

6.5 Intergovernmental Panel on Climate Change – Climate Change 2021 Report

Submitting Councillor: Dr Josh Fergeus

MOTION

That Council:

1. *Notes the Intergovernmental Panel on Climate Change's recent report 'Climate Change 2021: The Physical Science Basis'¹;*
2. *Notes in particular the following findings of the report:*
 - i) *It is unequivocal that human influence has warmed the atmosphere, ocean and land, and that widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred;*
 - ii) *Human activities are estimated to have caused approximately 1.1°C of global warming above pre-industrial levels, a 0.1°C rise since Council received the interim report in 2018;*
 - iii) *Global warming is likely to reach 2°C by as early as 2041, with 1.5°C of warming now more likely than not under even very low GHG emissions scenarios.*
3. *Acknowledges the unprecedented levels of urgency declared by the IPCC and other scientific bodies with regard to the need to drastically reduce emissions and limit global warming to 1.5°C.*

BACKGROUND

The first UNFCCC document to mention a limit to global warming of 1.5°C was the Cancun Agreement, adopted at the sixteenth COP (COP16) in 2010. The Cancun Agreement established a process to periodically review the 'adequacy of the long-term global goal (LTGG) in the light of the ultimate objective of the Convention and the overall progress made towards achieving the LTGG, including a consideration of the implementation of the commitments under the Convention'. The definition of LTGG in the Cancun Agreement was 'to hold the increase in global average temperature below 2°C above pre-industrial levels'. The agreement also recognised the need to consider 'strengthening the long term global goal on the basis of the best available scientific knowledge...to a global average temperature rise of 1.5°C'.

Countries' pledges to reduce their emissions are currently not in line with limiting global warming to 1.5°C. To stabilize global temperature at any level, 'net' emissions would need to be reduced to zero. This means the amount of CO₂ entering the atmosphere must equal the amount that is removed. Achieving a balance between 'sources' and 'sinks' is often referred to as 'net zero' emissions or 'carbon neutrality'.

RATIONALE

It is important for Council to note the IPCC report and associated implications, as these are likely to bring significant hardship to many of our residents. This information also

¹ https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf

has significant implications for strategic planning and asset management now and into the future.

DIFFERENCE IN IMPACT OF 1.5 VERSUS 2 DEGREES OF WARMING

The IPCC has previously reported the following:

- Extreme heat would be much more common, with 37% of the world population exposed to extreme heat at 2C rather than 14% at 1.5C, with the tropics experiencing the biggest increase in “highly unusual” hot days;
- Sea levels would be at least 10 centimeters higher (50 cm as opposed to 40 cm) by the end of the century at 2C warming than they would at 1.5C, causing mass migration from areas that may be flooded;
- The rate of sea level rise increase by 30% at 2C;
- The availability of freshwater in parts of the world will reduce 9% at 1.5C warming but up to 17% at 2C;
- Heatwaves will increase 1.1 months of the year at 1.5C and up to 1.5 months at 2C;
- The Arctic would be sea-ice free at least 1 in every 100 years at 1.5C but an alarming 1 in every 10 years at 2C;
- The loss of species is between 200 and 300% worse at 2C as opposed to 1.5C, with as many as 16% of plant species lost and 18% of insects lost;
- Permafrost melting will be 38% worse at 2C, leading to further release of methane and impacting on increased global warming beyond 2C;
- 2C will result in an estimated 3 million tonne decrease in yield from marine fisheries, twice as bad as under 1.5C;
- Wheat production will reduce by 9% at 1.5C but up to 16% at 2C;
- 90% of reefs are at risk at 1.5C and 98% at 2C, meaning 2C almost certainly sounds the death knell for the entirety of the Great Barrier Reef;
- If we remain at our current levels of emissions, we are on a path to warming 4C by 2100, which if reached would trigger a chain of cataclysmic changes that include extreme heatwaves, declining global food stocks, substantial species extinctions and sea-level rising that would affect hundreds of millions of people.

ALIGNMENT WITH COUNCIL PLANS AND STRATEGIES

This notice of motion aligns with the Environmental Sustainability Strategy 2016-2026, our Zero Net Carbon Action Plan, the Healthy and Resilient Monash Integrated Plan 2017-2021, and the Council Plan 2016-2020.