

# Climate change target may lead to 'dangerously misguided' policies

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The pledge from G8 countries to cut global emissions by 50 per cent by 2050, in an effort to cut global warming to 2°C, could lead to 'dangerously misguided' climate change adaptation policies, according to new research from The University of Manchester.

Stabilising greenhouse gas emissions at a level that will avoid dangerous climate change is no longer viable without an immediate reframing of current climate policy, according to scientists at the Tyndall Centre for Climate Change Research in Manchester.

In a paper published in a special geo-engineering edition of *Philosophical Transactions of the Royal Society A*, which is published online today, Prof Kevin Anderson and Dr Alice Bows say that by focusing on long-term emission targets, such as 50% by 2050, climate policy has essentially ignored the crucial importance of current emission trends and their impact on cumulative emissions.

They say that as a consequence, although countries should aim to reduce global emissions in line with a 2°C target, adaptation policy must focus on climate change impacts associated with 4°C or more.

Dr Bows said: "The 2007 Bali conference heard repeated calls for reductions in global greenhouse gas emissions of 50 per cent by 2050 to avoid exceeding the 2°C threshold.

"While such endpoint targets dominate the policy agenda, they do not, in

isolation, have a scientific basis and are likely to lead to dangerously misguided policies.

“To be scientifically credible, policy must be informed by an understanding of cumulative emissions and associated emission pathways.

“Every year that the emissions grow more than anticipated, as they have since 2000, the 2050 target will need to be adjusted. The less we take action now, the more we need to do in the future - and the focus on 2050 means we take our eye off the ball.”

In conclusion Dr Bows and Dr Anderson write: “It is increasingly unlikely that an early and explicit global climate change agreement or collective ad hoc national mitigation policies will deliver the urgent and dramatic reversal in emission trends necessary for stabilization at 450 ppmv (parts per million by volume) CO<sub>2</sub>e.

“Similarly, the mainstream climate change agenda is far removed from the rates of mitigation necessary to stabilize at 550 ppmv CO<sub>2</sub>e. Given the reluctance, at virtually all levels, to openly engage with the unprecedented scale of both current emissions and their associated growth rates, even an optimistic interpretation of the current framing of climate change implies that stabilisation much below 650 ppmv CO<sub>2</sub>e is improbable.

“The analysis presented within this paper suggests that the rhetoric of 2°C is subverting a meaningful, open and empirically informed dialogue on climate change.

“While it may be argued that 2°C provides a reasonable guide to the appropriate scale of mitigation, it is a dangerously misleading basis for informing the adaptation agenda.

“In the absence of an almost immediate step change in mitigation - away from the current trend of 3 per cent annual emission growth - adaptation would be much better guided by stabilisation at 650 ppmv CO<sub>2</sub>e - approximately 4°C.

“However, even this level of stabilisation assumes rapid success in curtailing deforestation, an early reversal of current trends in non-CO<sub>2</sub> greenhouse gas emissions and urgent decarbonisation of the global energy system.”

The special edition of the journal is edited by Professor Brian Launder, Professor of Mechanical Engineering at The University of Manchester.

In the introduction to the journal, he and co-author Prof Michael Thompson write that the consequences of global warming are “already causing misery and premature death for millions and hold the prospect of unquantifiable change and potential disaster on a global scale for the decades to come”.

“While the link between rising global temperatures and increasing atmospheric concentrations of CO<sub>2</sub> has been known for more than a century, there is increasingly the sense that governments are failing to come to grips with the urgency of setting in place measures that will assuredly lead to our planet reaching a safe equilibrium.

“Today, the developed world is struggling to meet its (arguably inadequate) carbon-reduction targets while emissions by China and India have soared. Meanwhile, signs suggest that the climate is even more sensitive to atmospheric CO<sub>2</sub> levels than had hitherto been thought.

“Alarmed by what are seen as inadequate responses by politicians, for a number of years some scientists and engineers have been proposing major ‘last-minute’ schemes that, if properly developed and assessed in

advance, could be available for rapid deployment, should the present general concern about climate change be upgraded to a recognition of imminent, catastrophic and, possibly, irreversible increases in global temperatures with all their associated consequences.

“While such geoscale interventions may be risky, the time may well come when they are accepted as less risky than doing nothing.”

Provided by University of Manchester

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