Doctors For Active, Safe Transport (DAST) ask that the Productivity Committee consider the effects of climate change on health when addressing a low emissions economy. We are a group of 140 senior hospital specialists in Wellington.
In the medical world we have been discussing this issue at length for many years and believe that climate change will have the biggest, untoward impact on health of all the challenges facing us.

When estimates are made of the cost of changing to a low emissions economy, please take the health and well being of the population into account. Under our current economy we are losing health to cancer, heart disease, metabolic disease and arthritis at a phenomenal rate. Changing to a low emission economy will support health in a myriad of ways.
Firstly ensuring that everyone has access to active, safe transport means health will improve due to the increased physical activity, as well as the reduction in the health effects of global warming.
Secondly, a change from intensive agriculture to horticulture will encourage a more plant-based diet – again, directly improving the long term health of the nation whilst also mitigating climate change.

Your mission is to improve well being and maintaining our health is the most important factor in this. Healthy bodies and healthy minds can be engaged in the economy, look after families and participate in community.

Using cycle commuting on a regular basis reduces the risk of heart disease by almost 50% and cancer by 40% - it is imperative that we rapidly build safe, cycle lanes. These need to be throughout richer and poorer neighbourhoods and be joined up to enable people to complete their entire journey from home to school, work or shops. We know people won't cycle until the cycle lane is complete and safe for the whole distance.

Changing to a plant based diet improves health in every way within a short period of time and work better than many of the medications we have available. Again the commonest of our disabling diseases – heart disease, stroke, diabetes, cancer and arthritis can all be reduced by 30-50% with increased plant based food. Encouraging meat based agriculture is killing us now as well as through the health effects of climate change.

I have included below the abstracts from policies on climate change and health from leading local and international organisations including the World Health Organisation, The Royal Society, NZ, and OraTaiao, the NZ Climate and Health Council. I've also included the abstract from an article in the New Zealand Medical Journal and a link to the Lancet report on Climate Change, and the recent report from the British Medical Journal on the benefits of cycle commuting.

This submission contains a snapshot of the massive implications of climate change on health – and the huge benefits the population would see – short and long term from a low emissions economy. I am happy to present to the Productivity Commission and provide more information if needed.

Dr Marion Leighton
Specialist Physician, Wellington Hospital, Wellington.

- **World Health Organisation: Climate Change and Health**

- **Feb 2018**
- **Climate change affects the social and environmental determinants of health – clean air, safe drinking water, sufficient food and secure shelter.**
- **Between 2030 and 2050, climate change is expected to cause approximately 250 000 additional deaths per year, from malnutrition, malaria, diarrhoea and heat stress.**
- **The direct damage costs to health (i.e. excluding costs in health-determining sectors such as agriculture and water and sanitation), is estimated to be between USD 2-4 billion/year by 2030.**
- **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-use choices can result in improved health, particularly through reduced air pollution.**

OraTaiao – New Zealand Climate and Health Council

Climate change is causing higher temperatures, extreme weather such as heatwaves, heavy rainfall events and/or drought, intense tropical storms and sea-level rise. Rising levels of carbon dioxide are increasing ocean acidity. These changes result in many risks to human health that are recognised by world health and science authorities, New Zealand health bodies, and leading medical journals around the world.

Leading medical journal 'The Lancet' describes climate change as the 'biggest global health threat of the 21st century'; but also points out that action to tackle climate change is a big opportunity to improve health and the fair distribution of good health.

Negative health impacts will have the most impact on people that already experience disadvantage and poorer health. Leading health threats globally and in NZ include:

- High temperatures and extreme events causing (or worsening) illness and injury (direct impacts).
- Changing patterns of infectious diseases, and water/food shortages or price changes impacting healthy nutrition (biologically mediated impacts).
- Risks related to loss of livelihoods, forced migration and conflict (socially mediated impacts).

However, well-planned action to reduce greenhouse gas (GHG) emissions could bring benefits to the health of New Zealanders. It could also help us achieve a fairer distribution of good health for all people.

Health gains are possible for heart disease, cancer, obesity, diabetes, respiratory disease, and mental health, with resultant cost savings for the health system.

This is because some actions to cut emissions impact on factors underpinning good health:

- Walking and cycling cut motor vehicle emissions, increase physical exercise, and cuts air pollution. Walking and cycling are inexpensive, so can help those on the lowest incomes access the basics for good health (e.g. work, education, health-care).
- A healthier diet (less red meat, less saturated fat, more fruit and vegetables) helps cut agricultural emissions, and lowers risks for many diseases, including bowel cancer and heart disease.
- Well insulated homes, with clean and efficient heating, cut energy emissions as well as reducing illnesses associated with cold, damp housing (e.g. childhood asthma and chest infections).

New Zealand Medical Journal
28th November 2014, Volume 127 Number 1406
Abstract

Human-caused climate change is a serious and increasingly urgent threat to human health and wellbeing.[1–5] Climate change will cause higher temperatures, extreme weather such as heatwaves, heavy rainfall events and/or drought, intense tropical storms and sea-level rise. It is projected that rising levels of carbon dioxide (CO_2) in the atmosphere will increase the acidity of the oceans by 150–200% by 2100. These changes result in many risks to human health that are recognised by world health and science authorities, New Zealand health bodies, and leading medical journals alike.[2–11]

Globally and in New Zealand, leading health threats include high temperatures and extreme events (direct impacts), changing patterns of infectious diseases and water/food shortages or price changes (biologically mediated impacts), and risks related to economic change, loss of livelihoods and forced migration (socially mediated impacts).[3,12–16]

Without rapid global action to reduce greenhouse gas emissions (particularly from fossil fuels), the world will breach its carbon budget and may experience high levels of warming (4–7°C or higher by 2100).[1,6,17,18] At such levels of warming the Intergovernmental Panel on Climate Change (IPCC) warns that normal human activities (e.g. growing food, working outdoors) will be increasingly compromised in some parts of the world during parts of the year; there will be large risks to global and regional food security; and higher risk of crossing 'tipping points' (thresholds for abrupt and irreversible change) in the earth and interlinked human systems.[6]

However, if well-planned action to reduce greenhouse gas (GHG) emissions were undertaken globally and in New Zealand, there could be substantial positive impacts not only for limiting future climate change, but also for health, equity, and wellbeing.[2–4,19]

This paper reflects the recent Fifth Assessment Report of the IPCC (AR5), and the increased urgency indicated for action to avoid worsening human health impacts from climate change. It also updates both Metcalfe et al's Special Article on climate change and health in the *Journal* in 2009,[12] and Phipps et al's paper on the climate change challenge for General Practice in New Zealand in the *Journal* in 2011.[13]

Leading medical journal: The Lancet, on Health and Climate Change
https://www.thelancet.com/climate-and-health?code=lancet-site
British Medical Journal: Active Commuting and disease reduction
https://www.bmj.com/content/357/bmj.j1456