

Climate scientist hits out at IPCC projections

October 13 2015, by Sam Wood



A composite image of the Western hemisphere of the Earth. Credit: NASA

As a new chairman is appointed to the Intergovernmental Panel on climate Change (IPCC) a University of Manchester climate expert has

said headline projections from the organisation about future warming are 'wildly over optimistic.'

In an article published today in *Nature Geoscience* Professor Kevin Anderson says that IPCC claims that "global economic growth would not be strongly effected" are unrealistic and that if we are to meet the 2C warming target wealthy and high emitting individuals will need to make dramatic cuts in the energy they use and in the material goods they consume - they will have to accept immediate and fundamental changes to their way of life - at least until the transition away from [fossil fuels](#) is complete

Professor Anderson also says that many climate scientists are censoring their own work in order for their results to be more politically palatable, something that does society a "grave disservice."

Professor Anderson's claims are a wake-up call to Professor Hoesung Lee, who was installed at the new IPCC chair last week and are well timed in the lead-up to the climate negotiations in Paris, which take place later this year.

A statement last year from the Intergovernmental Panel on Climate Change (IPCC) said that "to keep a good chance of staying below 2 °C, and at manageable costs, our emissions should drop by 40–70 per cent globally between 2010 and 2050, falling to zero or below by 2100", and that mitigation costs would be so low that "global economic growth would not be strongly affected."

Professor Anderson notes "If the IPCC's up-beat headlines are to be believed, reducing emissions in line with a reasonable-to-good chance of meeting the 2 °C target requires an accelerated, but still evolutionary, move away from fossil fuels; they notably do not call for an immediate and revolutionary transition in how we use and produce energy. Yet, in

my view, the IPCC's own carbon budgets make it abundantly clear that only a revolutionary transition can now deliver on 2°C."

According to Anderson, the IPCC's positive outcomes are: "Delivered through unrealistically early peaks in global emissions, or through the large-scale rollout of speculative technologies intended to remove CO₂ from the atmosphere.

"In stark contrast, I conclude that the carbon budgets associated with a 2 °C threshold demand profound and immediate changes to the consumption and production of energy.

"The complete set of 400 IPCC scenarios for a 50% or better chance of meeting the 2 °C target work on the basis of either an ability to change the past, or the successful and large-scale uptake of negative-emission technologies. A significant proportion of the scenarios are dependent on both. That is unrealistic."

According to IPCC research, it is cumulative emissions of CO₂ that matter in determining how much the planet warms by 2100. The IPCC concludes that no more than 1,000 Gt of CO₂ can be emitted between 2011 and 2100 for a 66% chance, or better, of remaining below a 2 °C rise.

However, between 2011 and 2014 CO₂ emissions from energy production alone amounted to about 140 Gt of CO₂. To limit warming to no more than 2 °C, the remaining 860 Gt of CO₂ (out to 2100) must be considered in relation to the three major sources of CO₂; those released in cement manufacture, changes in land-use and, most importantly, energy production.

Anderson concludes: "The severity of such cuts would probably exclude the use of fossil fuels, even with carbon capture and storage (CCS), as a

dominant post-2050 energy source. If we are to meet the 2C target, us wealthier high emitting individuals, whether in industrial or industrialising nations, will have to accept radical changes to how we live our lives – that or we'll fail on 2°C.

More information: Kevin Anderson. "Duality in climate science," *Nature Geoscience* (2015). [DOI: 10.1038/ngeo2559](https://doi.org/10.1038/ngeo2559)

Provided by University of Manchester

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