



CLIMATE^{AND}
HEALTH
ALLIANCE

**Submission to UNFCCC Taskforce,
Department of Prime Minister and Cabinet
on Australia's post 2020 emissions
reduction targets**

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Contact:
CAHA Convenor
Fiona Armstrong
convenor@caha.org.au
0438900005
www.caha.org.au

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About the Climate and Health Alliance

The Climate and Health Alliance (CAHA) is a not-for-profit organisation that is a national alliance of organisations and people in the health sector working together to raise awareness about the health risks of climate change and the health benefits of emissions reductions.

CAHA's members recognise that health care stakeholders have a particular responsibility to the community in advocating for public policy that will promote and protect human health.

Membership of the Climate and Health Alliance includes a broad cross section of the health sector with 28 organisational members, representing hundreds of thousands of health care professionals from a range of disciplines, health care service providers, institutions, academics, researchers, and health consumers.

The Climate and Health Alliance, as its name suggests, is concerned with the health threats from climate change, and the organisation works to raise awareness of those risks and advocate for effective societal responses, including public policies, to reduce risks to health.

Parts of this work involves examining the local, regional and global health risks from the air pollution that arises from greenhouse gas intensive activities such as the burning of fossil fuels for energy and transport.

The Climate and Health Alliance has produced a number of reports and publications. It produced the [Coal and Health in the Hunter: Lessons from One Valley for the World](#) report in 2015; led the development of the multi-stakeholder [Joint Position Statement and Background Paper on Health and Energy Choices](#) in 2014; produced the joint report 'Our [Uncashed Dividend](#)' with The Climate Institute in 2012 on the health benefits of reducing greenhouse gas emissions; conducted a national [Roundtable on the Health Implications of Energy Policy](#); prepared a [Briefing Paper](#) on the same topic; produced a film on the risks to health and climate from coal and gas, [The Human Cost of Power](#); conducted a national [Forum on Climate and Health: Research, Policy and Advocacy in 2013](#); jointly hosted a [Public Seminar on Protecting Health from Climate Change](#) in 2014; and contributes to conferences, community dialogues, and forums, both nationally and internationally on these issues.

For more information about the membership and governance of the Climate and Health Alliance, please see Appendix A. For further information see www.caha.org.au

1. Overview: pathways and policies

The key issue in establishing Australia's emission reduction targets is its contribution towards limiting global warming to a level that will avoid catastrophic harm to health, livelihoods, settlements, infrastructure, biodiversity and ecological systems. The globally agreed maximum limit of two degrees Celsius above pre-industrial global averages must be a guide, however it should be recognised that this level itself is not safe, given the harmful impacts of climate change already being experienced around the globe.

Much stronger emissions reduction targets are needed in Australia to protect health, prevent serious social and economic disruption and to limit higher future costs of mitigation.

Targets must be driven by evidence of risks to human health, social cohesion, food and water security, national security, environmental values including biodiversity, infrastructure and settlements, and the economy both in Australia and globally, as well as recognition of the benefits to all of the above from emissions reductions.

Under 2010 Cancun Agreement of the United Nations Framework Convention on Climate Change (UNFCCC), Australia and the rest of the world agreed to:

- Establish clear goals and a schedule to keep the global average temperature rise below 2C;
- Reducing emissions, according to relative responsibility and capability;
- Review progress, and by 2015, review whether the objective needs to be strengthened in future, including the consideration of a 1.5C goal.

It is timely therefore to consider a 1.5C goal and the requisite emissions reductions associated with that goal. The scientific evidence suggests a 2C goal is indeed not safe, and emissions reductions established in pursuit of that goal may be condemning the world to an unstable, dangerous climate.¹

Even if 2C is accepted as a target, the emerging understanding of climate sensitivity (i.e. the heating effect of greenhouse gases) suggests that a business as usual path will take the world past a tipping point to achieve the 2C goal by 2036, just 21 years from now.²

The work done at an international level to establish the available global carbon budget consistent with the 2C suggests there just 275 Gt of carbon can be burned

for a 66% chance of staying below 2C. If we want a higher chance of succeeding, the available budget would be even less. Given the current rate of emissions of 10Gt each year, and an annual growth rate of 3%, the carbon budget will run out in less than 25 years.³ These figures however fail to account for the release of stored carbon from melting permafrost, which could potentially emit 50-250Gt of carbon.⁴ If this upper limit is realised (the Arctic warming is occurring much faster than predictions, and may become a significant carbon source by the mid-2020s)⁵, this would consume almost the entire available carbon budget. Larger emissions reductions would therefore be required to account for this additional source.⁶

Australians have no inherent moral right to emit more per capita than individuals in any other nation, and we must therefore adopt an emissions reduction target that ensures we only emit a fair share (i.e. converging as quickly as possible to the same amount of emissions per person, globally) of the remaining carbon budget.

In addition to the establishment of national targets to outline the numerical pathway for emissions reductions, it is vital this be accompanied by the development of a suite of policy initiatives applied across all sectors of the economy to achieve comprehensive and sustained emissions reductions.

2. What should Australia's post 2020 emissions reduction targets be?

Consistent with the comments above, the Climate and Health Alliance asserts that an approach of reducing emissions **as quickly as possible** is an appropriate goal for Australia. It is recognised while establishing a specific numerical emissions reduction target does not guarantee those emissions will be achieved, it does increase the likelihood of delivered emissions cuts as each country will be held accountable by the global community through the UNFCCC process of Intended Nationally Determined Commitments (INDCs). However, it does not mean there is much likelihood of those targets being exceeded.

Australia's existing targets are utterly inadequate, and are creating an adverse reputation for Australia with respect to failure to accept its fair share of the global task of cutting emissions.⁷ The targets are inconsistent with the emissions reduction targets of many other nations, and highly inadequate given Australia's historical emissions and position as the highest per capita emitter of all the developed countries.⁸

We therefore recommend Australia adopts specific minimum targets for emission reductions, but consider these should be considered the 'bare minimum' target and advocate an approach of cutting emissions as quickly as possible.

It is strongly recommended that **at a minimum**, emissions reduction targets be met at each of the five year intervals. Investment is recommended for initiatives that can deliver immediate emissions reductions, with additional effort applied to support initiatives that can offer substantial and sustained emissions reductions to assist in first meeting, and then exceeding minimum emissions reduction targets.

Closely aligned with, but building on, the recommendations of the Climate Change Authority, and consistent with the short terms targets of The Climate Institute, we recommend:

- a minimum target of 20% of 2000 levels by 2020;
- a minimum of 40% of 2000 levels by 2025;
- a minimum of 60% of 2000 levels by 2030;
- a minimum of 80% of 2000 levels by 2035;
- full decarbonisation by 2040; and
- negative net emissions by 2050.

3. What will be the impact of these targets on Australia?

- **Avoiding risks to health: illnesses, injuries and deaths**

Strong emissions reduction targets will help limit massive adverse impacts on human health, both in Australia and globally. Averting further risks to health of the Australian and global population must be a key driver for implementing economy wide emissions reductions as quickly as possible.

It is hard to know precisely what the impact will be on the health of the global population from a two degree global average temperature rise, but we do know that at less than one degree, the health impacts are serious, and deadly. The recent IPCC report outlines serious risks to health from rising global temperatures and climate change effects, including impacts on food production, leading to under-nutrition and impaired child development, particularly in developing nations; injuries, hospitalisations, deaths, and serious mental health and social consequences due to extreme weather such as heatwaves, fires, floods and other weather disasters; and increases in the spread and incidence of infectious diseases.⁹

There are already serious health impacts from extreme weather events, such as heatwaves, in Australia.

For example, a single heatwave in the state of Victoria in January 2009 saw a 62% increase in mortality, from both direct heat related illnesses and associated exacerbations of chronic medical conditions. The Victorian Department of Human Services reported that during this five day event, ambulances had a 46% increase in demand; emergency departments experienced an eight-fold increase in heat related presentations; a 2.8 fold increase in cardiac arrests; and a threefold increase in patients dead on arrival.

Temperatures recorded during this heatwaves were more than six degrees above normal – an extreme increase. This occurred with a global mean temperature rise of less than one degree, which offers a grim portent of what is to come if we reach a global average increase of two degrees, or more.

As the late Professor Tony McMichael noted recently in his contributing chapter to the book: *Four Degrees of Global Warming: Australia in a hot world*, the health impacts at two degrees will not simply be twice that of one degree.¹⁰ Professor McMichael said: "the increase in impact is not linear, and the impacts will change once critical thresholds are passed".¹¹ As the global average temperature rises, there will be increasing impacts from climate on health, and "assorted disorders, diseases, distress and deaths will occur at much higher rates".¹²

Some of the examples of impacts on health from observed warming over the last decade include the 2003 heatwave in Europe, which also provides a good example of the non-linear nature of impacts.¹³

In Paris that July, temperatures rose for 5-6 days and peaked around 8 degrees above average. Around 100 people died.

In August, the city experienced another heatwave which lasted around ten days, and during temperatures peaked at around 12 degrees above the norm. This was too much for many older people in particular: they over-heated, became dehydrated, had serious heart and lung failure and many died.

Then around 1000 people died: ten times the number from the previous month. This was not ten times the warming, but this shows how critical thresholds for coping can be crossed, and adaptive capacity exceeded.¹⁴

Across Europe, it is estimated that in all there were 70,000 excess deaths (deaths that would otherwise not have occurred) during that heatwave.¹⁵

As noted above, even one degree of warming above preindustrial temperatures is not safe, and is extremely dangerous for health.

For people in Australia with chronic illnesses, such as heart disease, diabetes, multiple sclerosis, for people who are overweight, those that work outdoors, in hot environments, who are elderly, or infants, have mental illnesses, or are taking illicit drugs – it can be disastrous.

While these impacts on Australia and Australians are serious, it is largely people, and in particular children, in impoverished developing nations that suffer the greatest health burden from climate change.

This is a burden Australia has no right to impose by choosing to avoid cutting emissions consistent with a fair share of the global carbon budget.

Emissions reductions are required to limit global warming as quickly as possible to reduce any further risks to health from climate change.

- **Delivering benefits to health through reducing emissions**

An important consideration in designing strategies to reduce emissions is the consideration of co-benefits that can arise in addition to the climate benefits/risk reduction. The evidence regarding health co-benefits in economic modelling reveals a strong economic case for reducing emissions, and shows cutting emissions is not only affordable, but can deliver budgetary savings, compared to business as usual.

The health co-benefits associated with emissions reduction strategies offer extraordinary value in terms of the benefit: cost ratio. The financial savings associated with avoided ill-health and productivity gains can outstrip the costs of implementation – if strategies are carefully designed.

The 2015 New Climate Economy report estimates reducing emissions from coal sources would deliver health benefits worth US\$100 for every tonne of CO₂ abated in developed countries.¹⁶

Another 2014 study from Lawrence Berkeley National Laboratory (Berkeley Lab), the National Institute of Environmental Health Sciences (NIEHS), RAND Corp., and

the University of Washington, has calculated that the economic benefit of reduced health impacts from GHG reduction strategies in the U.S. range between \$6 and \$14 billion annually in 2020, depending on how the reductions are accomplished. This equates to a health benefit of between \$40 and \$93 per metric ton of carbon dioxide reduction.¹⁷

A study by the Massachusetts Institute of Technology (MIT) published in *Nature Climate Change* in 2014 found reducing emissions from fossil fuelled power generation and transport offers huge health benefits for local populations and significant savings for national budgets.¹⁸

The MIT study found that the savings from avoided ill health arising from the implementation of a cap and trade program could return up to 10.5 times the cost of implementing the scheme.¹⁹

Emissions reductions measures that deliver substantive health benefits include substituting coal power with solar and wind power, improving energy efficiency in buildings, shifting modes of transport from private vehicles to public transport and from fossil fuel powered cars to renewable powered electric vehicles, and reducing consumption of animal products.²⁰

And not all emission reductions require costly or technological solutions: a recent South Australian study revealed substituting private car trips with alternative transport modes, such as public or more active forms of transport like walking and cycling, can reduce emissions as well as deliver environmental and health benefits.²¹

All these findings point to the urgent need for Australia to undertake economic modelling on the health co-benefits of emissions reductions, as any estimate of costs or benefits will overstate the costs and vastly underestimate the benefits if the accompanying health benefits are not included in the economic modelling of mitigation and adaptation strategies.

4. Which policies should be considered to achieve Australia's post-2020 target?

Australia must use what is left of its carbon budget to immediately transition to clean renewable energy-powered electricity and transport systems as quickly as possible.

In addition, a suite of policies must be implemented to deliver deep and rapid emissions reductions across all sectors, particularly the energy and transport sectors, as well as agriculture, shipping, aviation, manufacturing, tourism, healthcare, and education.

Policies should be selected that will reduce emissions in the short, medium and longer term, and each should include a process for implementation, evaluation and review.

Key policies to deliver emissions reductions include:

- **A ban on further coal mine licences and cessation of coal exports**

The recent report: *Coal and Health in the Hunter: Lessons from One Valley for the World* illustrates the massive financial costs associated with the serious harms to human health caused by the coal industry, and called for a ban on new coal licences.²²

In the Hunter Valley, the health-related costs include \$600 million per year from pollutants from the Hunter coal fired power stations, \$65 million per year from ill-health affecting residents of the towns of Singleton and Muswellbrook from fine particle pollution released from the coal mines and power stations around them, and \$16-66 billion (note the b) per year from the global health effects of climate change caused by the burning of coal mined in the Hunter Valley.

The ban should apply to all coal mining regions in Australia. No further coal mining licences should be issued, and a plan to cease coal exports developed. State and federal governments must work with affected regional communities and alternative industries to develop plans to help coal mining regions to transition away from the coal industry, to industries that deliver long term environmental, economic, and social benefits and sustainability.

- **Shutting down coal-fired power**

The immediate closure of excess generation in the form of coal fired power stations is a priority in terms of achieving swift, cost effective and important emissions reductions. There is over 7GW of excess power generation in Australia.²³ The country's oldest (>35 years) and most polluting power stations named here (collectively representing 7.6GW capacity) should be shut down as soon as possible (i.e. within two years): Hazelwood, Yallourn and Angelsea power stations in Victoria;

Northern and Playford power stations in South Australia; Liddell power station in NSW; and Gladstone power station in Qld.^{24,25}
the

- **Expansion of the Renewable Energy Target (RET) to 60% by 2020**

The Renewable Energy Target (RET) is an important national policy to assist Australia to boost Australia's electricity supply from clean, renewable energy sources as a necessary transition away from fossil fuels in order to meet its greenhouse gas emission reduction obligations. Renewable energy from sources such as wind and solar is Australia and the world's energy source of choice in this century and beyond – it helps deliver lower emissions energy options and produces less pollution and poses fewer risk to health and wellbeing and occupational health and safety than existing energy supply systems. The RET has delivered increased capacity in renewable energy, and is an important contributor to reduced energy prices. In the medium to longer term, it will be a key factor in minimising energy price rises.

- **A price on carbon, but not necessarily an emissions trading scheme**

One of the most critical policies is the application of a price on carbon – as economists Frank Jotzo and Paul Burke have written:

“There is a strong consensus among economists and international organisations (the World Bank, the OECD and the International Monetary Fund) that a broad pricing mechanism is the best policy approach to reducing greenhouse gas emissions. In the long run, a gradually increasing carbon price would see Australia transition to a low-carbon economy at low economic cost.”²⁶

This is supported widely supported by respected Australian economists who wrote in an Open Letter in 2014:

“A well-designed mechanism that puts a price and limit on carbon pollution is the most economically efficient way to reduce carbon emissions that cause global warming.”²⁷

- **Expansion of the carbon price to include more industries (e.g. transport) and adoption stronger air quality standards to limit emissions and reduce health impacts from air pollution**

Ambitious vehicle emissions standards in Australia to drive a shift towards low and zero emissions vehicles could potentially deliver both substantive emissions reductions as well as significant improvements in public health from improved air quality. Even a modest reduction in CO₂ emissions (of 10–20 per cent) would lead to air quality improvements that would avoid thousands of deaths in Australia. The current regulatory system for air pollution is failing to protect Australian communities from the harmful effects of air pollution. The implementation of a national compliance standard for fine particle air pollutants (PM_{2.5}) would deliver greenhouse gas emissions reductions in the energy and transport sectors, improve air quality, improve public health, and potentially save billions of dollars in avoided ill health and productivity gains – a win, win, win, situation.²⁸

A single national law in the form of a Clean Air Act would oblige compliance with air quality standards through the implementation of penalties for breaching air quality standards.

- **Removal of fossil fuel subsidies and redirection of funds towards renewables**

Current estimates suggest around \$12 billion a year is provided each year to subsidise fossil fuels. This is extremely perverse policy, given the harm associated with fossil fuels. All subsidies to fossil fuels should cease and the funds applied to boost the availability and affordability of clean, renewable resources for energy and transport.

- **Sector specific incentives to encourage emissions reductions in all sectors, including energy efficiency in buildings**

The lessons from the UK in implementing sector specific emissions reductions are important, given they are leading the developed world in decarbonisation at present. The UK Climate Change Act, and the establishment of the Committee on Climate Change (which plays a similar role to Australia's Climate Change Authority), have delivered emissions reductions that are much more substantive than could have been achieved from relying on the EU emissions trading scheme.²⁹ The process of setting carbon budgets and having a suite of policies across a range of sectors (buildings, transport, energy, agriculture) has been key to delivering effective and sustained emissions reductions.³⁰ Energy efficiency offers some of the cheapest emissions abatement opportunities, and reductions can be achieved quickly using existing technologies. Improving the energy efficiency of houses and buildings,

together with improvements in indoor air quality, can offer important health gains as well as financial savings in addition to emissions reductions.³¹

- **Additional measures to promote renewable energy**

The Renewable Energy Target alone will not deliver sufficient emissions reductions to achieve the targets outlined here. In addition to the forced closure of coal-fired power stations, complementary measures to encourage both small and large scale renewable energy are required, such as loan guarantees (where there is market failure), feed in tariffs (to provide investment certainty) should be developed, and investments made in research and development to quickly scale up emerging technologies.

- **A moratorium on unconventional gas**

Unconventional gas poses potentially serious risks to health, and is extremely greenhouse gas emissions intensive due to both the nature of the gas (methane, which has a high global warming potential), and the volume of fugitive gas that is released to the atmosphere during exploration and extraction.³²

- **Incentives to encourage a greater proportion of plant-based meals**

Changing the average (meat-based) diet in Australia to one that has a higher plant content offers important pathways for the reduction of greenhouse gas emissions and improvements in public health. A rapid worldwide growth in meat consumption is driving emissions growth and contributing to diseases such as ischaemic heart disease, obesity, and colorectal cancers.³³ Reductions in red meat consumption in Australia from the (current) average of 100g to 50g per person per day could potentially reduce annual emissions from livestock by 13.3 MtCO₂-e (about 22 per cent) as well as cutting the incidence of colorectal cancer by 11 per cent.³⁴

APPENDIX A

Climate and Health Alliance Committee of Management

Dr Liz Hanna, President
Ms Fiona Armstrong, Executive Director
Dr Bret Hart, Treasurer
Dr Elizabeth Haworth
Dr Brad Farrant
Dr Peter Sainsbury
Danny Vadasz
Alice McGushin and Grace Fitzgerald (jointly held)

CAHA Organisational Members

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Australian College of Nursing (ACN)
Australian Council of Social Service (ACOSS)
Australian Hospitals and Healthcare Association (AHHA)
Australian Health Promotion Association (AHPA)
Australian Medical Students Association of Australia (AMSA)
Australian Physiotherapy Association (APA)
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Australian Women's Health Network (AWHN)
Australian Nursing and Midwifery Federation (ANMF)
Australian Psychological Society (APS)
Australian Research Council for Children and Youth (ARACY)
Australian Rural Health Education Network (ARHEN)
CRANA*plus*
Doctors Reform Society (DRS)
Friends of CAHA
Health Consumers' Network (Qld)
Health Issues Centre (HIC)
Kooverup Regional Health Service
Psychology for a Safe Climate
Public Health Association of Australia (PHAA)
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Professor Garry Egger, School of Health & Human Sciences, Southern Cross University
Professor David Karoly, Federation Fellow in the School of Earth Sciences, University of Melbourne
Professor Stephan Lewandowsky, School of Psychology, University of Western Australia
Dr Peter Tait, Convenor, Ecology and Environment Special Interest Group, Public Health Association
Professor Simon Chapman, Professor of Public Health, University of Sydney
Dr Susie Burke, Senior Psychologist, Public Interest, Environment & Disaster Response, Australian Psychological Society

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