

17 October 2017

**An open letter to the Right Hon. Malcolm Turnbull MP,
Prime Minister of Australia**

Dear Prime Minister

Last call on the climate and nuclear twin perils

On the 26 January, 2017, the Bulletin of the Atomic Scientists¹ stated: *“Over the course of 2016, the global security landscape darkened as the international community failed to come effectively to grips with humanity’s most pressing existential threats, nuclear weapons and climate change.”*

These twin perils are not unrelated. As the full horror of climate change unfolds, conflict among nations and peoples over diminishing livable environments and disrupted food and water supplies will increase. Nuclear holocaust is a plausible component of a climate change endgame.

In this regard we refer to your statement of 12 August, 2010²:

“Now our response to climate change must be guided by science. The science tells us that we have already exceeded the safe upper limit for atmospheric carbon dioxide. We are as humans conducting a massive science experiment with this planet. It’s the only planet we’ve got.”

Dangerous global warming is taking place before our eyes. During the seven years since your statement was made the climate deteriorated further, with a recent spate of intensifying hurricanes, floods and wildfires^{3 4} costing many lives and billions of dollars^{5 6}.

These developments, corroborated by reports by leading climate research institutions around the world (WMO⁷, NOAA⁸, NSIDC⁹, Hadley-Met¹⁰, Potsdam Climate Impacts¹¹, CSIRO¹², BOM¹³ and others), include:

¹ <http://thebulletin.org/sites/default/files/Final%202017%20Clock%20Statement.pdf>

² <http://bze.org.au/2010-sydney-launch-zero-carbon-australia-stationary-energy-plan/>

³ <http://www.insurancejournal.com/news/international/2013/01/03/275865.htm>

⁴ <http://unfriendcoal.com/2017/09/28/ten-things-you-didnt-know-about-insurance-companies-and-climate-change/>

⁵ <https://www.vox.com/explainers/2017/9/18/16314440/disasters-are-getting-more-expensive-harvey-irma-insurance-climate>

⁶ <https://www.munichre.com/topics-online/en/2017/07/natcat-first-half-2017>

- Further increase in atmospheric CO₂ reaching 403.38 ppm in September 2017, rising at rates of 2 to 3 parts per million per year¹⁴ (Figure 1), which exceeds the maximum rate of a global thermal event 55 million years ago¹⁵ when a mass extinction of species has taken place.
- Sharp global temperature spikes occurred from about 2015, with mean global temperature reaching up to 1.4°C above 1910¹⁶, 2016 being the warmest year in NOAA's 137-year series¹⁷ (Figure 2).
- The increase in energy levels in the atmosphere-ocean system is responsible for the rise in extreme weather events around the world, including floods, droughts, storms, heat waves and wildfires (Figure 3). These have tripled since the early 1980s to about 700 extreme events per year, the cost during the first half of 2017 events being about US\$41 billion^{18 19}.
- The Greenland and large parts of the Antarctic ice sheets continue to break down^{20 21} and sea level continue to rise at a rate of 3.4 mm per year since 1994^{22 23}, reaching about 25 cm higher than 1880. The current rise of sea level and storms is already rendering small Caribbean and Pacific islands hardly habitable²⁴. A further rise would affect coastal plains and low river valleys, where a large part of humanity lives and grows food.

⁷ <https://public.wmo.int/en/media/press-release/provisional-wmo-statement-status-of-global-climate-2016>

⁸ <https://www.ncdc.noaa.gov/monitoring-references/faq/indicators.php>

⁹ https://nsidc.org/cryosphere/arctic-meteorology/climate_change.html

¹⁰ <https://www.metoffice.gov.uk/climate-guide/science/science-behind-climate-change/hadley>

¹¹ <https://www.pik-potsdam.de/pik-frontpage>

¹² <https://www.csiro.au/en/Research/OandA/Areas/Oceans-and-climate/Climate-change-information>

¹³ <http://www.bom.gov.au/climate/change/#tabs=Tracker&tracker=timeseries>

¹⁴ <https://www.esrl.noaa.gov/gmd/ccgg/trends/>

¹⁵ <http://onlinelibrary.wiley.com/doi/10.1111/gcb.13342/abstract>

¹⁶ https://data.giss.nasa.gov/gistemp/graphs_v3/

¹⁷ <https://nsidc.org/cryosphere/sotc/intro.html>

¹⁸ <https://www.munichre.com/en/media-relations/publications/press-releases/2017/2017-07-18-press-release/index.html>

¹⁹ <https://www.vox.com/explainers/2017/9/18/16314440/disasters-are-getting-more-expensive-harvey-irma-insurance-climate> ; <https://www.economist.com/blogs/graphicdetail/2017/08/daily-chart-19>

²⁰ <http://nsidc.org/greenland-today/>

²¹ <http://nsidc.org/greenland-today/2017/09/late-summer-melting-spike/>

²² <https://climate.nasa.gov/vital-signs/sea-level/>

²³ <https://sealevel.nasa.gov/news/90/25-years-of-global-sea-level-data-and-counting>

²⁴ <http://nationalpost.com/news/world/hurricane-irma-destroys-caribbean-islands> ,

<https://www.theguardian.com/environment/2016/may/10/five-pacific-islands-lost-rising-seas-climate-change>

Australia's role in these developments is not minor. The combined total domestic use and export of coal and gas, constitutes a very high percent of the global CO₂ emission of **36** billion tonnes in 2015²⁵.

We wish to ask two questions:

- First. Why is the government continuing to promote the mining, combustion and export of coal and other fossil fuels, despite the stern warning by science and the growing calamity of global warming, including the rise in hurricanes and wildfires around the world²⁶?
- Second. There exist some 14,900 nuclear weapons²⁷ threatening to be triggered by accident or design, with the probability for such an event growing with time. Why has the government decided not to sign the nuclear weapons ban treaty²⁸ despite the fatal consequences of these weapons²⁹?

Consistent with your statement of 12 August, 2010³⁰, the world is facing an existential risk posed by the twin global warming and nuclear threats.

The history of the 20th and 21st centuries will recall those who attempted to save the planetary biosphere and the future of human life and nature as we know it.

We respectfully request you meet a delegation of scientists to discuss the issue.

Yours sincerely

The signatories*
17.10.2017

- 200 Australian scientists, including in the medical, environmental and physical disciplines, as well as scholars in the humanities.

²⁵ http://edgar.jrc.ec.europa.eu/news_docs/jrc-2016-trends-in-global-co2-emissions-2016-report-103425.pdf

²⁶ <https://www.ncdc.noaa.gov/billions/events/US/1980-2017>

²⁷ <https://www.ploughshares.org/world-nuclear-stockpile-report>

²⁸ <http://www.abc.net.au/news/2017-06-03/australian-weasels-and-nuclear-disarmament/8585136>

²⁹ <http://www.nucleardarkness.org/nuclear/effectsofnuclearweapons/>

³⁰ <http://bze.org.au/2010-sydney-launch-zero-carbon-australia-stationary-energy-plan/>

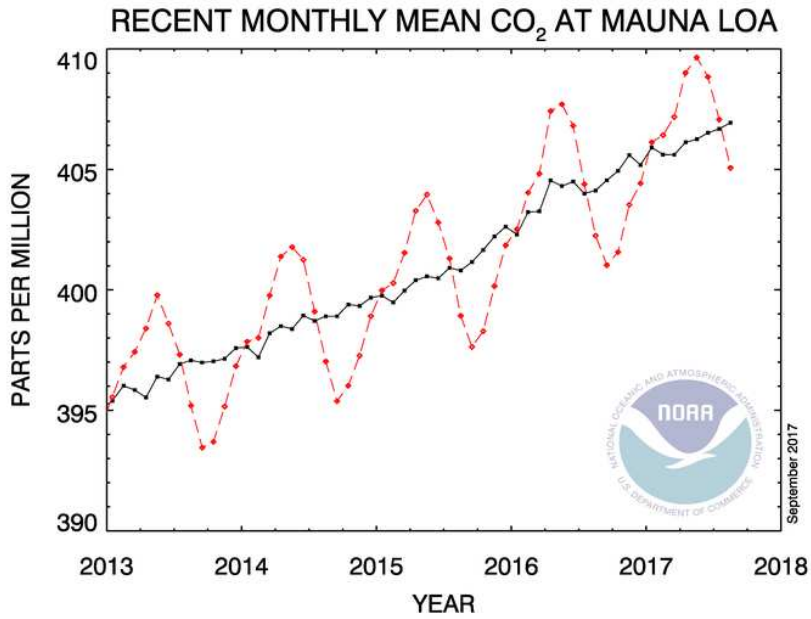


Figure 1. Monthly mean CO₂ trend at Mauna Loa³¹

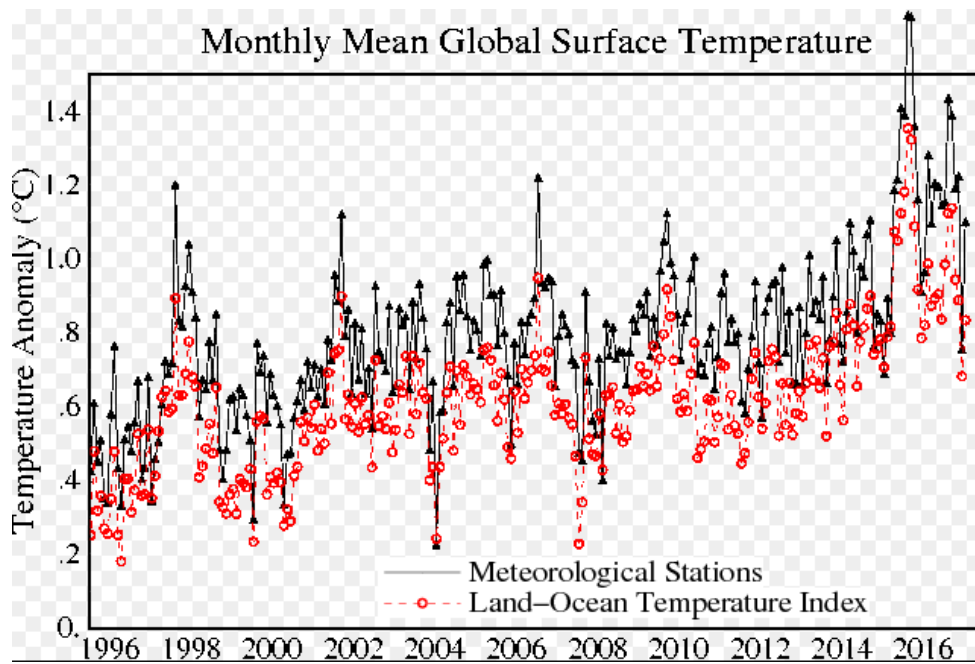


Figure 2. Monthly mean global surface temperature³²

³¹ <https://www.esrl.noaa.gov/gmd/ccgg/trends/>

³² https://data.giss.nasa.gov/gistemp/graphs_v3/

Global increase in the number of climate disasters, 1980-2016

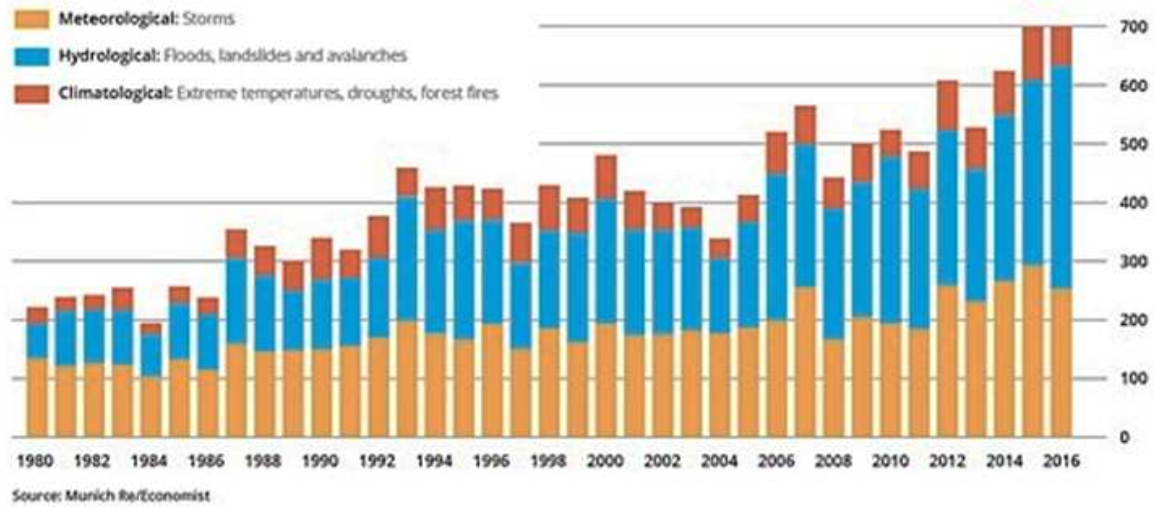


Figure 3. The rise in the number of climate disasters 1980-2016³³

³³ <http://unfriendcoal.com/2017/09/28/ten-things-you-didnt-know-about-insurance-companies-and-climate-change/>