

Climate Reality Check 2020

Summary

26th April 2021

Climate impacts are close to moving beyond human control as climate change accelerates globally, evidence of which we saw clearly with the unprecedented 2019/20 Australian and Californian bushfires, the Chinese floods and Indian extreme temperatures. Despite the Paris Climate Agreement, global emissions continue rising at worst case rates when they should be dropping rapidly. Extreme events are intensifying and compounding.

The Australian [Breakthrough - National Centre for Climate Restoration](#) has, for many years, focused on interpreting the risk and uncertainty implications of the climate science, implications which are still badly underestimated officially. An update of this earlier work, based upon the latest science, has recently been completed: [Climate Reality Check 2020](#). It concluded:

- 1.5°C global average temperature increase, relative to pre-industrial conditions, will occur around 2030, irrespective of any action taken in the interim, a decade ahead of IPCC projections. This is the lower limit of the Paris Climate Agreement.
- The upper limit, 2°C, is now likely prior to 2050, even with actions better than the current Paris commitments. 3°C is likely early-to-midway through the 2nd half 21C.
- Even rapid emission reductions will have no significant impact on the warming trend over the next 25 years due to the offsetting effect of reducing aerosols from fossil fuel consumption, which have been cooling the planet thus far.
- “Hothouse Earth”, non-linear, irreversible, self-sustaining warming may be triggered between 1.5 – 2.0°C. There is a risk that climate system tipping points may have already moved beyond our influence.
- Current global warming, 1.3°C in 2020, is already dangerous. 2°C would be extremely dangerous. 3°C would be catastrophic.

The practical and policy implications are as follows:

- It is now impossible to limit temperature increases to 1.5°C. Also to 2°C unless global leaders accelerate action on climate change to an emergency footing, akin to wartime.
- In this context, the current fashion for achieving net zero emissions by 2050 (NZE 2050) is totally inadequate. That outcome globally is required as soon as possible, ideally by 2030 (NZE 2030). A massive task, far greater than anything thus far contemplated officially.
- Any government’s first priority should be the security and prosperity of its people. Climate change, Covid notwithstanding, has long since been the greatest threat to that security and prosperity, and Australia, along with our region, is far more exposed to climate risk than most. Historic inaction means the threat has become immediate, no longer years ahead.
- Climate impacts in Australia will be noticeably higher than global statistics imply – Australia’s average temperature in 2020 was already 1.44°C above 1910 levels, roughly 1.5°C above pre-industrial levels in a non-El Nino year. El Nino conditions will be extremely dangerous.
- Inertia in the global climate system means that the impacts of increasing atmospheric carbon concentrations do not manifest themselves for years ahead. Today’s impacts are the result of emissions from past decades. Further, irrespective of action taken today or in the immediate future, we cannot avoid severe, escalating climate impact because of those past emissions.
- Hence carbon emissions must be reduced as fast as possible, locally and globally, by cutting fossil fuel use. This means the big emitters, countries or companies, must take the brunt of the cuts. Other

initiatives, from technology, communities, agriculture ocean and reforestation sequestration, etc are important, but will not achieve the required reductions in the limited time available.

- The immediate challenge is to prevent matters becoming even worse, in particular by expanding the use of fossil fuels. “Gas-led recoveries”, as proposed in Australia, are utterly irresponsible in these circumstances, and unnecessary given that we have more attractive alternatives.
- In addition to rapid emission reduction, atmospheric carbon concentrations must be drawn down from the present level of 420 ppm CO₂, toward a more stable level of below 350 ppm CO₂. At present the technology to achieve that drawdown is in its infancy, further compounding the risks we face.
- We may well have to resort to geoengineering to buy time, by cooling areas of the planet, before other initiatives take effect.
- An emergency implies acting early rather than later, otherwise mitigation becomes secondary to adaptation as incumbencies throw their resources at managing symptoms, the climate impacts, or shoring up the status quo, rather than addressing the underlying climate change cause. This would lead into a “*death spiral*”, toward societal collapse, as climate impacts escalate unconstrained. The beginnings of this are already seen in responses around the world.

We are obviously a long way from any global commitment to NZE 2030, but that is what an objective assessment of the science and evidence requires, for climate change is now an immediate existential threat to civilization as we know it, an outcome we are locking-in today. We urgently need a complete reframing of global climate and energy policies to achieve that target, as last week’s Biden Summit demonstrated only too clearly.

Few in business, finance or government, seem to understand the full extent of climate risk and uncertainties. The IPCC conclusions are taken as gospel in understanding climate impact and determining policy formulation, for example justifying NZE 2050. That is [extremely dangerous](#) as the IPCC work tends to be lowest common denominator, and does not quantify the major climate tipping point threats – the “fat-tail” uncertainties which were thought to be high impact and low probability, but which are now increasingly likely to occur. We still do not know enough to quantify them, but if they trigger, as some seem to be doing, the results will be catastrophic and irreversible. Hence **precautionary avoiding action is essential**.

Sound governance and fiduciary responsibility require that the real climate risks and uncertainties be understood, and appropriate action taken to manage them. Vested interest pressure and market failure have created this problem; market solutions alone are incapable of solving it.

We need a response akin to wartime, when economies, for example in the lead up to WW2, were turned on their head and refocused on defence priorities within extremely short time frames, typically 6-18 months. Had that not occurred, the world would be a very different place. Something similar is required to address climate change. It will mean economic disruption and massive social and political change, but it is too late to avoid that outcome. The alternative, of escalating climate impacts and self-sustaining warming, will be far worse.

Leadership is needed now, here and globally, to start a new conversation, honestly articulating these threats and charting a realistic way forward to avoid them.

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