

Submission on the Draft Report on Australia's climate policy options

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Healthy planet, healthy people.

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Executive Summary

Doctors for the Environment Australia presents this submission to the Special Review by the Climate Change Authority addressing the Terms Of References (TOR's) as outlined, though would like to emphasise that;

- It is a great disappointment that numerous Climate Change Authority discussions and documents on the issue of climate change have failed to emphasise its impact on health.
- There is overwhelming evidence linking climate change to poor health of individuals and communities
<http://www.who.int/globalchange/publications/atlas/report/en/index.html>,
www.thelancet.com/commissions/planetary-health
- The response of Government thus far has been grossly inadequate – and that Australia needs to commit to a reduction target on 2020 levels of at least 40% by 2025 and a reduction of at least 95% by 2050. This is the only way that we might be able to confine global temperature rise to 2°C and thus avoid severe consequences to human health.
http://dea.org.au/images/uploads/submissions/Caps_and_Targets_Review_submission_05-13.pdf
- An Emissions Trading Scheme (ETS) and the trigger for introducing such a scheme: the time is now and every month delayed is a month we have to play 'catch up'.
- New industries can be developed around alternative energy sources providing enormous opportunities for Australia and Australians (with our sunlight, winds and ability to innovate), but delay in supporting these industries risks losing 'first mover' opportunity.
- In relation to our commitments and undertakings for United Nations Framework Convention on Climate Change (UNFCCC) and Kyoto, DEA is strongly of the view that our Government should adhere to them and strengthen them through leadership – rather than lagging behind and in some situations abrogating our responsibilities to them.
- The opportunities of new renewable power generation, innovation and change management in Australia will far out-way any negative economic impact of job change and the fiscal cost of not ensuring we save our planet for our children and grandchildren.

Emissions Trading Scheme policies need to be flexible enough to allow a wide range of companies and individuals to join, though they must be designed to assist in the delivery of a reduction target on 2000 levels of at least 40% by 2025 and 95% by 2050

http://dea.org.au/images/uploads/submissions/Submission_to_the_Targets_and_Progress_Review_03-15.pdf

A further understanding of the implications of climate change on human health and the new opportunities for innovation and changing the way we live our lives is outlined in Safeguarding human health in the Anthropocene epoch: Report of the Rockefeller Foundation-Lancet Commission on planetary health – a summary of which is attached to the main submission documents.

About Doctors for the Environment Australia

Doctors for the Environment Australia (DEA) is an independent, self-funded, non-government organisation of medical doctors in all Australian States and Territories. Our members work across all specialties in community, hospital, private practices and public health.

DEA works to prevent and address the diseases - local, national and global - caused by damage to our natural environment. We are a public health voice in the sphere of environmental health with a primary focus on the health harms from pollution and climate change.

Preamble

DEA wishes to take this opportunity to respond, from a health perspective, to the Second Draft Report of the Climate Change Authority (CCA) and will address these health issues in relation to the terms of reference cited in the document.

We welcome the Statement by the Acting Chair CCA, Mr Stuart Allinson, in relation to the desire for a '*fresh conversation...and a constructive discussion*' on this vital issue. DEA has been greatly disappointed that numerous discussions and documents on the issue of climate change have failed to emphasise its impact on health and we address this in our submission. In the CCA second draft report there is scant mention of health effects - yet the maintenance of good health is the one thing that all humans strive for including our children and loved ones. Introducing health issues into climate change debates could greatly assist in persuading the community of the importance of this issue to them and their families.

Whilst we do not claim to be experts in the various mechanisms for reducing carbon emissions, as medical professionals we can provide compelling evidence on the health effects that are predicted to occur with continuing global warming and climate change.

Australia is already experiencing the global trend of increasing severity and frequency of extreme weather events. These include extreme heat events, bushfires, storms and floods, each of which have caused significant damage across Australia over the past summer months, costing millions of dollars and some loss of life. Apart from the direct destructive impacts of the extreme events on many individuals, what is integral to these disasters are the very distressing psychological impacts experienced by a high proportion of survivors, even those not injured: post traumatic stress disorder, depression, and suicide. Eco-system health-related effects, such as the spread of dengue fever, Ross River fever, are yet to become prominent in Australia, but changes in their distribution can be expected. Fortunately, societal or population impacts of climate change are less likely to occur in a developed, stable, society such as Australia but that is no reason not to accept our global responsibilities in this area

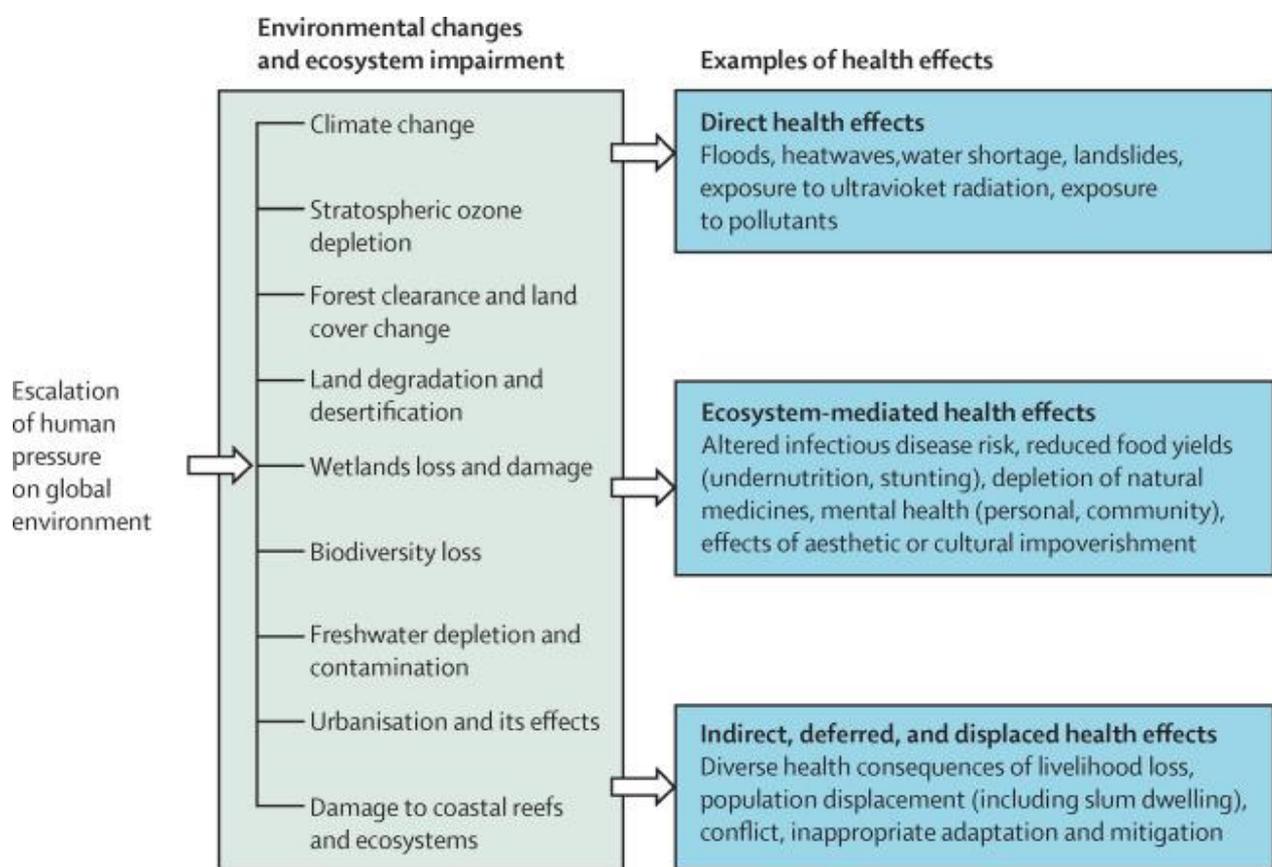
Health and climate change – What do we know?

The scientific connections between health and climate are well articulated in a joint publication from the World Health Organization and the World Meteorological Organisation (Atlas of Health and Climate 2012 <http://www.who.int/globalchange/publications/atlas/report/en/index.html>). These effects of environmental change and ecosystem impairment are also reviewed in an excellent Lancet Commission – Safeguarding Human health in the Anthropocene epoch: report of The Rockefeller Foundation – Lancet Commission on Planetary Health

(Planetary Health - The Lancet www.thelancet.com/commissions/planetary-health).
[Abstract appended to this submission].

The Lancet Commission report is essential reading for all who wish to understand the delicate balance that currently exists between humans and our planet, as well as appreciate the vast opportunities that are available if we and our leaders could make the brave decisions that need to be made to ensure global warming is mitigated. This need for change was summarised in a recent editorial: *'But climate change represents an unusually urgent social policy matter that must not be trumped by disingenuous arguments about economic growth, nor traded away in the back corridors of Parliament. Australia must introduce a comprehensive, potent, whole-of-nation scheme to ensure carbon emissions are slashed'* The Age 25/1/15
<http://www.theage.com.au/comment/the-age-editorial/global-warming-australia-urgently-needs-potent-climate-policies-20160124-gmczuz.html>.

The graphic below is taken from the Lancet Commission report and clearly shows the interaction between the ecosystem changes brought about through climate change and the health effects that may occur:



As many situations it is the vulnerable – the aged, our children and those groups already struggling who will suffer most.

Health impacts on Children

To provide an example of how children are affected by climate change we quote from a recent DEA report – *No Time for Games: Children's Health and Climate Change* http://dea.org.au/images/general/DEA9934_No_Time_for_Games_web_final.pdf.

Climate change has a direct impact on children's mental and physical health. This will increase as temperatures rise and more frequent and severe extreme weather events such as bushfires and floods occur.

Children are particularly vulnerable to the health impacts of climate change because their behaviour exposes them to increased risks, their bodies respond differently to harms, and they are dependent on others.

Research shows a link between excessive heat and childhood emergency department attendances for diseases such as asthma, fever, gastroenteritis, and electrolyte imbalances.

There is evidence that exposure to extreme heat during pregnancy is related to premature birth.

Climate change affects children's mental health. Mental and emotional distress documented for children and adolescents following weather disasters include post-traumatic stress disorder and higher rates of sleep disturbance, aggressive behaviour, sadness, and substance abuse.

Flooding can have comprehensive health effects on children. They include drowning and near-drowning, injury, hypothermia or electrical injuries. Water that floods into homes, yards and playgrounds can carry diarrhoeal disease, skin and soft tissue infections and a flu-like illness called leptospirosis. In the damp conditions following floods, mould spores proliferate to aggravate allergies and asthma attacks in children.

Diseases carried by mosquitoes, including dengue, Ross River virus, Barmah Forest virus and Murray Valley Encephalitis are of concern, with dengue the most relevant to children.

The current global increase in childhood asthma could be partly explained by increased exposure to allergens in the air driven by climate change.

Climate change will increasingly threaten the fundamental foundations of children's health - clean air, food, water and social and economic stability. Australia is not immune.

Activities that contribute to climate change also directly worsen child health. The continued use of coal, gas and oil causes significant harm to children mainly via air pollution.

Health impacts on other communities

Research in Australia carried out over recent droughts has clearly demonstrated increases in anxiety, depression and an increased suicide rate in rural populations (Albrecht et al 2007) and similar issues have been reported in Alaskans whose villages are threatened by climate related changes (Brubaker et al 2011).

Australians are increasingly exposed to the effects of extreme weather patterns whether it be heatwaves precipitating heart attacks, dehydration and renal failure,

floods and wild storms causing drownings and other associated injuries; or the stress and mental health issues in the aftermath of these events. Food associated gastroenterological diseases are more frequent with damaged water supplies and sewage infrastructure following extreme weather events.

It is paramount that the health issues driven by climate change and summarised in the DEA Policy on Climate Change and Health authored by the late Prof Tony McMichael, David Shearman and Dimity Williams http://dea.org.au/images/general/DEA_Climate_Change_and_Health_05-13.pdf are taken into account in any debate on climate change and climate change mitigation policies. These include

- Intensified heat waves floods and fires and the spread of disease such as Dengue and Ross River virus.
- Regional food yields and the risk to child and adult nutrition.
- Droughts and floods threatening the quality and quantity of drinking water and impacting on agriculture and hygiene.
- Warming and acidification of sea water endangering marine food sources.
- Increase in air pollutants causing asthma, allergies and other respiratory diseases.

It is very likely that there will be an increasing burden of disease in Australia requiring attention from general practitioners and hospitals due to injury or psychological trauma from extreme weather events, infections such as gastroenteritis and illness due to ozone and bushfire air pollution.

Our health system infrastructure and resources can also be directly affected by more severe and frequent extreme weather events, potentially limiting their ability to provide care. For example in the heatwave prior to the Black Saturday bushfires, 25 per cent of all hospitals had problems with their air-conditioning or cooling systems.

Conclusions

To avoid widespread, severe and irreversible impacts associated with present trajectory of 4 degrees of global warming, urgent action must be taken to reduce greenhouse gas emissions. Global climate change negotiations in Paris last December offered a crucial opportunity for Australia to make a strong commitment to protect our children. Mortality and morbidity from these extreme weather events impose extra physical and financial burdens on communities already under significant stress. The real risk is that if we continue to debate whether we should have a 20 or 30% reduction in carbon emissions, Australia and the world risk negating all of the medical gains we have made in the last century and creating an environment that will not support our children and grandchildren into the next century. Is this the legacy we wish to leave them?

One of three challenges to appropriate climate action, identified by the Lancet Commission report, is that there has been a failure of implementation (governance challenges), because governments and institutions **delay** recognition and responses to environmental threats (see the appended abstract, with our added emphases). Australia will be regarded as a laggard by delaying recognition and responses to environmental issues unless we adopt a fully adequate response to mitigating climate change and include in our thinking, the health aspects that are so frequently ignored.

Australia has an opportunity to change this if we act now and act boldly.

Terms of Reference

Assess whether Australia should have an ETS in the future and what conditions should trigger the introduction of such a scheme

DEA contends that the response of Government thus far has been grossly inadequate – and that Australia needs to commit to a reduction target on 2020 levels of at least 40% by 2025 and a reduction of at least 95% by 2050. This is the only way that we might be able to confine global temperature rise to 2 degrees and thus avoid severe consequences to human health.

http://dea.org.au/images/uploads/submissions/Caps_and_Targets_Review_submission_05-13.pdf

The worsening challenge

Prior to Christmas 2015 a report was released showing that Australia's emissions rose by about 1% in 2014-15, compared with the previous year-

<https://www.environment.gov.au/climate-change/greenhouse-gas-measurement>.

These data indicate that Australia's carbon emissions increased by 0.8% last financial year compared to 2014-15, and that if land use and deforestation were taken into account then the figure increases to 1.3%. These are the figures that form part of Australia's international reporting of emissions and will put increasing pressure on Australian Governments to fulfil our obligations to the Paris climate accord

<http://reneweconomy.com.au/2016/australia-emissions-surging-to-record-high-despite-paris-climate-deal-12264>.

This is why we have to act now and implement an ETS imminently – every month delayed is a month or more of 'catch up'. The urgency of the situation should already be a trigger for an ETS now.

DEA suggests that the 'the time has come' for a broadly based ETS and that **we just need to implement it**. Table 1 in the CCA document clearly shows that Australia is at the top of the 'league table' of Emissions per person – (tCO₂-e). Whilst Australia is a leader in many things, including medical research and sport, this league table is not one where we should be leading – rather Australia should be leading in carbon capture, in renewable energy sources, battery power and in world best practice response to global warming – **we can do it**.

The risks of not adequately mitigating climate change seem to be rarely discussed in Australia, though they are vital to planning our future direction. The Natural Resources Defence Council in the US has recently considered the costs of global warming. It has produced figures on the projected costs of global warming to the US in the areas of hurricane damage, real estate loss, energy sector losses and water costs. If present trends continue, the total cost of global warming will be as high as 3.6 percent of gross domestic product (GDP). Four global warming impacts alone -- hurricane damage, real estate losses, energy costs, and water costs -- will come at a cost of 1.8 percent of U.S. GDP, or almost \$1.9 trillion annually (in today's dollars) by 2100.

The Global Warming Price Tag in Four Impact Areas, 2025 through 2100

	Cost in billions of 2006 dollars				
	2025	2050	2075	2100	U.S. Regions Most at Risk
• Hurricane Damages Real	\$10	\$43	\$142	\$422	Atlantic & Gulf Coast states
🏠 Estate Losses	\$34	\$80	\$173	\$360	Atlantic & Gulf Coast states
💡 Energy-Sector Costs	\$28	\$47	\$82	\$141	Southeast & Southwest
💧 Water Costs	\$200	\$336	\$565	\$950	Western states
	\$271	\$506	\$961	\$1,873	

As the Council points out 'we have the know-how to avert most of these damages through strong action to reduce the emissions that cause global warming. But the longer we wait, the more painful -- and expensive -- the consequences will be.'

The advantages in avoiding the costs of climate change should be a trigger for an imminent ETS

Benefit of renewable energy

New industries that can be developed around alternative energy sources provide enormous opportunities for Australia and Australians with our sunlight, winds and ability to innovate – being a first mover in these areas has a significant advantage – hence the urgency. Australia is currently at a significant advantage with our low dollar value and this is the time for significant investment in these new technologies. These industries have positive health costs (stable rural and regional employment), provide sustainable communities and rental to landholders, in contrast to fossil fuel industries which have huge negative health and environment costs to society, or externalities that are not accounted for.

A recent report from the International Renewable Energy Agency (IRENA) <http://www.irena.org/home/index.aspx?PriMenuID=12&mnu=PriPriMenuID=12&mnu=Pri> has just provided the first ever report looking at the global macroeconomic impacts of greater use of renewable energy. It's key finding is that *doubling the global share of renewable energy by 2030 would lead to a 1.1% increase in global GDP*. That equates to USD 1.3 trillion – more than the combined economies of Chile, South Africa and Switzerland.

The Report presents data for additional benefits that include:

- creation of more than 24 million jobs
- significant benefit for economies reliant on large fossil fuel imports, for example, a 50% drop in the need for coal imports globally in relevant countries and greater protection from fluctuations in fossil fuels prices

There are specific findings of relevance for Australia:

- In the first IRENA case for doubling the share of renewables – the REmap Case – several countries are notable for having a large positive impact on GDP due to higher investment, including Australia (1.7%).
- The highest welfare improvements are observed in countries such as India, Ukraine, the US, Australia, Indonesia, South Africa, China and Japan. This is primarily a response to the reduced health impact of air pollution and greenhouse gas emissions reductions. Solar PV and wind withdraw up to 200 times less water than conventional power generation options including coal, natural gas and nuclear

Australia has an opportunity and should be taking a leadership role in assisting the world to move away from coal as an energy source, yet in Victoria, for example 85% of Victoria's homes and businesses are powered by brown coal, the most carbon intensive form of energy on earth. These power stations are old (average age is 42 years), inefficient and operating well past their expected life. Coal mines are also one of the most unsafe industries both in terms of accidents and the coal dust that affects coal miners and those living around these mines. Selling our coal overseas is not the example we should be setting to the rest of the world and, until there is a price on carbon and particularly coal, sensible approaches to coal mines (that is, keeping coal in the ground) in Australia and around the world, are unlikely to occur.

Other countries are embracing 'clean' energy and the business potential for these new industries is enormous.

The advantages of expanding renewable energy use should be a trigger for an ETS.

RESPONSES to the ToRs – CCA Second Draft Report (continued)

Consider Australia's international commitments and undertakings under the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol

It is disappointing that Government's resolve to adhere to these conventions is less than adequate. Even since the Paris meeting, Australia did not send a senior representative to the first "post Paris" meeting on renewable energy <http://reneweconomy.com.au/2015/australia-thumbs-its-nose-at-global-renewable-energy-market-86233>. This not only engenders international distaste which might impact on trade and other issues, but also means we miss out on participating in debates about the future and the opportunities that present themselves – in this case – Renewable energy. DEA is strongly of the view that these protocols should be adhered to and, in fact, strengthened. Australia has an opportunity to lead, instead of lagging behind. We would contend that the CCA has a responsibility to all Australians to emphasise the gravity of the situation but it also has an opportunity to push for Australia taking a leadership role in adhering to its international commitments and undertakings under the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol

RESPONSES to the ToRs – CCA Second Draft Report (continued)

Whether Australia should introduce an ETS that does not harm Australian businesses international competitiveness

DEA would contend that the opportunities for business in the new areas of renewable power generation, innovation, and change management will far out-way the fiscal cost of not ensuring we save our planet for future generations.

As mentioned previously the IRENA report clearly outlines the economic opportunities of the renewable energy industry to Australia. The Report also presents data suggesting that this shift to renewables will mean that the Paris goals are achievable. <http://www.theguardian.com/environment/2016/jan/16/rapid-switch-to-renewable-energy-can-put-paris-climate-goals-within-reach>

Non-ETS measures that would assist greenhouse gas reductions:

There are many other ways in which Australia and Australians could play a role in reducing carbon emissions:

Close polluting power stations: Australia has an opportunity and should be taking a leadership role in assisting the world to move away from coal as an energy source, yet in Victoria, for example 85% of Victoria's homes and businesses are powered by brown coal, the dirtiest form of energy on earth. These power stations are old (their average age is 42 years), inefficient and operating well past their expected life (DiNatale – Guardian Jan 2016).

Close coal mines: Coal mines are one of the most unsafe industries both in terms of accidents and the coal dust that affects coal miners and those living around coal mines. Mining and selling our coal overseas is not the example we should be setting to the rest of the world.

Adopt wise nutritional guidelines: Recent data has shown that if the population of the UK adhered to the WHO dietary guidelines – with reduced animal product consumption and increased vegetable consumption – it would result in a 17% reduction in greenhouse gas emissions and an increased life expectancy of about 8 months mainly by reducing coronary artery disease (Milner et al Health effects of adopting low greenhouse gas emission diets in the UK. BMJ Open 2015;5:e007364).

These are the broader policies that need to be considered in Australia as we move forward on this exciting journey.

Whatever policies are adopted in relation to an ETS, DEA contends they should be flexible, broad to allow individuals to take up those that suit them, BUT at the end of the day, an ETS, along with other measures, need to deliver a reduction target on 2000 levels of at least 40% by 2025 and 95% by 2050 (see DEA doc March 2015 http://dea.org.au/images/uploads/submissions/Submission_to_the_Targets_and_Progress_Review_03-15.pdf)

These issues are some of the most important currently affecting our planet and our future and we hope that the Commission will take these health issues into consideration when providing advice to the Government and that Government policy on Climate Change will be influenced by this advice.

Appendix

Safeguarding human health in the Anthropocene epoch: Report of the Rockefeller Foundation-Lancet Commission on planetary health

Sarah Whitmee; Andy Haines; Chris Beyrer; Frederick Boltz; Anthony G. Capon; Braulio Ferreira De Souza Dias; Alex Ezeh; Howard Frumkin; Peng Gong; Peter Head; Richard Horton; Georgina M. Mace; Robert Marten; Samuel S. Myers; Sania Nishtar; Steven A. Osofsky; Subhrendu K. Pattanayak; Montira J. Pongsiri; Cristina Romanelli; Agnes Soucat; Jeanette Vega; Derek Yach.

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Earth's natural systems represent a growing threat to human health. And yet, global health has mainly improved as these changes have gathered pace. What is the explanation? As a Commission, we are deeply concerned that the explanation is straightforward and sobering: we have been mortgaging the health of future generations to realise economic and development gains in the present. By unsustainably exploiting nature's resources, human civilisation has flourished but now risks substantial health effects from the degradation of nature's life support systems in the future. Health effects from changes to the environment including **climatic change, ocean acidification, land degradation, water scarcity, overexploitation of fisheries, and biodiversity loss**, pose serious challenges to the global health gains of the past several decades and are likely to become increasingly dominant during the second half of this century and beyond. These striking trends are driven by highly inequitable, inefficient, and unsustainable patterns of resource consumption and technological development, together with population growth. We identify three categories of challenges that have to be addressed to maintain and enhance human health in the face of increasingly harmful environmental trends. Firstly, conceptual and empathy failures (imagination challenges), such as an over-reliance on gross domestic product as a measure of human progress, the failure to account for future health and environmental harms over present day gains, and the disproportionate effect of those harms on the poor and those in developing nations. Secondly, knowledge failures (research and information challenges), such as failure to address social and environmental drivers of ill-health, a historical scarcity of trans-disciplinary research and funding, together with an unwillingness or inability to deal with uncertainty within decision making frameworks. Thirdly, **implementation failures (governance challenges), such as how governments and institutions delay recognition and responses to threats**, especially when faced with uncertainties, pooled common resources, and time lags between action and effect. Although better evidence is needed to underpin appropriate policies than is available at present, this should not be used as an excuse for inaction. Substantial potential exists to link action to reduce environmental damage with improved health outcomes for nations at all levels of economic development. This Commission identifies opportunities for action by six key constituencies: health professionals, research funders and the academic community, the UN and Bretton Woods bodies, governments, investors and corporate reporting bodies, and civil society organisations. Depreciation of natural capital and nature's subsidy should be accounted for so that economy and nature are not falsely separated. Policies should balance social progress, environmental sustainability, and the economy. To support a world population of 9-10 billion people or more, resilient food and agricultural systems are needed to address both under-nutrition and over-nutrition, reduce waste, diversify diets, and minimise environmental damage. Meeting the need for modern family planning can improve health in the short term, eg, from reduced maternal mortality and reduced pressures on the environment and on infrastructure. Planetary health offers an unprecedented opportunity for advocacy of global and national reforms of

taxes and subsidies for many sectors of the economy, including energy, agriculture, water, fisheries, and health. Regional trade treaties should act to further incorporate the protection of health in the near and long term. Several essential steps need to be taken to transform the economy to support planetary health. These steps include a reduction of waste through the creation of products that are more durable and require less energy and materials to manufacture than those often produced at present; the incentivisation of recycling, reuse, and repair; and the substitution of hazardous materials with safer alternatives. Despite present limitations, the Sustainable Development Goals provide a great opportunity to integrate health and sustainability through the judicious selection of relevant indicators relevant to human wellbeing, the enabling infrastructure for development, and the supporting natural systems, together with the need for strong governance. The landscape, ecosystems, and the biodiversity they contain can be managed to protect natural systems, and indirectly, reduce human disease risk. Intact and restored ecosystems can contribute to resilience, for example, through improved coastal protection (eg, through wave attenuation) and the ability of floodplains and greening of river catchments to protect from river flooding events by diverting and holding excess water. The growth in urban populations emphasises the importance of policies to improve health and the urban environment, such as through reduced air pollution, increased physical activity, provision of green space, and urban planning to prevent sprawl and decrease the magnitude of urban heat islands. Trans-disciplinary research activities and capacity need substantial and urgent expansion. Present research limitations should not delay action. In situations where technology and knowledge can deliver win-win solutions and co-benefits, rapid scale-up can be achieved if researchers move ahead and assess the implementation of potential solutions. Recent scientific investments towards understanding non-linear state shifts in ecosystems are very important, but in the absence of improved understanding and predictability of such changes, efforts to improve resilience for human health and adaptation strategies remain a priority. The creation of integrated surveillance systems that collect rigorous health, socioeconomic, and environmental data for defined populations over long time periods can provide early detection of emerging disease outbreaks or changes in nutrition and non-communicable disease burden. The improvement of risk communication to policy makers and the public and the support of policy makers to make evidence-informed decisions can be helped by an increased capacity to do systematic reviews and the provision of rigorous policy briefs. Health professionals have an essential role in the achievement of planetary health: working across sectors to integrate policies that advance health and environmental sustainability, tackling health inequities, reducing the environmental impacts of health systems, and increasing the resilience of health systems and populations to environmental change. Humanity can be stewarded successfully through the 21st century by addressing the unacceptable inequities in health and wealth within the environmental limits of the Earth, but this will require the generation of new knowledge, implementation of wise policies, decisive action, and inspirational leadership.

[NB: emphasis (**bolding**) added by DEA]

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