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Dear Barry, A quick question for a Guardian article on current climate prospects

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1. Given current levels of accumulation of greenhouse gasses in the atmosphere and rates of emissions, do you think it is still 'likely'* that average global surface temperatures will be held to no more than 2°C above pre-industrial levels? (feel free to briefly explain your answer)

No.

To _reliably_ keep below this target would require something of the order of 80%+ of known fossil fuel reserves to be left in the ground. There is no evidence of policies (or indeed governance capabilities or institutions), on a global basis, commensurate with achieving that, or anything like it. On the contrary, many countries (including Ireland) are actively pursuing the discovery of new, _additional_, fossil fuel deposits, with a view to their early extraction (Paris agreement is largely "do as I say, not as I do", or "Lord, make me pure, but not yet"). While there are theoretical technological means to attempt to reverse the ongoing accumulation of CO2 in the atmosphere at some point in the future, these are highly speculative. Even if the obvious technical challenges could be overcome, as growing climate impacts progressively destabilise organised global society, I find it highly implausible that the required scale and speed of co-ordinated global deployment could be achieved to still meet the <2C goal.

The open question for me is not whether we will breach the +2C target, but how soon. But even slowing down the impacts does still potentially make a big difference to the suffering that will be endured.

2. What needs to happen to retain a good chance of staying below 2°C? (feel free to specify how you prefer to quantify a 'good chance')

I would personally prefer to interpret a "good chance" as better than 95% probability - except that the carbon budget for that is pretty well already spent. But an alternative question is what actions now might retain the "best possible" chance, and in that case I would say:

- + Mobilisation on a "war time" scale to shut down fossil energy infrastructure (extraction, processing, combustion), and build out ultra-low emissions energy systems, including current electricity uses, transport and heating (the latter likely being progressively electrified).
- + However, new energy infrastructure will take decades to deploy, so in the immediate term we still need radical "demand side" emissions reductions. That is, the relatively small proportion of the global population with disproportionately high emissions profiles must be constrained to radically reduce their emissions. (As a concrete policy example, see <<http://afreeride.org>>.)

+ Effective policies are also required to achieve a shift in global agriculture and human diet toward food types with minimum greenhouse gas intensity for given nutritional value. This means progressively less ruminant agriculture products in particular.

+ And, of course, we need to end deforestation, and promote reforestation/afforestation.

As a leading analyst with important things to say on the issue, I would very much like to include your views.

Thanks for asking ... but, while “reasonably” informed, and highly opinionated, I certainly wouldn’t claim to be a “leading analyst” of any sort! But thanks for asking anyway. ;-)

Best wishes,

- Barry.

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