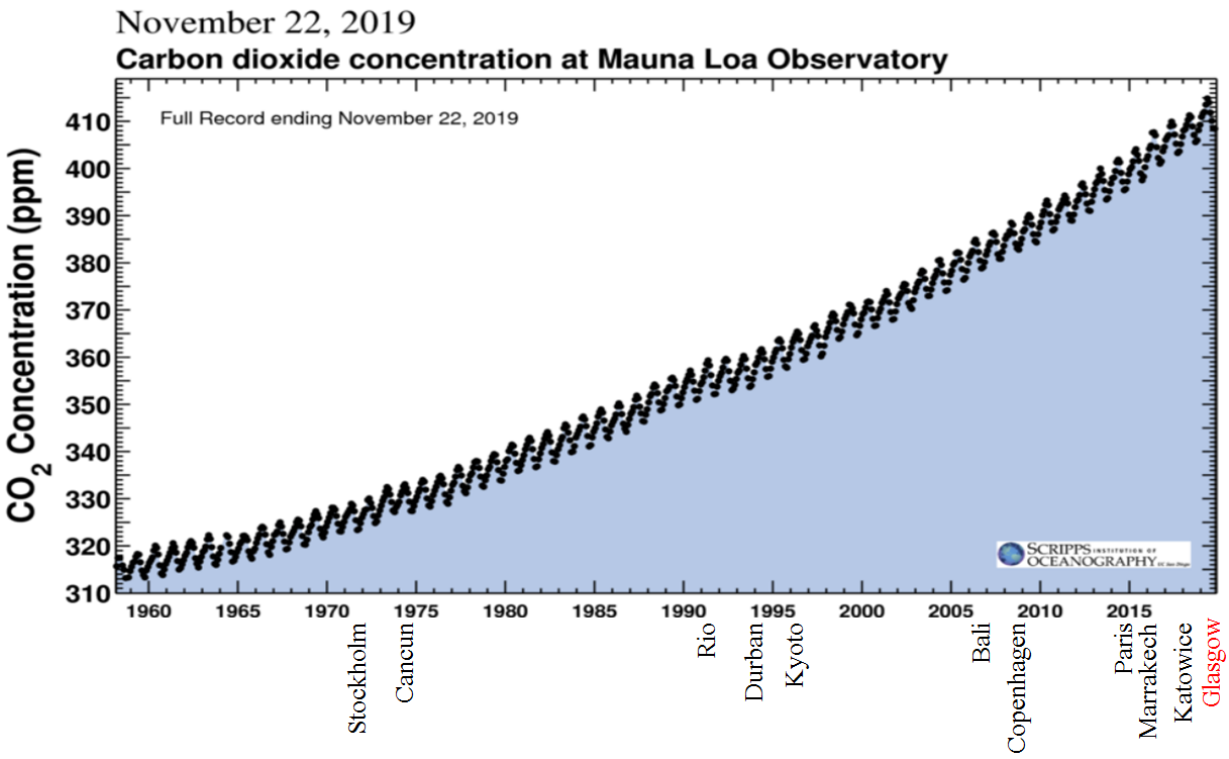
Climate Policy: Zero is not low enough.

Present government climate policies, with a few predictable exceptions, are to reduce emissions of carbon dioxide to zero over time scales of varying numbers of years. There is agreement that the transformation from fossil fuels will be expensive, very difficult and perhaps impossible. But we also have to ask if it will be sufficient to prevent damage which is becoming increasingly evident.

We can make week-by-week measurements of the progress of reductions by downloading from the Scripps Institute, data on atmospheric CO2 concentrations known as the Keeling curve. A recent one with dates of international climate conferences is shown below.



The rate of reductions in the mean slope of the curve is, so far, not encouraging. If present official policies were successful in getting to zero emissions for all countries, the concentration curve would flatten but we would still be stuck at some temperature higher than now plus any addition due to methane release, lower snow cover or open water during summer in the Arctic. This higher temperature would result in more severe hurricanes, typhoons, floods and droughts than at present. There would be more wild fires and sea level rise until there was insufficient flammable material left to burn or ice to melt.

It should be the duty of our political leaders to reduce the probability of all of these events to values far below the probability of air crashes. The only ways that this could be done are the *reduction* not stabilising of atmospheric greenhouse gas concentrations and the reduction of incoming solar energy. We need to understand every aspect of the physics, engineering and side effects of every feasible technology and then test prototype hardware for defence systems which could be rapidly deployed if there was a need for an emergency brake. A policy of zero emissions is not low enough.

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