



Climate change is a health issue

➔ **Climate change will affect the health of most populations in the next decades and put the lives and wellbeing of millions at risk.**

A groundbreaking report by *The Lancet* and University College London found that 'the effects of climate change on health will affect most populations in the next decades and put the lives and wellbeing of millions of people at increased risk'.

The report says a new advocacy and public health movement is urgently needed to adapt to the effects of climate change on health. It also emphasises the need for the threat of climate change for humankind to be seen as a health issue.

Health experts say that dealing with climate change requires a two-pronged approach. Firstly, mitigation measures that reduce the severity of climate change by drastically reducing carbon emissions in the short term; and, secondly, the ability to adapt to the health impacts.

The report outlines six ways in which climate change impacts on health: changing patterns of disease and morbidity; the security of food, water and sanitation; the vulnerability of human settlements; extreme meteorological events; and likely mass-population migration.

A new advocacy and public health movement is urgently needed.

There is overwhelming evidence for human-made global warming

The *Lancet* report is part of a growing body of research about the implications of climate change on health as the overwhelming evidence from climate change science warns of the dangerous consequences for human life if current trends in global warming are not urgently addressed.

The most recent report of the Intergovernmental Panel on Climate Change (IPCC) states that global warming is 'unequivocal' and there is overwhelming evidence for human-made global warming.

The IPCC provides a rigorous assessment of the published and peer-reviewed research on climate change, and its report was compiled by 1,250 expert authors from over 130 countries.

WORLD HEALTH ORGANIZATION FACTS ON CLIMATE CHANGE

- Climate change affects the fundamental requirements for health – clean air, safe drinking water, sufficient food and secure shelter.
- The global warming that has occurred since the 1970s caused over 140,000 excess deaths annually by the year 2004.
- Many of the major killers such as diarrhoeal diseases, malnutrition, malaria and dengue fever are highly climate-sensitive and are expected to worsen as the climate changes.
- Areas with weak health infrastructure – mostly in developing countries – will be the least able to cope without assistance to prepare and respond.
- Reducing emissions of greenhouse gases through better transport, food and energy-efficient choices can result in improved health.

The main health risks in Australia from climate change include:

- health impacts of weather disasters (floods, storms, cyclones, bushfires)
- health impacts of temperature extremes including heatwaves
- mosquito-borne infectious diseases (dengue fever, Ross River virus)
- food-borne infectious diseases and other health risks from poor water quality
- increases in urban air pollution
- mental health consequences of social, economic and demographic dislocations.

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Climate change science warns of the dangerous consequences for human life if current trends in global warming are not urgently addressed.

Even if targets to limit an increase in global temperature to 2°C are met – and that is a very big ‘if’ – our planet will be changed forever.

According to experts, the effects will be severe: floods, droughts, heatwaves and storms will worsen. Sea levels will rise, threatening coastal habitation. Food and water will be less secure, impacting on the public health of billions of people.

Global temperature rises above 2°C are feasible – in fact, likely without drastic action – and the planet then enters into dangerous, even catastrophic territory.

It will also happen here

Australia is very vulnerable to the effects of climate change.

We are already the driest inhabited continent on earth and are vulnerable to the dangers of extreme heat and drought. We are home to many ecological systems that are at risk.

Australians are overwhelmingly coastal dwellers. Our industries and urban centres face water crises. Our economy, including food production and agriculture, is under threat.

According to NSW Health, by 2050 NSW is likely to experience an average increase in temperature of 1-3°C across the State, which would have ‘both acute and insidious health impacts’.

The Department flags that: ‘More frequent heatwaves will result in increased hospital admission for heat-related illness. Changes to the social, economic and cultural fabric of communities, particularly in rural areas, as a result of more frequent or longer droughts will also affect the mental health burden in those communities.’

THERE IS HOPE AND HEALTH PROFESSIONALS SHOULD LEAD

Fiona Armstrong is a former Senior Research Officer at the ANF, who now convenes the Climate and Health Alliance, a group of health-care stakeholders that advocates for climate change policy to protect public health.

Fiona says nurses have an important role to play in the climate change debate. ‘There is a great need to broaden the policy discussion on climate change in Australia. There are large risks and consequences for public health from climate change,’ she says.

‘Nurses are a large group of stakeholders in the health system and can show leadership on this issue.’

Fiona says there is a lot of justifiable fear around climate change but there are also solid grounds for hope.

‘The science shows clearly that we need to act quickly. We can slow climate change so it is not irreversible. The window is small and reducing but it is still there. It is a massive project but it is one that we must undertake.’

‘The good news is that we know about it and we know what we can do. The technology is available and resources are abundant. All that is missing is political will.’

Massive implications for our health system


Fiona says there is little discussion in health policy about the impact of climate change on the health workforce and the health system.

‘We know our health system is under pressure now. Climate change will add to that pressure with more and more severe direct consequences like heatwaves, fires, droughts and storms and indirect consequences like vector-borne diseases, increased pollution and contamination of our marine life and reduced food security.’

‘It’s already happening now. In South East Queensland the floods and cyclones show the impact of climate change on the community and health system has already arrived. The chances are that the size and frequency of events like these will become the norm.’

Fiona says there is a positive flip side to action on climate change. ‘There are also opportunities for improving public health. Urgent action on climate change will have many positive health impacts.’

She says a step towards low-carbon living has health benefits that will improve our quality of life by reducing diseases prevalent in rich high-carbon societies – obesity, diabetes and heart disease – and by reducing the effects of carbon pollution. ■



No doubt about climate change

➔ There is overwhelming evidence for human-made global warming.

Globally, 2010 was a very hot year. The World Meteorological Organization found the entire world had the warmest six months, the warmest year, and the warmest decade on record. In Australia, the Bureau of Meteorology has found each decade since the 1940s has been warmer than the preceding decade.

Seventeen nations reached new temperature highs last year. Pakistan hit 129°F (54°C) – a new record for all of Asia; and Moscow, never having reached temperatures of 100°F (38°C) before, surpassed that temperature with regular monotony during its summer.

This unparalleled heat had devastating consequences: Pakistan had the worst flooding in its history and Russia's grain harvests were wiped out. In Australia we had the devastating floods in Queensland and at the same time bush fires in several states.

Are these events evidence that we are beginning to feel the economic and environmental costs of inaction on climate change?

The science on climate change is unequivocal

The conclusions are emphatic from one respected report to another on climate change: there is overwhelming evidence for human-made global warming.

The Intergovernmental Panel on Climate Change (IPCC) – a United

CO₂ from human activities remains in the atmosphere for a very long time... unless greenhouse gas emissions are reduced, an upward trend in global temperature will continue.

Nations organisation – stated in its landmark 2007 report that global warming is 'unequivocal' and that 'most of the observed increase in globally-averaged temperatures since the mid-20th century is very likely due to the observed increase in greenhouse gas concentrations'.

This followed the landmark report on the economics of climate change by Sir Nicholas Stern in 2006, which was underpinned by the clarity of the scientific position.

Australian scientists concur with these conclusions.

Professor Kurt Lambeck, the former President of the Australian Academy of Science, said it is important to stress that considerable progress has been made in understanding climate change and why it occurs.

'The role of greenhouse gases in the atmosphere is qualitatively well understood. It is known that increasing the atmospheric concentration of CO₂ leads to higher mean global surface temperatures. It is known that CO₂ has increased very substantially during the last century to the highest levels seen in the last 800,000 years,' he said.

'It is also beyond serious question that some CO₂ from human activities remains in the atmosphere for a very long time, as is the message that unless greenhouse gas emissions are reduced, an upward trend in global temperature will continue.'

Scientists frustrated by sceptics

Despite the broad consensus in scientific circles on the causes and consequences of climate change, political and media debate is bogged down by point scoring, which assumes there is doubt about the science.

The frustration among scientists with this impasse is beginning to emerge.

'The peer-reviewed verdict is in. Action on climate change is too important to be derailed by naysayers and Luddites,' Anna-Maria Arabia, chief executive of the Federation of Australian Scientific and Technological Societies (FASTS), told *The Age* (FASTS represents 60,000 working scientists).



Photography courtesy of Martin Howard

‘While politicians debate the ins and outs of the proposed carbon tax, FASTS calls on all sides of politics to put peer-reviewed science ahead of cheap, political arguments.’

This intervention came on the heels of the resignation of the country’s Chief Scientist Dr Penny Sackett, who told a Senate committee: ‘This is an enormously important time in history, probably unlike any before it. Science is not the complete answer ... but it does tell us the possible consequences.’

Sackett said the scientific message on climate change was consistent across all scientific disciplines throughout the world.

‘This is a message that I have great concern is not reaching the general populace,’ she said.

While public discussion on climate change is non-partisan and in support of the science in most European countries, the US shares Australia’s muddled political debate.

In an open letter delivered to Congress last year, 255 members of the US National Academy of Sciences, among them 11 Nobel laureates, urged recognition of the overwhelming scientific evidence of climate change and condemned the ‘political assaults on scientists in general and on climate scientists in particular ... typically driven by special interests or dogma’.

WHAT HAPPENS WITH EACH DEGREE INCREASE IN TEMPERATURE?

1°C

After a 1°C global average temperature rise, arctic sea ice would disappear for good in the summer months. Heatwaves and forest fires will become more common in the sub-tropics. The worst hit will be the Mediterranean region, southern Africa, Australia and south-west United States. Most of the world’s corals will die, including the Great Barrier Reef. Glaciers that provide crops for 50 million people with fresh water begin to melt and 300,000 people are affected every year by climate-related diseases such as malaria and diarrhoea.

2°C

With a 2°C global average temperature rise the Amazon turns into desert and grasslands, while increasing CO₂ levels in the atmosphere make the world’s oceans too acidic for remaining coral reefs and thousands of other marine life forms. More than 60 million people, mainly in Africa, would be exposed to higher rates of malaria. Agricultural yields around the world will drop and half a billion people will be at greater risk of starvation. The world’s sea level begins to rise by seven metres over the next few hundred years. Coastal flooding affects more than 10 million extra people. A third of the world’s species will become extinct.

3°C

After a 3°C global temperature rise, global warming may run out of control and efforts to mitigate it may be in vain. Millions of square kilometres of Amazon rainforest could burn down, releasing carbon from the wood, leaves and soil and thus making the warming even worse, perhaps by another 1.5°C. In southern Africa, Australia and the western US, deserts take over. Billions of people are forced to move from their traditional agricultural lands in search of scarcer food and water.

4°C

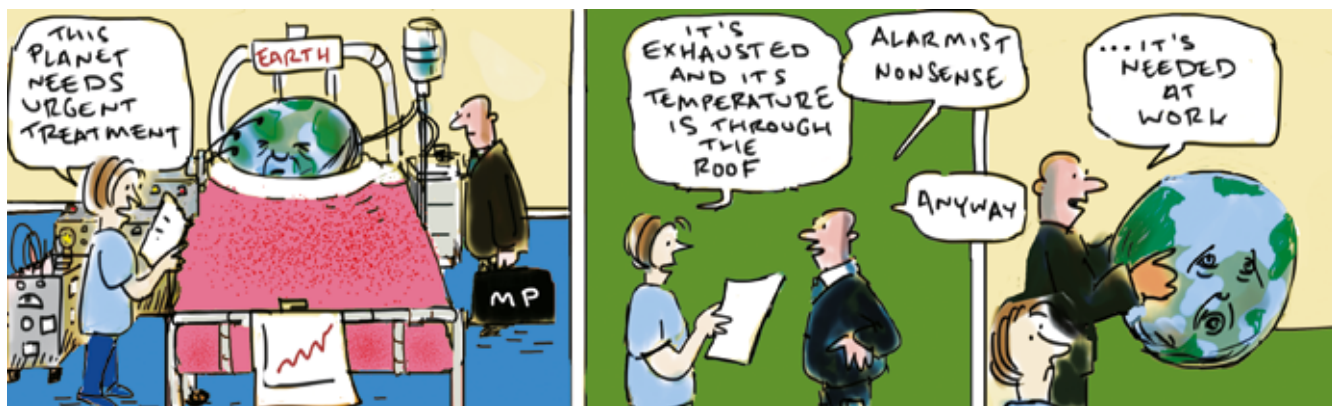
At this stage, the Arctic permafrost enters the danger zone. The methane and carbon dioxide currently locked in the soils will be released into the atmosphere. Further melting of Antarctic ice sheets would mean a further 5m rise in the sea level, submerging many island nations. Italy, Spain, Greece and Turkey become deserts and mid-Europe reaches desert temperatures of almost 50°C in summer. ■

From the Guardian Online

- Sources: Mark Lynas, Stern Report, UK Met Office

Undeniable economic impacts of climate change

➡ The economic arguments for strong and immediate action on climate change are compelling. Yet politicians have failed to grasp the magnitude of the crisis.



In 2006, Sir Nicholas Stern, a former Chief Economist at the European Bank for Reconstruction and Development, the World Bank and the British Treasury delivered a landmark report on the economic impacts of climate change.

The central tenet of Stern's review was that unless we invest 1% of global GDP per annum in measures to prevent climate change it would cost us 20% of global GDP.

Stern has since upwardly revised his estimate to 2% of global GDP as a response to the worsening prognosis about climate change from the scientific evidence.

He has publicly castigated politicians for their failure to grasp the magnitude of the crisis.

'Do the politicians understand just how difficult it could be? Just how devastating a rise of four, five, six degrees centigrade would be? I think not yet.'

In an interview with British newspaper *The Guardian* he slammed the attempts of some politicians to discredit the science.

'We're the first generation that has had the power to destroy the planet. Ignoring that risk can only be described as reckless. There are many half-baked attempts to naysay the science, but they always unravel on inspection,' said Stern.

Garnaut recommends strong action

Similarly in Australia, the Garnaut Climate Change Review has looked at the impacts of climate change on the Australian economy with similarly strong advocacy for action on climate change.

'Australia's interest lies in the world adopting a strong and effective position on climate change mitigation,' he said.

Garnaut said climate change would be an economic disaster for Australian agriculture.

By 2050, unmitigated climate change would mean major declines in agricultural production across much of the country, including a 50% reduction in irrigated agriculture in the Murray-Darling basin. By 2100, irrigated agriculture in the Murray Darling basin would decline by 92%, he found.

There are other economic risks. Climate change threatens the Great Barrier Reef, a tourist Mecca that brings billions of dollars to Queensland each year and employs thousands of people.

Climate change is also bringing about rising sea levels. About 85% of Australians live on our coasts. A recent report found as many as 247,000 existing residential buildings valued up to \$63 billion are potentially at risk from a 1.1 metre sea level rise.



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Australia is one of the world's top 20 emitters as a nation and emits more pollution per person than any developed country in the world – including the US. What's more, our pollution levels continue to rise. Last year they rose by 1.2% alone.

So what are our political parties proposing to reduce our emissions?

The Coalition

CLIMATE CHANGE DENIAL IS AN IMPORTANT DRIVER

The Howard Government's policy on climate change reflected the scepticism, even denial, on the part of many senior members of the Howard Government on the scientific evidence of global warning.

The Howard Government refused to sign the Kyoto protocol. Australia was one of only two industrialised countries (among 190) that refused to sign.

As public opinion shifted, however, Howard pledged in 2006 to develop an emissions trading scheme.

In opposition, the Coalition's position has swung from a bipartisan approach under Malcolm Turnbull, who had pledged support for an Emissions Trading Scheme, to an oppositionist policy under Tony Abbott.

Abbott proposes an alternative 'direct-action' climate policy involving a 5% reduction in emissions by means of creating a \$2.5 billion fund to provide 'incentives' for industry and farmers to reduce emissions and through measures such as storing carbon in soil.

The Liberals have rejected outright the idea of a price on carbon.

The Liberals' policy does not include an emissions trading scheme, and industrial polluters would be allowed to continue to emit at current levels without penalty.

The ALP

A PRICE ON CARBON THAT EVOLVES INTO AN EMISSIONS TRADING SCHEME

The very first act of the former Prime Minister Kevin Rudd in December 2007 was to ratify the Kyoto Protocol. The Kyoto Protocol is an international and legally binding agreement that commits industrialised countries to reduce or limit their greenhouse emissions.

The former Prime Minister also put forward a plan to introduce an emissions trading scheme in 2010 – known as the Carbon Pollution Reduction Scheme. It gave a target range for Australia's greenhouse emissions in 2020 of between 5% and 15% less than 2000 levels.

Bipartisan support for the Emissions Trading Scheme was scuppered by Tony Abbott when he took over as leader of the Liberal Party. The Greens also opposed the scheme, which they said didn't go far enough and rewarded the polluters.

Consequently, the implementation of the ETS was postponed.

The ALP now has a two-stage plan for a carbon price mechanism, which will start with a fixed price on carbon for three to five years before transitioning to an emissions trading scheme.

Businesses that are the biggest polluters would be charged when they pollute.

The Greens

MAKE THE POLLUTERS PAY

The Greens have been consistent in advocating net zero greenhouse gas emissions by no later than 2050 with a minimum of 40% reduction on 1990 levels by 2020.

They also have a plan to boost green jobs and a clean economy.

The Greens want to move away from a dependence on coal power and motorways towards solar, thermal, wind and other renewable generators and greater investment in public transport.

Although the Greens opposed Rudd's ETS as being too weak they now support Prime Minister Julia Gillard's current two-step plan for a carbon price leading to an ETS.

They believe polluters should pay. The Greens have consistently come out against the coal industry as the biggest polluters and have criticised Julia Gillard and Treasurer Wayne Swan for 'backing off' the big three mining companies.

Following the 2010 election the Greens agreed to participate in a committee of MPs and experts to formulate a price on carbon. ■