

Wednesday, April 28, 2021

The Director,  
Tasmanian Climate Change Office,  
Department of Premier and Cabinet,  
15 Murray Street, HOBART, TAS, 7001

**RE: Review of Tasmania's Climate Change (State Action) Act 2008**

Dear Director,

Thank you for the opportunity to make submission on the Review of the Tasmania's Climate Change (State Action) Act 2008 ("Act").

I will keep this relatively short as there are some significant points that I believe must be given priority in any amendment of the Act. But firstly I must congratulate the Tasmanian government on developing the initial legislation and Action Plans to reduce the addition to, and impacts from, global climate temperature rise and for a willingness to increase the ambition of the Act. The private sector has been driving action to address climate change, but this will always fall short without the right legislation in place. Put simply, we need a carrot and stick approach if we are to achieve the most important goals the planet (and humanity) has ever faced. The right legislation is critical.

It's widely stated that climate change is the result of actions that have taken place since the start of the industrial revolution. This is largely correct, but in fact the increase has been most significant since the 1950s. In such a short period of time the damage humanity has done to the planet, with not just the climate but across the world's natural earth systems, is unprecedented. We're at the last stage of officially declaring a new earth epoch of the Anthropocene (from anthro "human" and cene "new").<sup>1</sup> The staggering amount of data, across multiple earth systems, has clearly demonstrated the affect humanity is having on the planet. In most cases these impacts are accelerating out of control.

*The rate of atmospheric CO<sub>2</sub> increase over the past two decades is now about 100 times the maximum rate during the last deglaciation. Since 1970 the global average temperature has risen as a rate 170 times the background rate over the past 7,000 years of the Holocene, **and in the opposite direction!** The current rate of CO<sub>2</sub> and temperature change is almost unprecedented in the entire 4.5-billion-year geological past. The only other time was 66 million years ago when a meteor hit Earth resulting in the last extinction event.<sup>2</sup>*

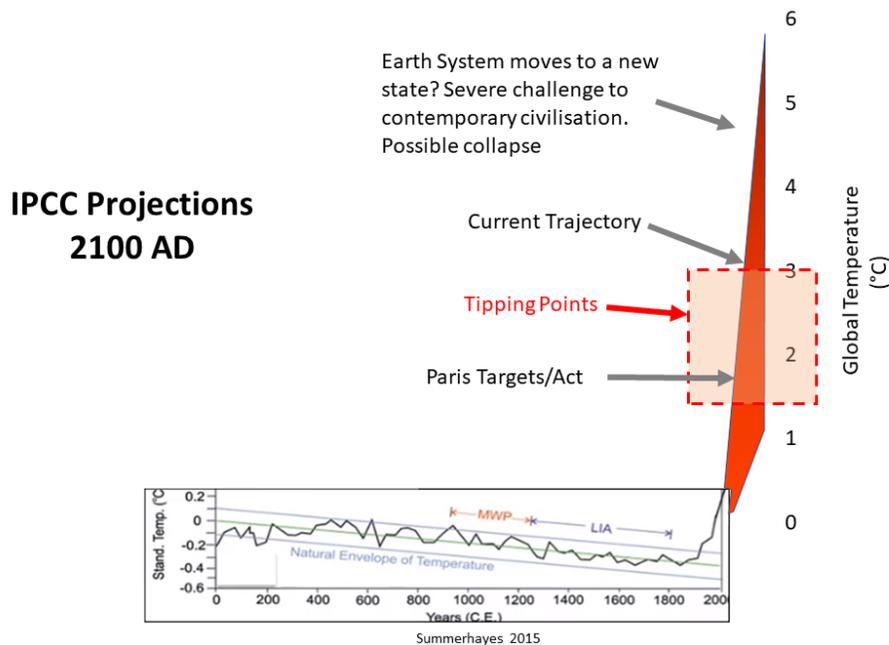
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<sup>1</sup> Stoermer and Crutzen 2000

<sup>2</sup> De Vos et al. 2014; Wolff 2011; Marcott et al. 2013; NOAA 2016; Canfield et al. 2010; Lear et al. 2020; Steffen et al. 2021

## Tipping Points

The most important aspect of the change in the earth systems is trying to determine where the tipping points of the various earth systems are. Tipping Points are the points where not only damage is irreversible, but a cascading effect starts to happen which compounds negative feedback loops that drive temperatures higher (in the case of climate change). The exact tipping points can only be determined after the fact, which is too late, but modelling determines them to be somewhere between 1.5 and 3 degrees<sup>3</sup>. The importance of these in relation to the current trajectory, the Paris targets and the Act (assuming the Act is at the same point as the Paris Targets) is best demonstrated in the below graphic.



Adopted from a presentation by Professor Will Steffen to the Royal Society of Victoria April 2021. "The Anthropocene: Where on Earth are we Going?"

This clearly demonstrates that the current targets, not only in Tasmania, but globally, are insufficient to avert at least some serious impacts from climate change. When it comes to tipping points, we simply don't know what we don't know. This means to ensure the survival of humanity (and the majority of species on the planet) we must (a) set much greater targets, (b) drive action that completely stops emissions (Total Zero) and (c) drive action to draw down greenhouse gases from the atmosphere and sequester them.

To add further weight to the seriousness of the current situation, NASA simulations have determined that atmospheric carbon (CO<sub>2</sub>) levels above 350 ppm are incompatible with sustaining a planet similar to which all life on Earth has adapted<sup>4</sup>. On the 4th of February 2021 the CO<sub>2</sub> level, as measured at the Mauna Loa

<sup>3</sup> Steffen et al. 2021

<sup>4</sup> Hansen et al. 2008

Observatory, exceeded 421 ppm for the first time in recorded history (with a monthly average of 417 ppm).<sup>5</sup>

### **Net Zero Emissions**

I refer to the currently legislated target and government policy of which neither are clearly ambitious enough technically. Both the Net Zero Emissions (NZE) by 2050 stated government policy and the legislated target in the Act of 60% below 1990 levels by 2050 needs to be revised significantly.

It's clear Tasmania should legislate a target of NZE by 2030 and Total Zero Emissions by 2050 to give the best opportunity to achieve the goal of planetary climate stability and that incremental goals should also be legislated.

Setting these targets will raise the bar internationally and ensure Tasmania is a leader on the world stage.

### **Interconnectedness of nature**

While setting targets to mitigate and adapt to climate change is necessary, it must not be forgotten that climate change is only one part of the earth system and that all of nature is interconnected. Climate change legislation must also consider this interconnectedness and the most obvious way to do this is to add reference in the Act to The Nine Planetary Boundaries as defined by the Stockholm Institute.<sup>6</sup>

### **Point Advisory Background Paper to DPAC “Net zero emissions pathway options for Tasmania”**

If the above scientific evidence is given proper consideration, the “best fit” opportunities in this background paper need revisiting to achieve the goal of planetary stability<sup>7</sup>.

While it correctly states land use as a core aspect, the paper focuses heavily on the forest industry with a large emphasis on biomass usage which is increasingly coming under fire globally. It also does not include regenerative agriculture (as opposed to precision agriculture) or soil carbon in its “best fit” opportunities. It also makes large assumptions on the potential of Green Hydrogen and while promising, the issues in scaling up this technology are far from solved.<sup>8</sup>

This paper makes important mention the fact that Tasmania has an “opportunity to position itself as a climate change leader, at both the national and global level...” and stating that “its significant forest estate and low carbon electricity sector...” are significant assets. Importantly it completely misses the point when assessing risks for the best stated target of Net zero by 2035.

It states that a risk of aiming for this target is that it “Could be seen as too difficult / costly to achieve, which may make stakeholders hesitant to commit” when in fact ensuring stakeholders commit to a certain course of action is the whole purpose of legislation in the first place.

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<sup>5</sup> [https://scrippsco2.ucsd.edu/data/atmospheric\\_co2/primary\\_mlo\\_co2\\_record.html](https://scrippsco2.ucsd.edu/data/atmospheric_co2/primary_mlo_co2_record.html)

<sup>6</sup> <https://www.stockholmresilience.org/research/planetary-boundaries/planetary-boundaries/about-the-research/the-nine-planetary-boundaries.html>

<sup>7</sup> The Limits to Growth, Club of Rome, Meadows et al. 1972; A comparison of The Limits to Growth with 30 years of reality, CSIRO, Turner 2008

<sup>8</sup> IRENA 2020, Eljack et al. 2021

The second stated risk is that a target of NZE by 2035 is “Likely to require significant investment and research and development to support businesses to transition.” Again, this exact point represents the most significant opportunity Tasmania has in becoming a world leader on climate action.

The paper also doesn’t consider natural capital and the natural capital accounting framework adopted by the United Nations in March this year (SEEA EA)<sup>9</sup>.

This framework has been 13 years in development, has already been adopted by more than 34 countries, and represents a significant opportunity for Tasmania. The significance of the adoption of natural capital accounting means the cost of using nature as a free resource, for business and government, will now be accounted for and sit alongside the System of National Accounts. This is world’s best practice.

To reiterate the main points of the submission, we believe the Act should be amended to include the following:

1. Increasing the climate change targets significantly to NZE by 2030 and;
2. Legislate the taking of action that completely stops emissions (Total Zero) by 2050 and;
3. Legislate the taking of action to draw down greenhouse gases from the atmosphere and sequester them by 2050 and;
4. Legislate incremental goals for points 1, 2 and 3 and;
5. Include reference to the Nine Planetary Boundaries and that all action to address climate change must consider these via scientific assessments and;
6. Include reference to SEEA EA and that all actions must be assessed economically using this Framework.



Rod Holden,  
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<sup>9</sup> System of Environmental-Economic Accounting—Ecosystem Accounting