

TOWARDS A NATIONAL STRATEGY ON CLIMATE, HEALTH AND WELL-BEING FOR AUSTRALIA

DISCUSSION PAPER

June 2016



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ALLIANCE

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The authors acknowledge the invaluable feedback and contributions from
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Dr Nick Watts, Emeritus Professor Rae Walker, Gino Marinucci, Dr Roscoe Taylor,
Emeritus Professor Stephen Leeder, Professor Sharon Friel, and Elizabeth Foley.

Published by Climate and Health Alliance

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EXECUTIVE SUMMARY

Climate change poses both risks and opportunities for population health in Australia. Depending on the level of ambition and strategies chosen by the Federal Government, Australia's climate policy will either negatively or positively drive health outcomes.

To date, human health has been afforded a lack of priority in Australia's national mitigation and adaptation policy and strategy actions. As such, Australia's health sector is underprepared to deal with the health risks associated with climate change, and equally, to capitalise on the benefits of mitigation actions.

A recent global survey reveals Australia lags behind comparable countries when it comes to protecting the health of its citizens from climate change.

An evaluation of current impacts suggests Australians face serious and increasing climate change related health risks, including heat-related illnesses and deaths, outbreaks of infectious diseases, impacts from food and water insecurity, occupational health impacts, mental illness and stress associated with environmental damage and concern about climate change, and increased risk of respiratory and cardiovascular diseases. Concern is also growing for the impacts of domestic violence following disasters.

To support Australia in meeting its national interests in protecting population health from the impact of climate change, as well as its international obligations in signing the Paris Agreement, the Climate and Health Alliance (CAHA) has developed this Discussion Paper to assist the process of developing and implementing a National Strategy for Climate, Health and Well-being.

This Discussion Paper proposes a thematic framework for the Strategy. It provides a brief overview of the health impacts of climate change in Australia and a review of current national climate change mitigation and adaptation policies. The paper offers an assessment of the extent to which current policies acknowledge and respond to the impacts of climate change on human health and the health sector. This

assessment of limitations and gaps in policies along with an understanding of co-benefits for health of climate change mitigation and adaptation actions provide the platform for the key elements of a National Strategy for Climate, Health and Well-being.

The framework presents six key action areas including:

- establishing meaningful national emissions reduction targets and policies
- establishing effective governance arrangements for the development and implementation of the Strategy
- developing a sustainable and resilient healthcare sector
- promoting education and awareness about climate change and health across the health sector and broader community
- strengthening communication and collaboration between federal, state, local and community health agencies
- re-establishing national climate change and health research capacity.

The Discussion Paper asserts that the effectiveness of such a strategy lies in its ability to facilitate successful intergovernmental collaboration within the health sector and across multiple sectors.

Led by CAHA, this framework and the Discussion Paper will be the subject of an extensive national consultation process in 2016.

1. INTRODUCTION

“Tackling climate change could be the greatest global health opportunity of the 21st Century.” – *The Lancet* (2015)

There is a substantial body of scientific evidence highlighting the immediate and long-term risks that climate change poses to population health in Australia (McMichael et al., 2002; Bambrick et al., 2008; Hughes & McMichael, 2011; Smith et al. 2014; Australian Academy of Science, 2015).

Despite this evidence, the response of federal policy-makers in Australia to recognise this health threat, or offer robust and effective national policy solutions to address it, has been minimal.

This lack of interest is in contrast to the efforts of other regions and countries such as the European Union, United Kingdom and United States, which have not only recognised the severity of the threat that climate change poses to human health, but have also made progress in addressing climate threats at the national level. For example, the US Centers for Disease Control and Prevention developed a Climate Change and Public Health Framework in 2006, and a Climate and Health program in 2009 to help ensure American communities are prepared for the health challenges associated with climate change (Centers for Disease Control and Prevention, 2015). Further, in 2013 President Obama published a national Climate Action Plan, which not only advocates that climate change mitigation is essential for the protection of public health, but also includes several measures to promote preparedness and resilience in the health sector (The White House, 2013).¹

A recent global survey of national climate and health plans found Australia lags behind comparable countries when it comes to protecting the health of its citizens from climate change, and has failed to recognise climate change related health impacts in its national climate change policies and planning efforts (World Federation of Public Health Associations, 2015).

The lack of priority afforded to human health in national mitigation and adaptation strategies in Australia means that the Australian health sector and community are underprepared for the health consequences associated with climate change.

Australia signed the Paris Agreement (of the United Nations Framework Convention on Climate Change – UNFCCC) in New York on Earth Day 2016. In so doing, Australia has committed to limit global average temperature to less than 2°C above pre-industrial temperatures while pursuing efforts to limit global warming to 1.5°C and increase the ability to adapt to a 2°C warmer world. The Paris Agreement also obliges Parties (nations) to consider the “right to health” in the context of their climate change response and to recognise the value of health co-benefits in mitigation actions.

A recent global report ‘Health at the COP and Beyond’ from international health organisations, including the World Medical Association, called for an evaluation of health risks and benefits to be part of each country’s Intended Nationally Determined Commitments (INDCs) as submitted to the United Nations Framework Convention on Climate Change. This recommends a health ‘lens’ be applied to all national climate policy decisions, and for Health Impact Assessments to form part of all national climate mitigation and adaptation plans (Global Climate and Health Alliance, 2015).

The Climate and Health Alliance has developed this Discussion Paper to assist Australia in the process of developing and implementing a National Strategy for Climate, Health and Well-being.²

1 See also for example, the UK Climate Change Risk Assessment (2012) which has a chapter on health and wellbeing, the UK National Adaptation Programme which has a chapter on actions promoting adaptive capacity within the health and social care system, the Heatwave Plan for England (2015), England’s National Health Service Sustainable Development Strategy (2014-2020), the European Commitment to Act on climate change and health and the European Regional Framework for Action to protect human health from climate change. See also, Wolf et al., (2014) for an overview on progress made in the World Health Organisation (WHO) European Region.

2 The Australian Medical Association called for a National Strategy for Health and Climate Change in its 2015 Position Statement on Climate Change and Human Health.



2. PURPOSE




This paper first reviews the health impacts of climate change in Australia. It then examines the current national climate change mitigation and adaptation policies, especially the extent to which they acknowledge and respond to the impacts of climate change on human health and the health sector. Finally, the key elements of a *National Strategy for Climate, Health and Well-being* are outlined.

3. THE HEALTH IMPACTS OF CLIMATE CHANGE IN AUSTRALIA

Climate change is already occurring in Australia. Anthropogenic climate change contributed to the record-breaking temperatures in 2013 (Lewis & Karoly, 2014), and increased the likelihood of extreme events such as the prolonged heatwave experienced in Adelaide in January 2014 (Black et al., 2015).

The following table outlines the links and relationships between climate change and health, and provides examples of current and projected impacts.






TABLE: RELATIONSHIPS BETWEEN CLIMATE CHANGE AND HEALTH

	Link between climate change and health	Examples of current impacts	Examples of projected impacts
EXTREME WEATHER EVENTS 	Climate change is contributing to increased intensity, duration and frequency of events such as floods, storms and heatwaves. This increases mortality and morbidity by placing pressure on health services, aggravating existing illnesses and placing more Australians at risk of illness. ^{1,2,3,10,17}	Heatwaves already kill more Australians than any other extreme weather event. ¹ ¹⁷ During the 2009 Victorian Heatwave, Ambulance Victoria recorded a 34x increase in heat-related emergency calls, resulting in 374 additional deaths ¹⁷ and 173 subsequent fatalities from related bushfires. ¹ 2013 was Australia's hottest year on record. ¹⁸	Rising temperatures and changing rainfall patterns are predicted to increase the occurrence of droughts and heatwaves across the country, with days above 35 degrees doubling and trebling in towns such as Mildura and Dubbo respectively. ¹⁸ Heat-related deaths are expected to double over the next 40 years. ^{1,2,17,26}
INFECTIOUS DISEASES 	A warmer climate will increase the reproduction rate, resilience and distribution of a number of food, water and vector-borne pathogens. ^{1,7,10} Pathogens such as E. coli, giardiasis, salmonella, malaria and dengue are all sensitive to altered temperature, season duration and water supply, ⁷ and already display peak infection rates in warmer months. ^{12,15,25}	Increases in salinity within the Murray-Darling Basin have contributed to the recent spread of Ross-River virus-carrying Aedes camptorhynchus mosquitoes, previously restricted to coastal areas, and 2006 saw an increase in the number of mosquito-borne epidemic polyarthritis cases in New South Wales and Victoria following a wetter summer. ²⁵ The most common food-borne disease in Australia, gastroenteritis, showed a 13% increased infection risk with a 5 degree temperature rise over an 8-day period. ¹²	As temperatures rise and rainfall varies, habitable areas for disease vectors will grow, with dengue fever expected to spread as far south as northern NSW by 2100. ^{3,10,15,25} Food-borne illness is also expected to rise alongside temperatures, projected to increase by up to 870,000 cases per year by 2100. ³
FOOD AND WATER SECURITY 	The current high dependency on fertilisers in agriculture, changing climate in food-producing regions and population growth contributes to volatile food prices, ^{10,18} while the nutritional value of crops and dairy can decline due to heat stress and high CO ₂ levels. ¹⁸ Changing rainfall, seawater intrusion and contamination by flooding also threaten freshwater sources. ^{4,15}	In 2006 Cyclone Larry decimated 90% of banana crops in Queensland, which affected supply for 9 months and raised prices by 500%. ¹⁸ Fruit and vegetable prices also increased at twice the rate of the Consumer Price Index between 2005-2007 due to drought. ¹⁸	Northern Australia is expected to receive more heavy rainfall, increasing the risk of flooding and infrastructure damage, while reduced rainfall in the Murray-Darling Basin will threaten water quality with algal blooms. ¹ There is also a possibility for Australia to become a net importer of wheat in the future due to reduced rainfall in core cereal producing regions in Western Australia and Victoria. ¹⁸

Continued



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	Link between climate change and health	Examples of current impacts	Examples of projected impacts
Occupational health impacts 	A warmer climate places outdoor and manual labourers at a higher risk of heat exhaustion, cardiac arrest and more frequent work accidents. ^{20, 26} More frequent extreme events will increase the occupational hazard for fire fighters, medical and army personnel.	Workplace heat has likely contributed to the hundreds of deaths by cardiac arrest of construction workers in Qatar each year, and has been linked to widespread fatal kidney disease in sugarcane harvesters due to constant dehydration. ²⁰	The number of days where manual labour will not be able to be safely carried out is projected to increase from 1 per year in the 2000s to 15-26 days per year in the 2070s. ²²
Mental illness and stress 	Adverse mental health impacts arise due to loss of livelihood and financial stress or uncertainty in the face of climate change. ^{4, 7, 18}	In Australia, both acute and ongoing environmental degradation has been linked to issues ranging from elevated anxiety and mood disorders to drug and alcohol abuse. ⁴ ⁷ Prevalence of drought between 1970 and 2007 increased incidences of suicide by 15% in rural NSW males aged 30-49. ¹³	Climate change projections show increased frequency and severity of events such as droughts, accompanied and exacerbated by agricultural disruption and displacement, increasing the risk of mental illness and stress in future. ^{7, 13}
National security, social instability and conflict 	Forced migration from uninhabitable land (due to sea level rise, food insecurity, etc) causes both internal and inter-state conflict. ^{1, 4, 10} Australia's strategic role in the Asia-Pacific ensures our engagement in humanitarian and emergency response missions with implications for the efficacy of the Australian Defence Force (ADF). ^{1, 4, 10}	Following the 1997 El Nino event, drought in Papua New Guinea contributed to widespread societal destabilisation and outbreaks of disease. ⁴ The ADF response lasted 6 months and cost \$30 million. ⁹ Domestic violence increased in affected communities following the 2009 Black Saturday bushfires, affecting women in particular. ²³	With hundreds of millions of people globally at risk of becoming environmental refugees, ^{10, 16} and with the low-lying islands of the Asia-Pacific region being particularly vulnerable to the effects of climate change, ¹ there will be increasing pressure mounted on Australia and its defence force to maintain domestic and regional stability. ^{1, 4, 10}
Aeroallergens and air pollution 	Diseases such as asthma and allergic rhinitis are exacerbated by exposure to aeroallergens such as pollen, moulds, and airborne Particulate Matter (PM). ^{4, 5, 6} Bushfires and photochemical smog from anthropogenic pollution contribute substantially to atmospheric levels of highly toxic ozone and PM, also leading to cardiopulmonary mortality. ^{8, 24}	During Sydney's 2001 bushfires, PM10 levels were sustained at over 3x the Australian National Environment Protection and Heritage Council's maximum target level for 10 days. ²⁴ It is also estimated that Sydney's 2007 anthropogenic PM ^{2.5} levels caused 270 cardiovascular hospital admissions. ⁸ Additionally, there is evidence to demonstrate changes in aerobiology due to climate change increasing the burden of allergic rhinitis, e.g. the lengthened pollen season of gamba grass in Darwin. ¹¹	Increases in atmospheric temperature and CO2 concentrations may increase pollen production and allergenicity, lengthen the pollen season and change the distribution range of some plant species. ⁶ Respiratory and cardiovascular mortality and morbidity is expected to increase alongside ozone and PM concentrations. ^{6, 23}
Vulnerable populations 	Those at the highest risk of all adverse effects of climate change are the elderly, disabled or immobile, very young, new migrants and socioeconomically disadvantaged. Indigenous Australians are identified as particularly vulnerable. ^{1, 3, 7, 12, 14, 15, 17, 18, 21, 24}	Studies of newly settled refugees in Sydney have identified financial handicap and language as barriers of access to healthcare ¹⁴ that would be needed in an extreme weather event. Higher death rates during heatwaves have been linked to isolation ³ and fear of dangerous neighbourhoods, coupled with poor housing and overcrowding. ¹⁴ Indigenous Australians have shown higher risks of emergency and respiratory admissions after both PM10 exposure and heatwaves, ^{14, 24} and higher rates of mental illness associated with loss of land and culture through climate change. ⁷	With an increasing rate of new and non-English speaking migrants, growing social inequity in urban and regional areas, and continuing shortfalls in access to healthcare, clean water and adequate housing in remote Indigenous communities, vulnerable populations will continue to suffer disproportionately in a changing climate. ^{7, 14}

4. THE NATIONAL POLICY RESPONSE TO CLIMATE CHANGE

4.1 THE NATIONAL MITIGATION RESPONSE

The current mitigation response

The Direct Action Plan [‘the DAP’], which is a component of the Federal Government’s national Plan for a Cleaner Environment, was introduced in 2014. It aimed to propose efficient ways to reduce Australia’s greenhouse gas emissions (Department of Environment, 2014).

The Federal Government has proposed that the DAP, in conjunction with other national policies and schemes such as the Renewable Energy Target, and activities of independent bodies such as the Clean Energy Finance Corporation and Australian Renewable Energy Agency, will allow it to achieve the current national emissions reduction target of 5 per cent below 2000 levels by 2020 (Australian Government, 2015a; Department of Environment, 2015a).

The \$2.55 billion Emissions Reduction Fund [‘the ERF’] reverse auction scheme, which builds upon the former Carbon Farming Initiative, is the ‘centrepiece’ of the DAP and, in conjunction with the Safeguard Mechanism, acts as the principal instrument through which the Federal Government seeks to reduce emissions (Australian Government, 2015a; Department of Environment, 2015a).

The Renewable Energy Target [‘the RET’] is an important component of the Federal Government’s ‘direct action’ agenda to reduce Australia’s greenhouse gas emissions. The RET is composed of two schemes:

- 1 A Large-scale Renewable Energy Target:** this is a capped target of 33,000 Gigawatt-hour (GWh) annually by 2020 (Department of Environment, 2015b; Stock, 2015). It aims to facilitate the development and expansion of major renewable energy power stations such as wind farms, large solar plants and hydroelectric power stations (Department of Environment, 2015b; Stock, 2015). If the target is achieved, approximately 23 per cent of Australia’s electricity generation in 2020 will be generated from renewable resources (Department of Environment, 2015b). Note: In June 2015, this target was revised down from 41,000 GWh (Clean Energy Regulator, 2015)
- 2 A Small-scale Renewable Energy Scheme:** this is an uncapped scheme that is designed to encourage households, small business and community groups to install small-scale renewable energy systems such as solar water heaters and solar photovoltaic panels (Department of Environment, 2015b; Stock, 2015).



Photo: Wind turbines in Cape Bridgewater, south-west Victoria, Australia.



The appropriateness of this response

The DAP has been subject to extensive and intense criticism, with leading economists questioning its efficiency, based on its high costs, and likely inability to deliver substantial emission cuts (Garnaut, 2014; Jotzo, 2014).

A recent independent review of the DAP by the Climate Change Authority described its emission reduction target of 5 per cent as 'inadequate' and concluded the target was not a 'credible start...to achieving the below 2 degree goal' (Climate Change Authority, 2014, p. 10). Rather, it recommended that a minimum target of 15 per cent (including carryover) should be adopted because it represents a more suitable response to the latest evidence, is in line with the targets of comparable developed countries,³ and the costs of meeting it would be manageable (Climate Change Authority, 2014, p. 10-11).

This critique of the current target and subsequent recommendation was endorsed by the 2014 Senate Inquiry into the DAP and the then Abbott Coalition Government's approach to national action on climate change (Environment and Communications References Committee, 2014, p. 22). Indeed, given that Australia is a signatory to the 2015 COP21 Paris Agreement, which aims to limit global warming to 'well below 2°C above pre-industrial levels',⁴ setting and achieving

meaningful national reduction targets is critical to ensure Australia fulfils its international obligations.

It remains questionable as to whether the DAP will allow Australia to achieve substantial emission cuts and facilitate the transition to a low-carbon economy. Although a recent report released by the Federal Government suggests that Australia is on track to meet its 2020 target (Australian Government, 2015a, p. 1), strong growth in black coal electricity generation has seen Australia's carbon emissions increase 4.2 per cent since July 2014 (Pitt & Sherry, 2016), thereby validating the projections of the DAP critics.

As Australia approaches a federal election (July 2016), the federal opposition (Australian Labor Party) has proposed alternative climate and renewable energy policies, including an emissions trading scheme for the electricity sector, an emissions reduction target of 45 per cent on 2005 levels by 2030, and a commitment to sourcing 50 per cent of the nation's electricity from renewable sources by 2030. It proposes a 'modernisation' of the National Electricity Market to accommodate alternate forms of power generation, and the development of a national transition plan from coal-fired generation to renewable energy (Australian Labor Party, 2016).

³ For comparison, the report stated that the United States has a 2020 target of 17 per cent below 2005 levels and the UK has a target of 34 per cent below 1990 levels (Climate Change Authority, 2014, p. 11).

⁴ See Article 2.1(a) of the *Paris Agreement* (2015), United Nations Framework Convention on Climate Change.

4.2 THE NATIONAL MITIGATION RESPONSE, HUMAN HEALTH & THE HEALTH SECTOR

Human health and the health sector have been afforded little consideration in the development of national climate change mitigation policies.

This is despite a substantial body of evidence showing that ambitious national climate change mitigation policies can have several co-benefits for human health, which can potentially lead to substantial cost savings within the health sector, for businesses and for the economy, and that the health sector can play an important role in the reduction of greenhouse gas emissions.

Climate mitigation policies can result in substantial health co-benefits, which can lead to considerable health cost savings for the health sector.

There is a substantial body of academic work highlighting the potential for health 'co-benefits', i.e. avoided ill-health and productivity gains, associated with strategies to reduce greenhouse gas emissions, specifically in the sectors of household energy, food and agriculture, transportation and electricity generation (Haines et al., 2009).

An evaluation of the health co-benefits of various mitigation policies for four European cities (Creutzig et al., 2012) found that such policies could improve air quality, reduce noise, decrease traffic-related injuries and deaths, increase levels of physical activity, decrease congestion, and provide fuel cost savings. Research using projections and models estimated that reducing 2007 PM_{2.5} levels in Sydney by 10 per cent would, over a period of 10 years, lead to approximately 650 fewer premature deaths and 700 fewer hospital visits for respiratory and cardiovascular conditions (Broome et al., 2015). Global reduction in greenhouse gas emissions has the potential to avoid 500,000 premature deaths in 2030, 1.3 million in 2050 and 2.2 million in 2100 from poor air quality (West et al., 2013). Given the potential for co-benefits (and potential risk of unintended adverse health outcomes, e.g. impacts on food security related to increased biomass production) associated with climate mitigation strategies (Smith et al., 2014), a

comprehensive assessment of both the positive and negative health impacts of national mitigation policies is recommended.

Poor air quality can have a significant economic burden on the health sector. For example, the health costs associated with ambient air pollution levels in Sydney are estimated to be between \$1 billion and \$8.4 billion per year (Department of Environment and Conservation, 2005). Further, health costs associated with motor vehicle related pollution in Australia are estimated to be between \$1.6 and \$3.8 billion per year (Bureau of Transport and Regional Economics, 2005). The implementation of robust national mitigation policies have the potential to substantially reduce these costs, with a national US study finding that the monetised human health benefits derived from improved air quality can offset between 26–1,050 per cent of the cost of US carbon policies (Thompson et al., 2014). Further, for 11 metropolitan areas in the Midwestern US, the health cost benefits derived from improved air quality and increased physical activity from reduced motor vehicle reliance and increased bicycle commutes have been estimated to exceed US\$8 billion per year (Grabow et al., 2012). Finally, Australian studies reveal that substantial health savings could be achieved by reducing or eliminating coal extraction in the Hunter Valley (Armstrong, 2015). In light of this evidence, an economic evaluation of the potential health cost savings and social benefits associated with national and sector specific climate change mitigation policies is recommended.

Overall, although the focus of the discussed mitigation measures is to address climate change, many of them are also appropriate public health measures to be considered on their own merits.

The health sector contributes to a nation's total greenhouse gas emissions

In 2010, England's National Health Service (NHS) was responsible for 25 per cent of the public sector's carbon emissions, which amounted to 4 per cent of England's total emissions (Naylor & Appleby, 2012 p. 4). The majority of these emissions – approximately 66 per cent – were related to goods and services



procured by the NHS, such as pharmaceuticals and medical equipment (Naylor & Appleby, 2012, p. 4). The remainder were attributed to direct energy use in buildings, and patient and staff travel.

In comparison, healthcare activities in the US in 2007 contributed to 8 per cent of total greenhouse gas emissions and 7 per cent of total carbon dioxide emissions (Chung & Meltzer, 2009). In Australia, there is no equivalent national assessment of the health sector's contribution to total greenhouse gas emissions. During 2007-2008, the Victorian public healthcare system was found to account for 1 per cent of the state's total greenhouse gas emissions, and 2.8 per cent of its total ecological footprint (Victorian Government, 2009). The majority of this carbon footprint - approximately 57 per cent – was associated with procurement (i.e. occurring within the healthcare supply chain) with 20 per cent related to stationary energy, 11 per cent to travel and 10 per cent to waste. Further, Victorian public hospitals were found to account for approximately 50 per cent of the Government's carbon emissions.

This statistic is similar in New South Wales where public health facilities account for more than half of the NSW Government's emissions from budget dependent agencies (Audit Office of New South Wales, 2013).

The health sector can play an important role in reducing greenhouse gas emissions.

In the future, all major sectors of the economy will have to demonstrate how they are measuring, monitoring and reducing their carbon footprint. Healthcare is a major sector in the economy and will have to meet such requirements.

England's NHS provides a pertinent example of how the health sector can reduce its greenhouse gas emissions and transition towards a low-carbon and sustainable future.

The 2009 NHS *Carbon Reduction Strategy for England* ['the CRS'] established a carbon emissions reduction target for the NHS of 10 per cent below 2007 levels by 2015 (NHS Sustainable Development Unit, 2009, p. 8). A recent NHS report pointed to an 11 per cent emissions reduction between 2007 and 2015, despite an increase of 18 per cent in healthcare activities (NHS Sustainable Development Unit, 2016, p. 3). The substantial enhancements made in building energy efficiency, staff behaviour change programs and increased use of energy from renewable sources has amounted to £30 million (approx. AUD\$55 million equivalent) per year in energy cost savings for the organisation (NHS Sustainable Development Unit, 2016 p. 4).

There is no Australian equivalent of the NHS's carbon reduction strategy or sustainable development strategy for the Australian health sector. There are however some emerging signs of an effort in the sector at the state, local and community level to reduce emissions, energy consumption and implement sustainable practices. For example, New South Wales Health has developed an *Environment Sustainability Strategy* (2012–2015), which outlines 'NSW Health's commitment to improve the environmental sustainability of the provision of public health services in NSW' (NSW Ministry of Health, 2012, p. 6).

From October 2006 to March 2007, a pilot education program known as GreenClinic was implemented in participating GP clinics in Victoria to educate and encourage general practitioners to adopt environmentally sustainable practices in their respective clinics (Fogarty et al., 2008). Health promotion practitioners have begun linking community-level health promotion activities with environmental sustainability (Patrick & Kingsley, 2016). Finally, under the auspices of Health Care Without Harm and the Climate and Health Alliance, a Global Green and Healthy Hospitals initiative is operational within Australia.⁵ Scope exists for greater facilitation of this

⁵ GGHH Connect is social networking platform where members of the Global Green and Healthy Hospitals global initiative (hospitals, health systems, and health organisations from around the world) connect, learn, and collaborate with each other to support their efforts toward reducing the environmental footprint of the health sector. See <https://noharm-global.org/issues/global/gghh-connect>.

program, and extending the effort to reduce emissions across the health sector nationally.

There are also a few notable examples of sustainable or 'green' hospital building and design, such as Melbourne's Royal Children's Hospital and the new south wing of the Flinders Medical Centre in Adelaide. The Green Building Council of Australia has reported that the development of the wing at the Flinders Medical Centre has led to a reduction in its CO₂ emissions of 4,160 tonnes, which is equivalent to taking 810 cars off the road for a year, and 42 per cent reduction in energy consumption, amounting

to energy cost savings of \$400,000 per year (Green Building Council of Australia, 2013).

In addition to reducing the sector's greenhouse gas emissions, a sustainable healthcare system can further provide substantial health benefits and improved patient outcomes (Ulrich, 1984; Benedetti et al., 2001; Whitehouse et al., 2001).

There is also an emerging business case for investing in 'green' health facilities (Institute for Innovation in Large Organisations, 2008), and green infrastructure more broadly (Bowen & Parry, 2015; Wolf & Robbins, 2015).

4.3 THE NATIONAL ADAPTATION RESPONSE

The current adaptation response

In 2006, as part of the Plan of Collaborative Action on Climate Change, the Council of Australian Governments (COAG) requested the development of the National Climate Change Adaptation Framework ['the Framework'] (Department of Climate Change and Energy Efficiency, 2007). The long-term objective of the Framework was 'to position Australia to reduce the risks of climate change impacts and realise any opportunities' (Department of Climate Change and Energy Efficiency, 2007, p. 4). It established two priority areas for potential action in the medium term (5–7 years) including: building understanding and adaptive capacity and reducing vulnerability in key sectors and regions (Department of Climate Change and Energy Efficiency, 2007, p. 6). In 2007, the Federal Government invested \$117 million over 5 years to implement the medium term goals of the Framework

(Hanna & Hall, 2013). The Framework continues to anchor and guide climate change adaptation action today by the Federal Government (Australian Government, 2015b, p. 5).

In December 2015, the Federal Government released the *National Climate Resilience and Adaptation Strategy* ['the Adaptation Strategy'].

The purpose of the Adaptation Strategy is to outline 'how Australia is managing the risks of a variable and changing climate (Australian Government, 2015b, p. 5). Further, it affirms a set of principles 'to guide effective adaptation practice and resilience building,' draws upon leading national case studies of climate change adaptation, and proposes areas for future review, consultation and action (Australian Government, 2015b, p. 5).

4.4 THE NATIONAL ADAPTATION RESPONSE, HUMAN HEALTH & THE HEALTH SECTOR

There is a need to re-establish national research capacity in climate change and human health.

In 2008, the *National Climate Change Adaptation Research Facility* ['NCCARF'] was established under the Framework 'to develop and deliver the knowledge needed by decision-makers to effectively adapt Australia to the impacts of climate change' (NCCARF,

2014a, p. 1). During Phase One (2008–2013) of the national research initiative, the Federal Government invested \$47 million to support NCCARF's research activities (NCCARF, 2014a p. 5). This phase saw the development of eight Adaptation Research Networks including the Human Health Climate Change National Adaptation Research Network [NARN], hosted by the



Australian National University from 2009 until funding ceased in 2013. Just \$6 million was allocated to climate change adaptation and human health research projects during that period, however less than half (\$2.8 million) was awarded to climate change and human health projects (Hanna & Hall, 2013). In 2014, the Federal Government provided further funding for three years (2014-2017) of \$8.8 million (NCCARF, 2014b, p.1). However, this does not include a human health research network. This gap in research capacity means much remains unknown about Australia's climate health threats and adaptation opportunities.

During its tenure, the Human Health NARN made substantial progress in enhancing Australia's knowledge and research capacity in climate change adaptation and human health. In 2009, the Network launched its *Human Health National Adaptation Research Plan* (McMichael et al., 2009), which provided an overview of the current knowledge, gaps and research priorities for climate change and health in Australia. The Network produced a series of Discussion Papers and 'State of the Science and Policy' articles published in the *Asia Pacific Journal of Public Health* (Hanna & Spickett, 2011), detailing the known key health threats facing Australia and vulnerable communities, and existing policy frameworks offering health protection. A paper examining the need to prepare healthcare services to respond to climate change impacts was among this list (Blaskhi et al., 2011). These documents also highlighted gaps in knowledge and policy. It is vital to reinvest in Australia's climate-health research capacity in order to reassess current threats and evaluate health protection policies in order to optimise resilience to climate change.

Greater ambition is required by the Federal Government to build resilience and ensure adaptation is adequate to safeguard Australia against the real and present dangers of climate change.

The Adaptation Strategy identifies the health sector ('*health and well-being*') as one of eight key priority national policy areas for climate change adaptation (Australian Government, 2015b, p. 57-61). Despite acknowledging some of the health risks of climate change, the Adaptation Strategy provides little detail on the specific actions that the Federal Government has taken, or will take, to manage the health impacts of climate change. For example, it offers no specific mechanisms to build Australia's resilience to known physical and mental health threats arising from adverse changes in the geographic distribution, transmission and incidence of infectious diseases, air quality and allergens, and food and water insecurity. Further, the Adaptation Strategy concedes that there are 'no national programs specifically targeting the health effects of climate change' (Australian Government, 2015b, p. 61), but notes that 'health impacts are canvassed in scientific research into climate change in Australia, which is often publicly funded', with such research often mainstreamed into general scientific climate change research.

The Adaptation Strategy points to the Australian Government's contribution through early warning systems provided by the Bureau of Meteorology that support communities and individuals in managing their own health protection and resilience against extreme weather events (Australian Government, 2015b p. 61).

However, it is otherwise silent on current actions and does not demonstrate a systematic national approach. It defines the Federal Government's responsibilities too narrowly in apportioning the roles and responsibilities of different levels of government within the health system in Australia. For example, it (incorrectly) positions state governments as being 'responsible for primary health care' without acknowledging that, in accordance with the National Health Reform Agreement 2011, the Commonwealth has 'lead responsibility for system management, policy and funding for primary health care' (Australian Government, 2013).

In relation to the Federal Government's direction for future adaptation in the health sector, the Adaptation Strategy outlines three broad strategies it will adopt. It identifies the need to (i) consider the risks of climate change across our health services, from a national to

local level, (ii) address climate risks in our workplaces and, in particular, consider heat-related illnesses in the design and organisation of workplaces, and (iii) support adaptation in other sectors that provide services that improve our health and wellbeing (Australian Government, 2015b, p. 61). The first of these strategies alludes to the need for greater understanding of the health risks of climate change at the national, regional and local levels. The second, which is the most specific of the three, addresses the known occupational health risks of climate change, and the third alludes to the multi-sectorial approach that is required for effective climate change adaptation in the health sector. Despite outlining this direction, the Adaptation Strategy does not elaborate in specific detail, or provide specific plans of action, for how it intends to carry out these future focus areas.



5. PROPOSED FRAMEWORK FOR A NATIONAL STRATEGY FOR CLIMATE, HEALTH AND WELL-BEING

The proposed framework for a National Strategy for Climate, Health and Well-being has been developed in accordance with the limitations, barriers and opportunities of the current national policy framework discussed in section four of this paper.

These have been grouped into six thematic areas, and provide a foundation from which the Strategy could be developed. Strategies of potential action are then proposed within each of these areas (although, it is acknowledged that some of the strategies can fall under more than one theme). The Prevent, Prepare, Respond, and Recovery model of risk management is well suited to a national framework. The current level of global warming has already delivered significant disruption to health and community wellbeing through climate shifts and extremes. Exacerbation of these is inevitable with additional warming already locked in for the earth-climate system. A new national approach is required to address and minimise the associated increasing health burden.

While it is acknowledged that state and local governments have an important role in developing robust policy responses to alleviate the risk that climate change poses to human health and the health sector, there remains an urgent need for the Federal Government to lead on this issue and to provide

national coordination of responses. Whereas climate threats are often localised, such as bushfires and cyclones, emerging threats, notably droughts and heatwaves are multi-state events. Furthermore, the health and social downstream effects have extensive geographic spread. Finally, the development and implementation of climate change mitigation policies is largely conducted at the national level and requires significant input from the Federal Government. National action on this issue is warranted given the proven benefits of these mitigation policies for human health and the health sector.

The effectiveness of such a strategy will lie in its ability to successfully facilitate intergovernmental collaboration *within* the health sector and *across* multiple sectors. That is, the Strategy needs to include responses from all levels within the health sector including national, state, organisational and community, as well as across national government departments and agencies for transport, energy, environment, agriculture, and infrastructure.

**TABLE: TOWARDS A NATIONAL STRATEGY FOR CLIMATE,
HEALTH AND WELL-BEING PROPOSED THEMES**

Themes	Strategies
1. ESTABLISH MEANINGFUL NATIONAL EMISSIONS REDUCTION TARGETS AND POLICIES	<ul style="list-style-type: none"> Establish national emissions reduction targets which represent a fair share of the global task to reduce emissions and are consistent with Australia's obligations under the 2015 Paris Agreement (of the United Nations Framework Convention on Climate Change). Develop national emissions reduction policies across all sectors, and ensure a comprehensive health impact assessment guides the selection of all climate mitigation and adaptation strategies.
2. ESTABLISH EFFECTIVE GOVERNANCE ARRANGEMENTS	<ul style="list-style-type: none"> Establish an intergovernmental committee, including the Department of Health, to be responsible for developing and implementing the Strategy's objectives, projects and initiatives, and for reporting on the outcomes and effectiveness of these. This should include representation from all levels of the health sector, including key health professional groups and service providers, across sectors and potentially the private sector and civil society.
3. DEVELOP A SUSTAINABLE AND RESILIENT HEALTHCARE SECTOR	<ul style="list-style-type: none"> Conduct a national assessment of the health sector's contribution to Australia's total greenhouse gas emissions and develop, based on this assessment, a national Sustainable Development Strategy to reduce the sector's emissions and facilitate the transition to a low-carbon and sustainable future, taking into account the location and type of health service. Enhance disease monitoring and surveillance systems to include climate-related health issues, incorporating early warning systems and emergency response systems. <ul style="list-style-type: none"> This should be undertaken at all levels of the health sector, including the community and organisational level, to ensure such responses target specific vulnerable groups and communities, and that the health of emergency staff and volunteers is maintained. Adopt a healthy, resilient and sustainable communities approach to disaster and emergency planning at the national, state and regional levels. <ul style="list-style-type: none"> To support this approach, strategic planning by all health and community services organisations should include initiatives to develop climate resilience, as well as prepare for and appropriately respond to disasters, to ensure organisational continuity, support staff, clients and families, and ensure their safety.
4. PROMOTE EDUCATION AND AWARENESS	<ul style="list-style-type: none"> Develop and implement a national education program on climate, health and well-being to focus on the translation of climate-health impact research into practice and on heightening public education. <ul style="list-style-type: none"> Educate and train the current health workforce on the impacts of climate change, and equip them with the skills and knowledge needed to prepare and respond to these impacts. This training program also has the potential to extend to other policy sectors. Enhance the 'climate literacy' of the general public by educating them about the health risks of climate change, health-protective adaptation strategies, and the potential health benefits derived from adopting robust individual and national mitigation strategies. This program could involve designing initiatives that target those individuals and sub-populations that are most vulnerable to climate change at the personal and community level.

Continued



Themes	Strategies
5. STRENGTHEN COMMUNICATION AND COLLABORATION	<ul style="list-style-type: none"> • Improve communication between federal, state, local and community health agencies regarding the health risks of climate change and the responsibilities of each of these levels in managing and mitigating these risks. • A key role of the intergovernmental committee would be to assist in the development of collaborative partnerships between the Department of Health and other federal agencies to facilitate a multi-sectorial response to address the health impacts of climate change. These partnerships have the potential to ensure that health and climate change considerations are included in the development of policies from other sectors.
6. RE-ESTABLISH NATIONAL RESEARCH CAPACITY	<ul style="list-style-type: none"> • Evaluate and assess the health implications of national climate change mitigation policies, including sector specific policies. This assessment also has the potential to include an economic evaluation of the possible health cost savings derived from the implementation of such policies. • Build upon the work produced by the Human Health National Adaptation Research Network and provide a national, up to date, comprehensive assessment of the health risks of climate change. It is recommended this assessment be updated on a regular basis to inform the development and improvement of national mitigation and adaptation strategies. • Establish a national expert reference group for climate change and health to advise the Federal Government on the most appropriate and effective mitigation and adaptation strategies to adopt, given the best available evidence. <ul style="list-style-type: none"> – This reference group could be tasked with providing annual policy briefings to outline the main messages and advocacy points for decision-makers, and other national sectors and agencies to engage them in the decision-making process.

6. CONCLUSION

There is strong empirical evidence indicating that climate change poses significant immediate and long-term risks to the health of Australians.

The trend is already apparent globally and, in Australia, will inevitably escalate over the coming decades. These health risks can be minimised through meaningful integration in the development and implementation of national mitigation and adaptation plans and policies. However, to date, human health and the health sector have received little attention in national discussions regarding the development of such policies, and as a consequence, robust, effective solutions to address

and manage these risks remain absent. Indeed, the lack of federal leadership and governance on addressing the health impacts of climate change has ensured that Australia is underprepared to manage these risks. To address this gap, this paper calls upon the Federal Government to meet its Paris Agreement commitments and develop and implement a *National Strategy for Climate, Health, and Well-being*.



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APPENDIX: SURVEY

Please visit the following link to complete this online survey: <https://www.surveymonkey.com/r/T6WN5VJ>

TOWARDS A NATIONAL STRATEGY ON CLIMATE, HEALTH AND WELL-BEING FOR AUSTRALIA

Survey Questions

June 2016

This short survey is intended to solicit feedback on the **Climate and Health Alliance (CAHA) Discussion Paper: TOWARDS A NATIONAL STRATEGY ON CLIMATE, HEALTH AND WELL-BEING FOR AUSTRALIA (June, 2016)**.

The aims of the survey feedback are fourfold:

- (1) To engage healthcare stakeholders in Australia to provide feedback on the core elements of the Discussion Paper with the objective to formalise the development of a National Strategy for Climate, Health and Well-being (NSCHW)
- (2) To evaluate awareness among healthcare stakeholders regarding current national policy settings relevant to climate change and health
- (3) To seek support of healthcare stakeholders in advocating for a National Strategy for Climate, Health and Well-being (NSCHW)
- (4) To identify any gaps which may be helpful in considering the next stages of a National Strategy for Climate, Health and Well-being (NSCHW)

*** Please have the Discussion Paper available for reference while completing the survey.**

The Discussion Paper can be accessed with this link: <http://caha.org.au/campaigns/national-strategy-climate-health-wellbeing/>

1. About the respondent	
1.a. Are you responding as an individual or as a delegate of an organisation? [Please select one]	
<input type="checkbox"/> Individual	<input type="checkbox"/> Delegate
[If responding as an organisation, please respond to the remaining questions with respect to your organisation]	
1.b. If you are responding as a delegate, please select the type of organisation(s) you represent:	
<input type="checkbox"/>	Professional association
<input type="checkbox"/>	Healthcare service provider (GP, primary healthcare service, rural / remote health clinic, specialist, health promotion, community health, women's health, other)
<input type="checkbox"/>	Health union
<input type="checkbox"/>	Research institution
<input type="checkbox"/>	Academic institution
<input type="checkbox"/>	Health consumer organisation
<input type="checkbox"/>	Professional development / Education provider
<input type="checkbox"/>	Health department
<input type="checkbox"/>	Health advocacy organisation
<input type="checkbox"/>	Other [Please specify].....
<input type="checkbox"/>	None – I am responding as an individual



1.c. What size of organisation do you represent? [If appropriate, please respond according to the subset of the organisation or department of the organisation on whose behalf you are responding]

- | | |
|--|-----------------------------------|
| <input type="checkbox"/> 1-5 staff | <input type="checkbox"/> 51-100 |
| <input type="checkbox"/> 6-20 | <input type="checkbox"/> Over 100 |
| <input type="checkbox"/> None – I am responding as an individual | |

1.d. If you are a member based organisation, how many members do you represent?

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> 1-100 | <input type="checkbox"/> 10,001-100,000 |
| <input type="checkbox"/> 101-1000 | <input type="checkbox"/> 100,000+ |
| <input type="checkbox"/> 1001-10,000 | <input type="checkbox"/> Not a member-based organisation |

1.e. What role do you hold in the organisation?

Please specify

1.f. Is your organisation currently a member of Climate and Health Alliance?

- ☐ Yes ☐ No ☐ Not sure

2. Climate change and human health

2.a. To what extent are you aware of the health risks associated with climate change?

- ☐ Highly aware ☐ Some level of awareness ☐ Not at all aware

2.b. Which of the following do you think will impact human health due to climate change?

- ☐ Food insecurity
- ☐ Malnutrition
- ☐ Impaired child development
- ☐ Injuries (associated with extreme weather events)
- ☐ Deaths (associated with extreme weather events)
- ☐ Mental health issues
- ☐ Increases in vector borne and infectious diseases
- ☐ Increases in respiratory disease

2.c. To what extent are you aware of the health benefits associated with climate mitigation and adaptation strategies?

- ☐ Highly aware ☐ Some level of awareness ☐ Not at all aware

2.d. Which of the following health benefits do you think will result from climate mitigation and adaptation strategies?

- ☐ Reduced respiratory disease
- ☐ Reduced cardiovascular and heart disease
- ☐ Reduced incidence of obesity
- ☐ Improved mental health
- ☐ Reduced incidence of bowel cancer
- ☐ Reduced incidence of diabetes

3. Awareness of Federal Government Climate Change Mitigation Policy

3.a. Are you aware of the Federal Government's *Direct Action Plan* as a means to reduce Australia's greenhouse gas emissions?

- ☐ I am aware of it and fully familiar with the detail ☐ I am aware of it but not familiar with the detail ☐ I am not aware of it

3.b. To what extent do you think the *Direct Action Plan* is effective?

- ☐ Not at all effective ☐ Somewhat effective ☐ Very effective ☐ I don't know

3.c. Are you aware of the Renewable Energy Target which aims to support Australia to transition to a greater proportion of renewable energy for electricity and transport?

- ☐ I am aware of it and fully familiar with the detail ☐ I am aware of it but not familiar with the detail ☐ I am not aware of it

3.d. To what extent do you think the Renewable Energy Target is effective?

- ☐ Not at all effective ☐ Somewhat Effective ☐ Very Effective ☐ I don't know

3.e What other federal climate mitigation policies are you aware of?

.....
.....

3.f. Which of the above policies do you think will have a positive impact on health/ improve health outcomes?

.....

4. Awareness of Federal Government Climate Change Adaptation strategy

4.a. Are you familiar with the Federal Government's recent *National Climate Resilience and Adaptation Strategy* (December 2015)?

- ☐ I am aware of it and fully familiar with the detail ☐ I am aware of it but not familiar with the detail ☐ I am not aware of it

4.b. Are you aware that 'health and well-being' is one of eight key priority areas for climate change adaptation in the Strategy?

- ☐ I am aware of it and fully familiar with the detail ☐ I am aware but not familiar with the detail ☐ I am not aware



4.c. The Adaptation Strategy has three broad strategies under the 'health and wellbeing' priority area for consideration: (i) the risks of climate change across Australia's health services, (ii) climate risks in our workplaces; and (iii) support adaptation in other sectors that provide services that improve our health and wellbeing.

Are these broad strategies achievable?

☐ Not at all achievable ☐ Achievable ☐ I don't know

Are they sufficient?

☐ Not at all sufficient ☐ Sufficient ☐ I don't know

Are they currently being implemented to your knowledge?

☐ Yes ☐ No ☐ I don't know

If YES, please provide examples

4.d. Are you aware of national or state adaptation programmes specifically targeting the health effects of climate change?

☐ Yes ☐ No ☐ Not sure

If YES – Please provide examples

5. COP 21 – Paris Agreement

5.a. Are you aware that Australia signed the Paris Agreement on 22 April 2016 which obliges Australia to pursue 'efforts to limit the temperature increase to 1.5 °C above pre- industrial levels' and consider the 'right to health' of its citizens and the value of health co-benefits in developing climate mitigation options?

☐ Yes ☐ No ☐ Not sure

5.b. Do you consider Australia's current climate change mitigation policies to be consistent with this pledge?

☐ Yes ☐ No ☐ Not sure

If NO, Please comment:

5.c. What do you consider to be the implications of Australia failing to meet its international obligations on climate change?

5.d. What more should the Federal Government be doing to meet its Paris Agreement obligations?

6. A National Strategy for Climate, Health and Well-being (NSCHW)

*Please complete this section with a copy of the Discussion Paper available for reference. A link to the paper is available here:
<http://caha.org.au/campaigns/national-strategy-climate-health-wellbeing/>

In the absence of visible action from the federal government in tackling health effects of climate change, the Climate and Health Alliance is advocating for the development and implementation of a **National Strategy for Climate, Health and Wellbeing** (NSCHW) to ensure a nationally coordinated approach to protect people's health from climate change, and to maximise the health co-benefits available from strategies to reduce emissions.

6.a. Do you agree that a National Strategy for Climate, Health and Well-being is needed?

☐

Yes

☐

No

☐

Not sure

If NO, Please comment

.....

6.b. AT THE CORE OF THE PROPOSED FRAMEWORK FOR A NATIONAL STRATEGY FOR CLIMATE, HEALTH AND WELL-BEING FOR AUSTRALIA (CAHA, MAY 2016) ARE SIX THEMATIC ACTION AREAS.

PLEASE RESPOND TO THE QUESTIONS BELOW ABOUT EACH OF THESE THEMES.

Theme 1: Establish Meaningful National Emissions Reduction Targets and Policies

Is this theme appropriate in your opinion?

☐

Yes

☐

No

☐

Not sure

If NO, Please comment

.....

Do you support this theme as a priority area in the proposed Framework?

☐

Fully support

☐

Support mainly

☐

Support slightly

☐

Do not support

Theme 2: Establish Suitable Governance Arrangements to oversee climate and health policy

Is this theme appropriate in your opinion?

☐

Yes

☐

No

☐

Not sure

If NO, Please comment

.....

Do you support this theme as a priority area in the proposed Framework?

☐

Fully support

☐

Support mainly

☐

Support slightly

☐

Do not support



Theme 3: Develop the Capacity of the Health Sector to respond to climate change

Is this theme appropriate in your opinion?

☐

Yes

☐

No

☐

Not sure

If NO, Please comment

Do you support this theme as a priority area in the proposed Framework?

☐

Fully
support

☐

Support
mainly

☐

Support
slightly

☐

Do not support

Theme 4: Enhance Education and Awareness Levels with regard to climate change and health

Is this theme appropriate in your opinion?

☐

Yes

☐

No

☐

Not sure

If NO, Please comment

Do you support this theme as a priority area in the proposed Framework?

☐

Fully
support

☐

Support
mainly

☐

Support
slightly

☐

Do not support

Theme 5: Strengthen Communication and Collaboration regarding health risks from climate change

Is this theme appropriate in your opinion?

☐

Yes

☐

No

☐

Not sure

If NO, Please comment

Do you support this theme as a priority area in the proposed Framework?

☐

Fully
support

☐

Support
mainly

☐

Support slightly

☐

Do not support

Theme 6: Re-establish National Research Capacity on climate change and health

Is this theme appropriate in your opinion?

☐

Yes

☐

No

☐

Not sure

If NO, Please comment

Do you support this theme as a priority area in the proposed Framework?

☐

Fully
support

☐

Support
mainly

☐

Support slightly

☐

Do not support

6.c. Are there any other thematic area(s) that you think should be included in a National Strategy for Climate, Health and Well-being?

Please provide details:

.....
.....

6.d. In principle, would your organisation endorse a National Strategy for Climate, Health and Well-being?

☐

Yes

☐

No

☐

Not sure

If NO, Please comment

.....

7. Actions from the health sector

7.a. Do you or your organisation currently engage in activities that could either directly or indirectly influence public policy on climate change?

☐

Yes

☐

No

☐

Not sure

If YES, Please comment

.....

7.b. How else can the health sector put pressure on government/s to tackle the health effects of climate change?

.....
.....
.....

7.c. Which of the following actions would you or your organisation engage in to support the development and implementation of a *National Strategy for Climate, Health and Well-being*?

Rank these in order of preference 1-5 (1 being 'most likely to engage in' and 5 'least likely to engage in')

☐

Advocacy campaign

☐

Lobby state politicians

☐

Lobby federal politicians

☐

Write opinion pieces

☐

Collaborate with other groups on climate campaigns

Other [Please specify].....



THANK YOU FOR YOUR TIME IN RESPONDING TO THIS QUESTIONNAIRE ON A NATIONAL STRATEGY FOR
CLIMATE, HEALTH AND WELL-BEING.

WE GREATLY APPRECIATE YOUR FEEDBACK

More information

**Would you or your organisation like to be kept informed of the developments toward realising a
National Strategy for Climate, Health and Well-being?**

☐

Yes

☐

No

☐

Already involved

**Would you like to have more information about the work of the Climate and Health Alliance and
how you or your organisation can get involved?**

☐

Yes

☐

No

☐

Already involved

***If YES to either of the above, please provide your email address**

.....@.....

*Your email address will only be used for the purposes of providing you with further information about the strategy or CAHA, and will not be published or distributed without your consent.

Please use this space to make any further comments relevant to this survey.

This survey was prepared by Ann Borda and Tamara Taylor, with contributions from Fiona Armstrong, Marissa Parry, Rebecca Patrick, Dinah Arndt, Annabelle Workman, and Roscoe Taylor.



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ALLIANCE