

# Tackling Dangerous Climate Change: Slow-Ramp or Springboard?

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Review Essay

*The Politics of Climate Change* by Anthony Giddens. Cambridge: Polity, 2009. 256 pp., £12.99 paperback, 978 0745646930

*A Question of Balance: Weighing the Options on Global Warming Policies* by William Nordhaus. New Haven, CT: Yale University Press, 2008. 192 pp., £17.99 hardcover, 978 0300137484

*A Blueprint for a Safer Planet: How to Manage Climate Change and Create a New Era of Progress and Prosperity* by Nicholas Stern. London: Bodley Head, 2009. 256 pp., £16.99 hardcover, 978 1847920379

In the wake of the failure of the UN climate negotiations in December 2009, hindsight unfairly benefits any review of the various manifestos on climate change policy published before the Copenhagen meeting. The three books in question – by a renowned sociologist (Giddens) and two eminent economists (Nordhaus and Stern) – merit attention on the basis of their comprehensive assessments and aspirations to global policy relevance. All recognise the great difficulties in securing international agreement on strong climate mitigation and adaptation measures, though Giddens' volume was the most prescient in anticipating the lowest common denominator structure of the Copenhagen Accord. Significantly, given the continuing attacks on the Intergovernmental Panel on Climate Change (IPCC), all three authors also accept its scientific account of global warming. In this review, I highlight the key differences in their prescriptions for policy action to prevent dangerous climate change, which can be characterised as 'slow-ramp' – gradually increasing restraints on carbon emissions (Nordhaus) – and 'springboard' – immediate deep cuts in emissions, whether mainly by market mechanisms (Stern) or a broader mix of policy instruments (Giddens).

Arguably the most significant provision in the Copenhagen Accord is the acceptance of the IPCC view that deep cuts in greenhouse gas emissions are required to hold the projected increase in global mean temperature to 2°C (compared to pre-industrial levels). Warming above 2 degrees is taken to be 'dangerous anthropogenic interference with the climate system', which parties have an

obligation to prevent under Article 2 of the United Nations Framework Convention on Climate Change (UNFCCC). There remain uncertainties about how likely such a temperature increase is in relation to predicted greenhouse gas emissions and concentrations, yet the severity of the problem is acknowledged by each author. Stern is the clearest in pinpointing the dangers: given current concentrations of greenhouse gases at 430 parts per million (ppm) CO<sub>2</sub> equivalent, he cites UK climate models indicating that the chances of exceeding 2°C are 78 per cent at 450 ppm and 96 per cent at 500 ppm. He claims that current emission levels and atmospheric stocks of greenhouse gases render it highly unlikely that concentrations can be kept below 450 ppm, so policy makers must strive to stay within an upper limit of 500 ppm, which would at least provide a strong chance of avoiding an even more harmful rise of 3°C (Stern, pp. 26–27). In other words, and this is not contradicted by the short summaries on climate science in Giddens and Nordhaus, 'dangerous' climate change is now highly likely, so the policy challenge is how quick and deep our emissions reductions should be to reduce this harm and prevent more damaging future rises in temperature.

In choosing between possible trajectories for reducing emissions, policy makers cannot avoid making judgements both about future returns on capital and also how the relative welfare of future generations is weighted in current decision making. The rate at which we 'discount' future costs and benefits is critical to addressing the climate change problem, because there are significant uncertainties in calculating the welfare impacts of something affecting more than one generation. If, as Giddens and Stern note most forcefully, dangerous climate change poses a potentially catastrophic threat to future conditions of human life on the planet, then the decision environment is even more fraught. There is a familiar collective action dilemma here, which Giddens labels, seemingly without irony, 'Giddens's paradox' (Giddens, p. 2): how to craft effective policies in the face of high-consequence risks which fail to register as immediate and tangible dangers?

A clear division between Nordhaus and Stern on the issue of discounting largely accounts for their respective support for the slow-ramp and springboard approaches to

climate policy. For Nordhaus the present and future welfare of humans is best served by slowly increasing carbon taxes in the short term, then ratcheting these up in subsequent decades. It is efficient now, he claims, to direct higher-yield investments elsewhere, generating returns that can be allocated to more cost-effective climate mitigation technologies in the future. This approach rests on a social welfare function, derived from neoclassical economics, which discounts future economic goods using an estimated market return on capital of 4 per cent, which is seen as consistent with current market rates of return (Nordhaus, p. 10). Yet, as Stern convincingly argues, it is simply misleading to infer intergenerational values by this method in the climate change context of distorted or absent markets: 'there are no markets which can reveal how a generation, faced with the prospect of inflicting massive changes on future generations, should behave' (Stern, p. 87). Significantly, Nordhaus concedes that the Dynamic Integrated model of Climate and the Environment (DICE) he employs has limited utility in modelling the potentially abrupt and catastrophic consequences from climate change (Nordhaus, pp. 143–147): indeed, to function methodologically, it *needs* high discounting of future risks.

Stern is more upfront than Nordhaus (and surprisingly also Giddens) on the ethical issues at stake in policy interventions to address dangerous climate change. His moral justification for springboard actions – early and decisive action to hold CO<sub>2</sub> equivalent concentrations below 500 ppm – starts with the observation that, even within the 'revealed ethics' approach of Nordhaus, it is implausible to select a discount rate derived from imperfect capital markets rather than, say, the lower interest rates of long-term securities. It is well known that the Stern Review on climate change economics set social discount rates more in line with the latter. However, in *A Blueprint for a Safer Planet*, Stern is more circumspect about the use of social welfare discounting to prescribe policy on climate change. He calls for an explicit treatment of ethical decisions and values, including an openness to approaches beyond the utilitarian constructs of neoclassical economics. While his own social democratic position is flagged up, it is made clear that it must find political legitimacy in processes of inclusive deliberation.

For Giddens the threat of dangerous climate change also justifies ambitious emissions reductions, in which industrialised countries act first in light of their historical pollution record, their technical capabilities for climate mitigation and their economic capacity to assist developing countries adapt to the damaging impacts of climate change. All these points resonate with UNFCCC obligations on parties. More original is his argument that, in order to secure enduring public support, springboard policy actions must rest on a 'radicalism of the centre' (Giddens, p. 114) that disavows left–right ideological exchanges and also green political values. In a provocative but insightful chapter, he

reviews a number of normative concepts with roots in the green movement – the precautionary principle, sustainable development, overdevelopment and polluter pays (Giddens, pp. 49–72). Only the last two survive his critical scrutiny, taking their place in a list of concepts that should serve, he argues, as the normative basis for a political concordat to address climate change. The concordat is discussed only in terms of democratic states (Giddens, pp. 113–117), begging the question of its applicability to other types of political system.

Of course, effective measures to address climate change require the fullest possible international cooperation. Each author favours the globally harmonised use of market-based mechanisms in climate change policy. In part, this reflects the notion that 'optimal' policy responses should be economically efficient – that marginal abatement costs equal the marginal social cost of emissions. In his analysis Nordhaus clings to this idealised model, which underpins his championing of price-based carbon taxes over quantity-based cap-and-trade schemes (Nordhaus, pp. 148–164). He argues that climatic constraints, such as concentration and temperature limits, are irrational from an economic perspective: according to the DICE model, staying within the Copenhagen Accord limit of 2°C would require high suboptimal carbon taxes, with a net loss in global economic welfare of \$1.6 trillion (present value) by the end of this century compared to a net gain in the 'optimal' policy of \$3.4 trillion, which involves a global temperature change of 2.61°C by 2100, and 3.45°C by 2200 (Nordhaus, pp. 69–73, 82–83). This assumes a global economic future in which the risks of higher climate change outcomes are outweighed by the consumptive gains of a richer world; in other words, that welfare losses caused by (potential) climate change damage can be compensated from other sources. In a world of dangerous climate change, this assumption is highly questionable.

While Giddens and Stern both support springboard approaches with market-based steering, the former favours carbon taxation while the latter opts for carbon trading as the key policy instrument, citing the greater regulatory certainty of emission caps and the private sector flows of finance available for transfer from rich to poor countries (Stern, pp. 103–104). However, as both Giddens (pp. 197–202) and Nordhaus (pp. 159–161) caution, the record on carbon trading is at best mixed (e.g. European Emissions Trading Scheme), with much evidence of inefficient rent seeking. Carbon trading must be embedded in smarter governance institutions. Giddens is most insightful on the politics of climate change action and cooperation; in particular, how action to limit global warming needs to converge with supporting political and economic goals (e.g. energy security, low-carbon growth). At the geopolitical level, he highlights the relationships of power that must be accommodated in

international climate negotiations (Giddens, pp. 203–226). This political realism is a necessary corrective to the rational optimism of Stern’s ‘global deal’ on climate change, including his argument for a world environment organisation (Stern, pp. 200–202). Nevertheless, in so far as we must fall back on risk-based analysis to identify common interests and inspire practical action on climate

change, then I know of no better starting point than *A Blueprint for a Safer Planet*.

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