

## Fear of Climate Change: A rejoinder to George Monbiot

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In his reply to my recent review essay,<sup>1</sup> George Monbiot chastises me for apparently arguing that aiming to prevent the global mean temperature from rising more than two degrees above the long term level is going too far. He then makes the case, citing various credible sources, that a two-degree target is essential to avoid some of the worst effects of climate change, that it is ‘the only target worth setting’.

As a commentator who has for some years pressed hard for more aggressive targets than consensus science and political caution has allowed, I feel a little embarrassed that my words have been interpreted this way, as if I were calling for less forthright action at a time when every reasonable person should be calling for the alarms bells to be rung more loudly.

Although my words were open to misinterpretation, my challenge was not about the science of warming but the *political* value of Monbiot’s proposal to cut Britain’s emissions by 90 per cent by 2030. Although it may be the path required to achieve a two degree target, if matched by all other rich countries and as part of the global target of a 60 per cent cut by 2030, advocating such a program of cuts is indeed politically aggressive and audacious.

Before expanding on this, let me comment first on the science that sets the scene for the politics. Monbiot argues that we must aim to limit the mean temperature increase to two degrees. Among serious scientists there is not much doubt about this. Over the last several years, as we have understood more about the implications of warming, the consequences of even a two-degree warming have shifting from worrying to alarming.

Monbiot says the two-degree target is likely to be met if we constrain the increase in the concentration of greenhouse gases to 440 ppm of carbon dioxide equivalent (CO<sub>2</sub>-e), which is equivalent to around 400 ppm of CO<sub>2</sub> alone. He argues that this will require a reduction in global emissions of 60 per cent below current levels by 2030 which, by any fair measure, means a reduction of emissions in rich countries of 90 per cent below current levels by 2030. Monbiot’s choice of 2030 rather than 2050 is the contentious issue.

In his reply, Monbiot challenges my claim that a 60 per cent global cut by 2030 is far beyond that proposed by anyone else by referring to a paper that calls for a cut of 80 per cent by 2050. Given the nature of the energy infrastructure, not to mention political sclerosis, four decades provide much more scope for far-reaching change than the next two. Eighty per cent by 2050 is far more achievable than 60 per cent by 2030.

While it is true that many have acknowledged the need to stabilise at around 440 ppm of CO<sub>2</sub> and recognised that this will require global cuts in annual emissions of 60 per cent, no one as far as I know has argued that this will require 90 per cent cuts by 2030. The most aggressive official target is perhaps the British Government’s commitment to cut by 60 per cent below 1990 levels by 2050 and 30 per cent by 2020. The EU has

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<sup>1</sup> ‘Building on Kyoto’, *New Left Review*, 45 May/June 2007. George Monbiot, ‘Environmental feedback’, in the same issue.

committed to a 20 per cent cut by 2020, with the option of scaling up to 30 per cent if other countries follow. Germany has committed to a 40 per cent cut on 1990 levels by 2020, which represents a bigger percentage cut on current levels.

Whatever its scientific merits, a 90 per cent cut in emissions in around half the time proposed by anyone else is a very radical target indeed.

This does not make Monbiot wrong on the science. Indeed, he may not have gone far enough. In June the journal *Atmospheric Chemistry and Physics* carried a paper by James Hansen and others clarifying the question of what is dangerous human-induced climate change.<sup>2</sup> They concluded that an additional warming of 1°C above the level in 2000 will have effects that ‘may be highly disruptive’, using expected sea-level rise as the best indicator of danger. This means a mean temperature increase of around 1.7°C above the pre-industrial average rather than the 2°C now commonly cited. The analysis suggests that this ‘tipping point’ is almost locked in. They acknowledge that avoiding this danger point is ‘still technically feasible’.

Even more alarmingly, the following statement is buried in the Fourth Assessment Report of the IPCC’s Working Group I:

Stabilisation of atmospheric greenhouse gases below about 400 ppm CO<sub>2</sub> equivalent is required to keep the global temperature increase likely less than 2°C above pre-industrial temperature (Knutti et al., 2005).<sup>3</sup>

A concentration target of 400 ppm CO<sub>2</sub>-e equates to a target of around 350-375 of CO<sub>2</sub>. The current concentration is 380 ppm. In short, we are already past the two degree threshold, and will without question go well beyond it. Even three degrees is looking very hard to avoid.

Very few people, even among environmentalists, have truly faced up to what the science is telling us. Those who have cannot shake off a profound fear for the future and lead lives blighted by this knowledge.

The question is: how do we respond? Monbiot has written *Heat*. At the core of the book’s argument is a judgement about what is possible technically, economically and politically. He believes that 90 per cent by 2030 ‘is just within the realm of political possibility’. Although his response to my review confined itself entirely to the scientific aspects of the 90 per cent target (which I do not dispute), he is in fact making a judgement as a political scientist. Most of *Heat* is devoted to attempting to demonstrate the technical and economic feasibility of his proposals. He concedes at various places that it is a close run thing, and that even he, with the best of motives, doubted that it could be done. He concedes that his scheme is ‘extremely challenging’ (p. 203).

It is therefore understandable why Monbiot is prone to look favourably on some technological solutions that are risky. As well as the technical risks, there are political dangers in advocating some of these. I was taken aback at Monbiot’s endorsement of carbon capture and storage because, in my part of the world, CCS has been advocated

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<sup>2</sup> James Hanson et al., ‘Dangerous human-made interference with climate: a GISS modelE study’, *Atmospheric Chemistry and Physics*, 7, 2287-2312, 2007.

<sup>3</sup> IPCC, Report of Working Group I of the IPCC, 2007. p. 828  
[http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1\\_Pub\\_Ch10.pdf](http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Pub_Ch10.pdf)

not as a means of reducing carbon emissions but as a means of not reducing carbon emissions. In other words, CCS is the excuse *du jour* for delaying action; having given up attempting to deny the science, the coal lobby and its political supporters have directed attention and funding to CCS. Even its advocates concede that CCS could not make a significant difference to global emissions for 15 or 20 years, yet political supporters of CCS have used it as a reason to withdraw support for the existing technologies that can cut emissions sharply now. A time may come when we must embrace CCS as part of an emergency response, but as long as it is used to avoid rapid adoption of energy efficiency, renewables and natural gas we should avoid giving uncritical endorsement to the coal industry's get-out-of-jail-free card.

Support for nuclear energy also has political risks but they seem to me to lie not in doubts about its capacity to make a major contribution to cutting emissions but in the huge legacy of suspicion left by 30 years of anti-nuclear campaigning. Perhaps fear of a back-lash from this popular movement is one of the factors that prevents environmentalists such as Monbiot and myself from endorsing expansion of nuclear power. Of course, we are thoroughly familiar with the dangers of nuclear power, but as the evidence of the likely impacts of climate change becomes more and more frightening, the dangers of nuclear power shrink by comparison.

This then is my essential worry about *Heat*; Monbiot spends too much time assessing what is technically feasible and too little on what is politically possible. I guess like most of his readers, I look to Monbiot for political insight and guidance, where he has a proven record, rather than technical analysis, where his expertise is more limited.

There is little assessment in *Heat* of the political feasibility of what the author proposes, including the conditions that would need to be met. There are, however, a number of observations in the book that make the politics of his scheme seem impossible - the power of the fossil fuel lobby, the weakness of existing institutions (including the Kyoto Protocol), diplomatic fissures, the cravenness of politicians and the unwillingness of the public to face up to the reality of climate change.

I suggest that to achieve the objective of a 60 per cent cut by 2030, with 90 per cent in rich countries, the following conditions would be necessary (but by no means sufficient).

The election in all major democratic nations of governments wholly committed to dramatic cuts in emissions and resolved to over-ride objections from sectional interests. The adoption of similar commitments by governments in major nations with authoritarian systems is also necessary.

A commitment from all rich countries to build no more coal-fired power plants unless they can be constructed to guarantee capture of carbon dioxide from their emissions. Many existing plants would need to be retired early.

The same commitment would need to be made within a few years by China, India, Brazil and other major developing countries.

The actions required in each country could occur only with an international legally binding framework to coordinate all nations in the emission cutting

process. A system built on the Kyoto Protocol is the only feasible system within sight.

All of this must be achieved within the next 20 years. Monbiot suggests (p. 98) that it could happen if governments adopted a war footing, a stance that would need to be adopted by all major governments within the next few years at the latest.

In my judgement, and it is nothing more than that, the likelihood of all of these events converging in a period sufficiently short to achieve the Monbiot target is zero. On the other hand, it is reasonable to imagine that these changes could occur in time to achieve the target of a global emissions cut of 60 per cent (with 90 per cent in rich countries) by 2050. Dramatic changes in weather patterns in the 2010s and 2020s may see the world shift to the war footing needed. But I cannot imagine them happening with sufficient urgency to achieve the target by 2030.

Of course, none of this means that Monbiot is wrong in setting and advocating his target. Historically, groups and individuals have frequently advocated goals that are unachievable because they drag the debate in the right direction. But it is worth posing the question of whether it is useful to advocate something that is unattainable. Are we not giving false hope? Is it not better to face up to the magnitude of what will befall the world? Has Monbiot, by advocating a set of proposals that is manifestly unachievable, dealt himself out of the serious policy debate? I do not know the answers to these questions. In my own work I am constantly trying to assess how far I can go and still have an impact.

These questions concern the role of the public intellectual, the true, if less than transparent, theme of my review essay. It seems to me that the public intellectual can serve at least three functions:

1. Expose injustice, cant, hypocrisy, dishonesty and corruption, especially among the powerful;
2. Provide evidence and arguments to advance a point of view and undermine the arguments of the opposition; and
3. Inspire and rally one's readers to act.

Ostensibly, the main purpose of *Heat* was the second, to demonstrate that we can achieve emission cuts deep enough to avoid dangerous climate change. Although an admirable goal, in my opinion Monbiot has not succeeded in this. There are dashes of the first function, which to my mind provide the most powerful chapters (those on the denialists and the aviation industry). Perhaps too, particularly in the last chapter, he wanted to inspire his readers to act. I hope he achieves that goal, for there is nothing more dispiriting in modern life than the contrast between the fearful projections of the climate scientists and the torpor of the general public. There is an old German adage: 'Things whose existence is not morally possible cannot exist'. If the scientists are right, the consequences of a three-degree increase in global temperature are almost too horrible to contemplate, but contemplate them we must.

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