However, no calculations would be satisfactory which failed to take these factors into account; for both the oxygen and the carbon dioxide emitted by trees and other plants comprise the very framework of the entire problem, while the emissions of wild animals can and must be similarly provided for. Not to take them into account would be as misguided as disregarding the emissions of volcanoes. Thus the allowable total of human emissions would have to be calculated after making allowance for emissions of these kinds. As for the emissions of domestic animals (including farmed animals), these are included among human emissions, as they are subject to human control and responsibility. Hence, implementation of the equal sharing of emissions across the human population need not conflict with equity between species, or incur charges of unjustified anthropocentrism. Adherents, for example, of a biocentric ethic (who include myself), an ethic which recognises the moral standing of all living creatures, can readily support Contraction and Convergence (Attfield, 2003).

Issues of equity between peoples remain, but are in part tackled if sharing total allowable greenhouse gas emissions equally among the global human population is understood to involve dividing total allowable emissions between countries in proportion to their human populations (as at some agreed date). Admittedly this involves regarding countries and their governments as acting on behalf of their peoples, and there are cases where the real world falls far short of this ideal. But in the absence of any other basis for the representation of peoples, there is no available alternative (beyond the tempering of such recognition with the imposition of such international sanctions as are internationally agreed for nations that fail to comply with international treaties).

An objection to this approach concerns the side-effects of using population as a criterion of emissions entitlements on a country-by-country basis. For this might encourage policies of population growth (Arler, 1995), or distorted results from national censuses. Adoption of pro-natalist policies could, however, be avoided if the agreed date were no later than that of the global agreement itself, or earlier if possible. This would also avoid reliance on future national censuses. However, if such censuses turned out to be necessary, arrangements for international monitoring could be made.

It should also be acknowledged that this model embodies no measures as such to rectify the poverty of poor countries with small populations, and that other measures would need to be devised to tackle this problem (such as measures to implement the Millennium Development Goals independently of systems introduced to tackle greenhouse gas emissions). However, it should also be recognised that the proportionate division of emission entitlements would embody a very significant redistributive effect, for poor countries with large populations not yet in a position to take up their emissions quota would be free to trade it with richer countries seeking to emit in excess of their own quotas. If a satisfactory form of such trading can be found (and so far the record of carbon trading is not encouraging), then some of the international issues of equity would already have been addressed.

There would be a danger, however, that under pressure of market forces poor countries might trade too much of their emissions, and be left with insufficient emission entitlements for the needs of their own population to be met (Castro, 1993). To avert this danger, and to uphold international equity between nations, a ceiling should be placed on permissible emissions trading, so that emissions related to basic needs would be untradeable (Shue, 1994). Otherwise, in situations of heavy international indebtedness, countries could well be tempted to sell off the new asset comprising their emissions quotas, and then suffer the collective wrath of the global community when their population went on to emit more than the entitlement remaining. The ceiling just mentioned would seem indispensable if issues of equity between countries are to be fully tackled rather than fragmentarily gestured at.

Allowable total emissions would, as mentioned, need to take into account background ecological factors, and would also need to ensure that an average temperature rise of no

more than 2˚ centigrade took place, for the sake of preserving systems on which humans and nonhuman creatures alike depend. (While restricting average temperature increase to less than 2˚ would ideally be desirable, this is probably the lowest increase that is feasible.) As some critics of the system described above contend, this may mean that a ceiling of 400 parts per million of carbon dioxide or equivalent would have to be observed, or at least a ceiling of 350 parts per million for carbon dioxide itself (considered alone), and this in turn would mean that allowable totals would have to decrease so early and so sharply that a system of Contraction and Convergence would soon cease to allow of significant trading of surplus quotas (Baier, Athanasiou and Kartha, 2007). Thus, separate attention would in any case have to be devoted to rectifying the under-development of poor countries, including populous ones; and in the circumstances, these countries might be reluctant to participate in any system that could in time curtail their own development. However, the system of Contraction and Convergence would still be significantly redistributive in its early stages, as well as being capable of accommodating these ceilings, and there would be nothing to prevent simultaneous international efforts to remedy poverty and attain the Millennium Development Goals as well. So, while Contraction and Convergence would not solve everything, and would need to be supplemented, these objections do not show that it is either ungrounded or not a large move in the right direction.

There are, in any case, severe problems implicit in not basing international policies on emissions quotas but instead requiring developed nations and wealthy individuals to pay for development, and also for mitigation of emissions and for adaptation to climate change (Baier, Athanasiou and Kartha, 2007; see below). Here the risks of large-scale non-compliance (in what would have to be an intense and global programme of action introduced with little prior notice) are so large that it would be hazardous to make the entire future of humanity depend on its success.

Another alternative approach might seem to be a system in which policies would be grounded in historical responsibilities for greenhouse gas emissions, from (say) the beginning of the Industrial Revolution. The big historical polluters would be required to fund international schemes of mitigation and of adaptation (and of development too, if possible). This approach, however, is probably inoperable, as well as being arguably inequitable. Its inoperability could be illustrated through the emissions of Poland, once partitioned between Austria, Prussia and Russia; who would now be responsible for the emissions of that period? Examples of parallel problems could readily be multiplied; thus, despite there being many countries whose territory has been unaltered since the nineteenth century, no overall system of this kind could operate without being characterised by numerous intractable and probably interminable disputes. Further its inequity could be illustrated by noting how the countries with a record of large emissions are not always the ones with the capacity in the present to fund international adaptation and mitigation costs. Russia, for example, has such a record, but may possibly lack a matching capacity for large-scale overseas aid in the present. Even if Russia could now (since its economic recovery) afford such aid, it may well be that Ukraine and Kazakhstan cannot. Thus it would be inequitable to expect these states to do so. Besides, a system is needed which is itself sustainable, and the same considerations strongly suggest that this historically based system would not be such.

The real objection to such proposals is that concern for the future of humanity and of other species requires a system answering to current capacities and capable of being extended indefinitely into the future, or, in other words, sustainability; and that the approach based on historical responsibilities cannot match these requirements. The system needed would have to be based on universal principles, including current prosperity, and cannot be derived from the particularities of history.

This reasoning strongly points to a system based on Contraction and Convergence, even if it would need to be supplemented by a massive system to combat poverty and under-development. An alternative system (already mentioned above) has been proposed which would simultaneously make provision for emissions mitigation, for adaptation to emissions past and present, and also for development. In this system, the rights of all human beings to a decent level of development ('Greenhouse Development Rights') would be recognised, and this would be paid for by everyone at or above this level, including rich people in poor countries; countries' contribution quotas would be calculated accordingly, and the proceeds would be internationally administered and deployed to meet the agreed goals (Baier, Athanasiou and Kartha, 2007). This system would, however, face the problem of securing sufficient agreement from most of the world's governments before these major global problems could begin to be tackled; such agreement might easily be withheld from this system in particular in view of the scale of its implicit demands. But any substantial abstention would be likely to make this system a non-starter.

In face of the risk that such agreement would not be reached until climate change was too far advanced for efforts at mitigation to make a significant difference, the much more limited system of Contraction and Convergence should be introduced instead, alongside negotiations for a supplementary system of world development to combat under-development and poverty and to implement the Millennium Development Goals. More countries might be willing to agree to Contrac-

tion and Convergence from the outset than to the supplementary system, while developing countries might agree to join the former in view of the desperate need for a climate change agreement and of the prospect of the supplementary system being introduced in its wake, once international co-operation about mitigation and adaptation was in place. Hence a system of Contraction and Convergence probably remains the best prospect for addressing the global problems of mitigation and adaptation, and at the same time a promising spring-board for achieving a global agreement on addressing the problems of poverty and under-development of the kind that is also urgently needed.

Endnotes

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2 This paper is a revised version of one presented to the Environmental Philosophy Section of the World Congress of Philosophy, Seoul, Korea, July-August 2008, and subsequently presented in revised form as a DVD to the Conference of the Society for Human Ecology, University of West Washington, Bellingham, WA, USA, September 2008, questions from the audience being answered by a telephone link.

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