

Submission on Zero Carbon Act

Tom Bennion 19 July 2018

Details of Submitter

- ▶ Husband, father, 3 children (8, 11, 14 years)
- ▶ Senior Treaty and environment law practitioner
- ▶ Part-time lecturer in environmental law at VUW Wellington
- ▶ Involved in a number of leading climate law cases since 2005
- ▶ Electric car owner
- ▶ Non-flying (except for emergencies) since 2009
- ▶ Co-author of [Beyond Flying](#)
- ▶ Co-author of [The Carbon Forest. A NZ Guide to Carbon Forest Sinks](#)

Summary of submission

- ▶ IPCC budgets on which Paris agreement is based are reckless about the true risks of exceeding 2 degrees, by including negative emissions;
- ▶ Therefore a target of zero emissions by 2040 is required, for all gases, and without offsets;
- ▶ Budgets should be set in 5 year increments, reviewed annually & no backsliding;
- ▶ The Climate Commission should have a strong decision-making role.

Thinking in the 1970s - “we have time”

John Passmore - 1974 - *Man’s Responsibility for Nature*

We know at least this much, however. Men will need the biosphere. And it is sometimes suggested that our present level of industrial activity is so heating up the atmosphere that large parts of the earth’s surface will—as a result of the melting of polar ice—eventually be rendered uninhabitable. So, it is concluded, we ought at once, for the sake of posterity, to reduce the level of that activity. Once again, of course, the facts are in dispute. The Royal Commission on Environmental Pollution concluded that ‘such eventualities are not only remote: they are conjectural’.¹⁷ But this case serves as a sort of touchstone, an example extreme both in its uncertainty and in the disastrousness of the consequences it envisages, were they to eventuate.

The thinking from 1989 - McKibben - The End of Nature

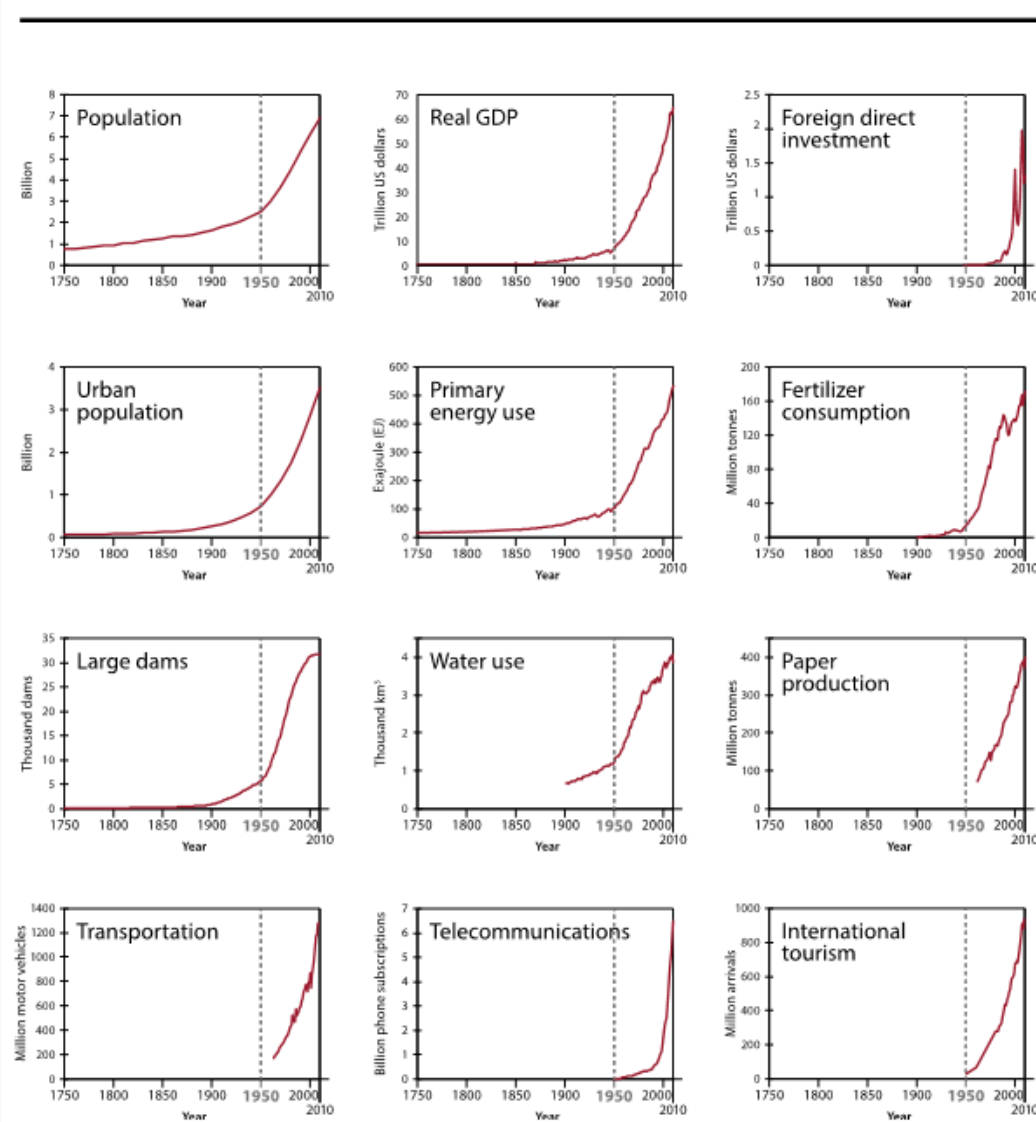
“We never thought that we had wrecked nature. Deep down, we never really thought we could: it was too big and too old; its forces—the wind, the rain, the sun—were too strong, too elemental. But, quite by accident, it turned out that the carbon dioxide and other gases we were producing in our pursuit of a better life... could alter the power of the sun, could increase its heat. And that increase could change the patterns of moisture and dryness, breed storms in new places, breed deserts...We have produced the carbon dioxide—we are ending nature.”

Earth scientists - there is no time - Will Steffen 2017

The Great Acceleration

The Human Enterprise

- Population
- Economic Growth
- Freshwater use
- Energy use
- Urbanization
- Globalization
- Transport
- Communication



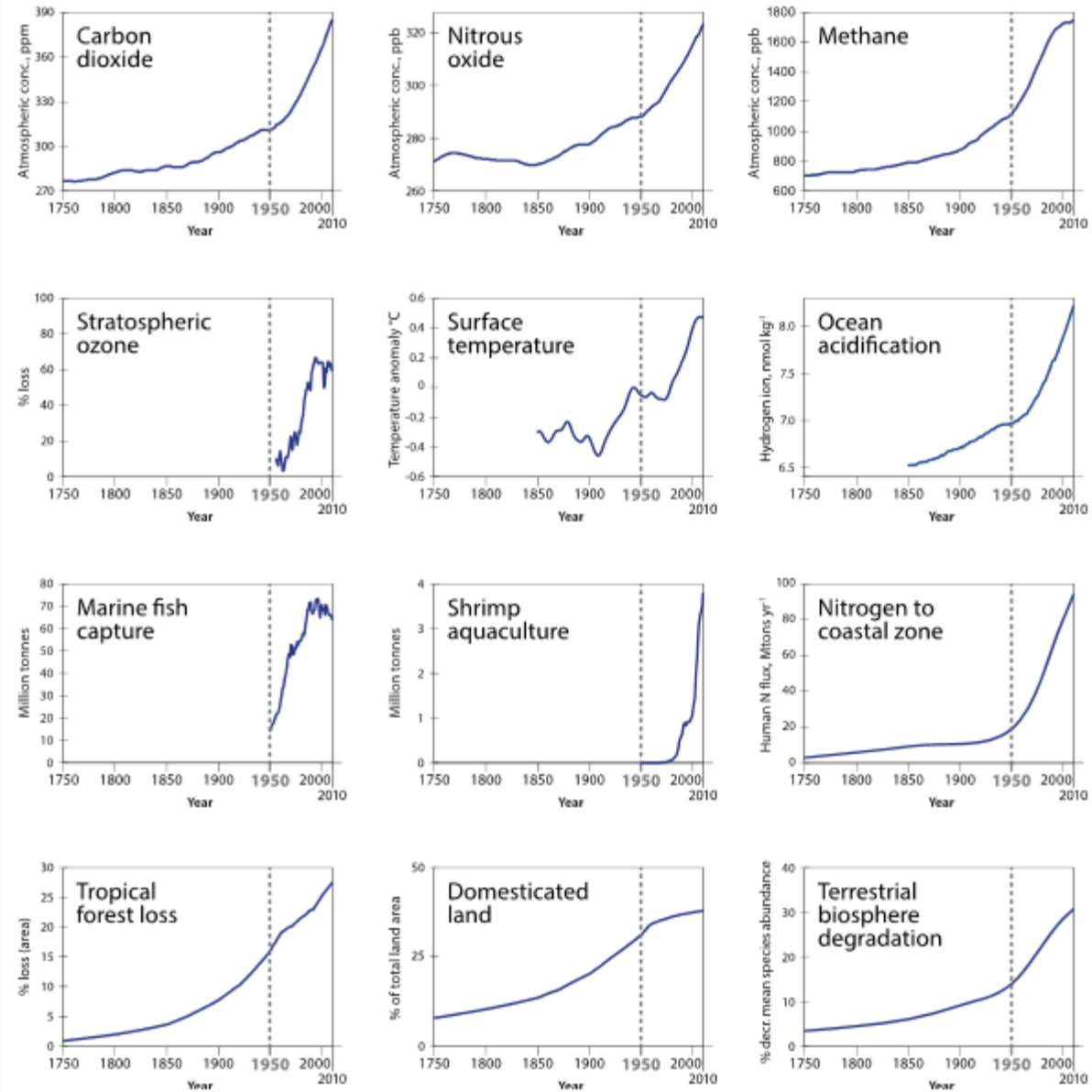
Steffen et al. 2015

The Great Acceleration

Global Impact

- Greenhouse gases
- Ozone depletion
- Climate
- Marine ecosystems
- Coastal zone
- Nitrogen cycle
- Tropical forests
- Land systems
- Biosphere integrity

Earth system trends



Conclusion from earth scientists in 2017

Challenges of the Anthropocene

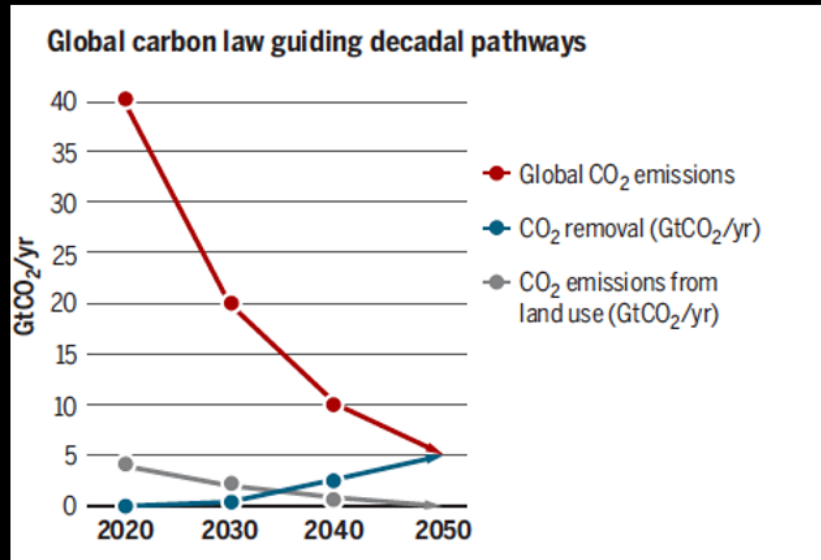
The current socio-economic system is a failure

The speed of change required is daunting

Fundamental value shifts are required

Rate of change required by Paris agreement

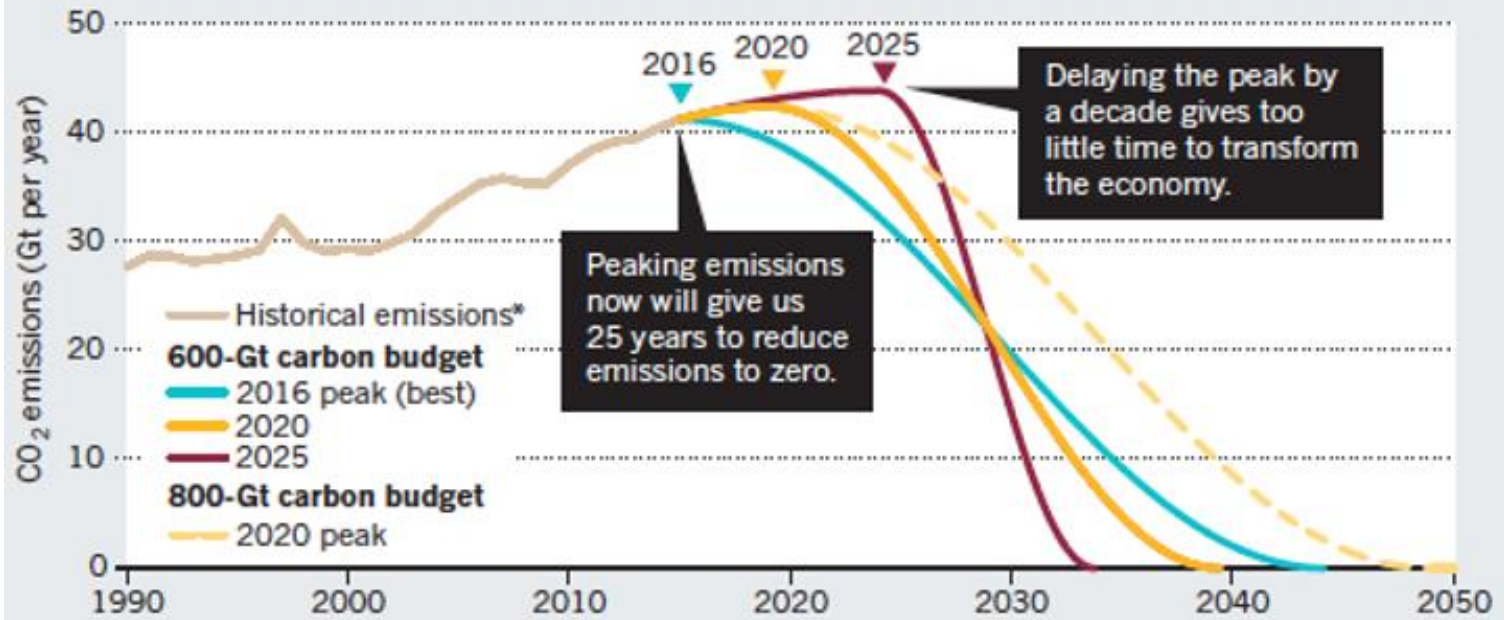
Rates of Change



Rockström et al. 2017

CARBON CRUNCH

There is a mean budget of around 600 gigatonnes (Gt) of carbon dioxide left to emit before the planet warms dangerously, by more than 1.5–2°C. Stretching the budget to 800 Gt buys another 10 years, but at a greater risk of exceeding the temperature limit.

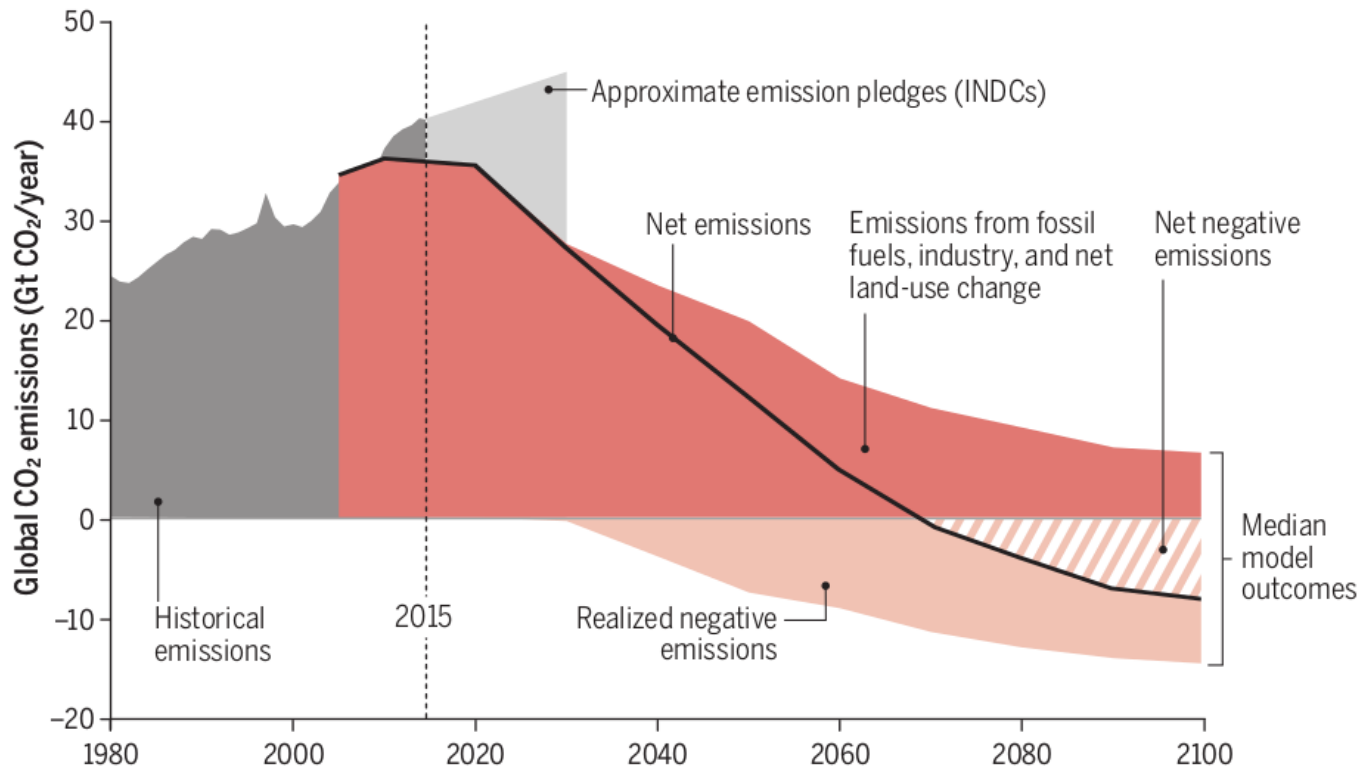


*Data from The Global Carbon Project.

Paris agreement reliant on negative emissions technology - Anderson et al 2018

No quick fixes

Modelers generally report net carbon emissions, unintentionally hiding the scale of negative emissions. Separating out the positive CO₂ emissions from fossil fuel combustion, industry, and land-use change reveals the scale of negative CO₂ emissions in the model scenarios (16). INDCs, Intended Nationally Determined Contributions.

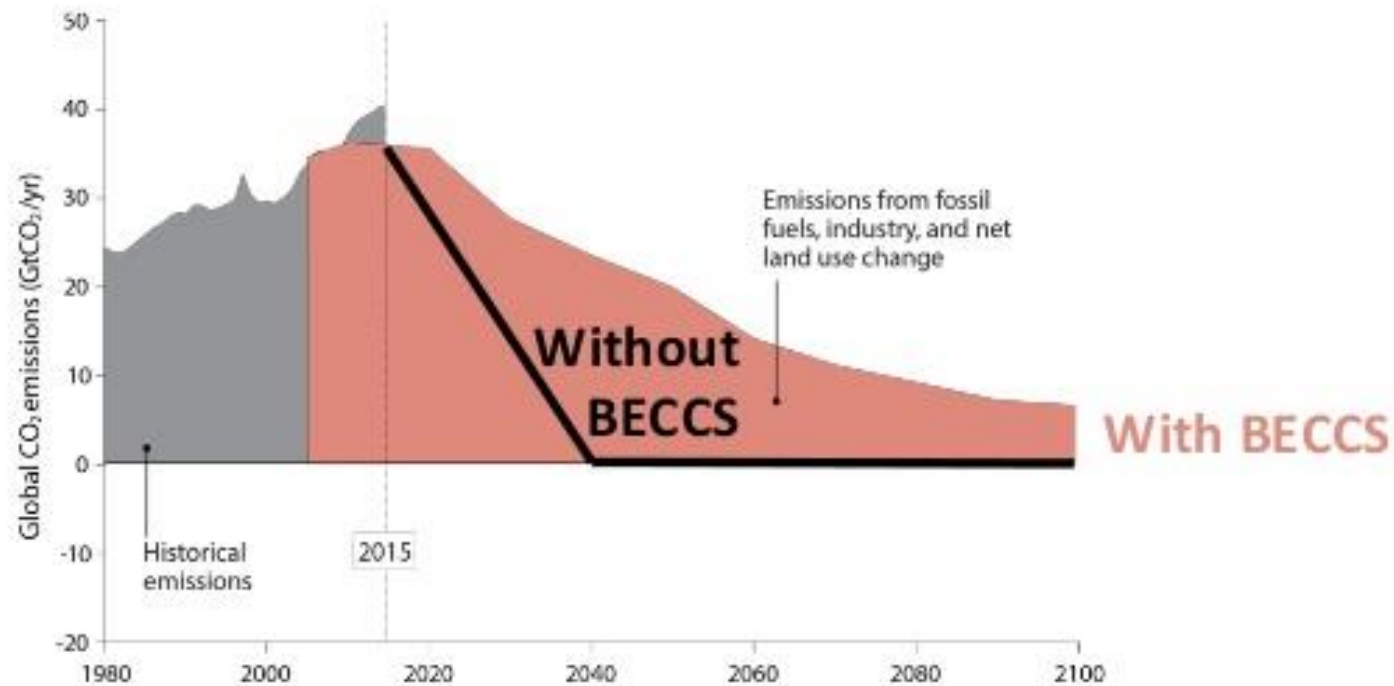


GRAPHIC: G. GRULLÓN/SCIENCE

Rate of change required without negative emissions technology - Anderson et al 2018

Are negative emissions a moral hazard?

Less CO₂ removal requires more rapid reductions in fossil fuel and industry emissions



Paris targets remain recklessly low given the risk that very dangerous climate change occurs in a lifetime

News > Science

Climate change may be escalating so fast it could be 'game over', scientists warn

New research suggests the Earth's climate could be more sensitive to greenhouse gases than thought, raising the spectre of an 'apocalyptic side of bad' temperature rise of more than 7C within a lifetime

Ian Johnston Environment Correspondent | [@montaukian](#) | Wednesday 9 November 2016 20:00 |

Minimum requirements of Zero Carbon Act

- ▶ A target of zero emissions by 2040 is required, for all gases, and without offsets;
- ▶ Budgets should be set in 5 year increments, reviewed annually & no backsliding;
- ▶ The Climate Commission should have a strong decision-making role - including the ability to require the development of enforceable instruments to reduce emissions such as, or similar to, national environmental standards and national policy statements under the RMA