



Briefing: Open Briefing on Climate Change

10 May 2023 – 4.30pm

Attendees

Elected Members: Mayor Barry, Cr Briggs, Cr Dyer (from 5.20pm)(via audio-visual link), Deputy Mayor Lewis, Cr Edwards, Cr Mitchell, Cr Morgan (via audio-visual link), Cr Parkin, Cr Stallinger (via audio-visual link, until 5.36pm), Cr Tupou (until 5.27pm), K Yung, Deputy Chair Petone Community Board, B Spedding, Eastbourne Community Board member (via audio-visual link), S Freeman, Wainuiomata Community Board member (via audio-visual link)

Staff: J Livschitz, Group Chief Financial Officer (via audio-visual link); J Griffiths, Director Strategy and Engagement (via audio-visual link); K Puketapu-Dentice, Director Economy and Development; A Geddes, Director Environment and Sustainability; J Scherzer, Head of Climate and Solid Waste; N Geard, Policy Planning Manager, R James, Programme Director Riverlink; D Kerite, Head of Regulatory Services (via audio-visual link); H Bell, Elected Member Support Coordinator; D Cornille, Graduate Advisor Waste Minimisation; G Muller, Advisor Waste Management; A Saker, Senior Advisor Waste Minimisation; G Roberts, Manager Waste Minimisation; A Laban, Head of Assets and Facilities Management; J Randall, Democracy Advisor; A Doornebosch, Democracy Advisor (via audio-visual link);

Apologies

Cr Barratt, Cr Shaw, M Fisher (Petone Community Board), M Henderson (Petone Community Board), T Harker (Wainuiomata Community Board)

Absent

Cr Brown

Presenters

Jörn Scherzer, Head of Climate and Solid Waste

Dr Dave Lowe, Adjunct Professor Atmospheric Chemistry Antarctic Research Centre, Victoria University of Wellington

Key Objectives of the Briefing

To provide background to the impacts of global warming internationally.

Introduction

The Head of Climate and Solid Waste introduced Dr Dave Lowe. He stated Dr Lowe was an atmospheric scientist and climate pioneer. He set up the local CO₂ measurement station at Baring Head in the 1970s. He was a key contributor to the Nobel Peace Prize-winning 2007 IPCC report on climate change. He was awarded the 2020 Wellingtonian of the Year Environmental Award, and in 2021 released his award-winning memoir 'The Alarmist: Fifty Years Measuring Climate Change'.

Presentation by Dr Dave Lowe

This presentation will focus on the fragile natural environment we currently live in and how this is relevant to Lower Hutt. It will provide thinking on what can be done in the city to mitigate climate change now and into the future.

Slide 1 (Header) – The Alarmist: Fifty Years Measuring Climate Change – current science and suggestions for action.

Slide 2 – Overview

Slide 3 – The atmospheric thin film – the life that we know about is critically dependent on this thin film.

Slide 4 – Earth system science ‘equilibria’ changed! Noted that indigenous people have known for millennia that humans are part of the earth system. We are dependent on water, the terrestrial biosphere. Humans are a significant player in what is happening to our changing environment.

Slide 4 – First continuous atmospheric CO2 data was recorded in Mauna Loa, Hawaii – made in the late 1950’s – this hinted that if CO2 in the atmosphere changed then maybe the world would warm. At the time it was thought this would take 3000 years to bring the concern up to 50%. Baring Head is now up to 50%, which occurred over 200 years. No measurements were taken in the last century due to world wars, the depression and the cold war.

Slide 5 – The early Mauna Loa CO2 record – Dave Keeling discovered that CO2 in the atmosphere had a seasonal cycle so was higher in winter. He also discovered year on year that CO2 was increasing in the atmosphere.

Slide 6 – Was increasing atmospheric CO2 a global issue? In 1970 Dr Dave Lowe made the first continuous CO2 measurements in the Southern Hemisphere.

Slide 7 – The beginnings of the New Zealand atmospheric CO2 programme – it was discovered that the southern hemisphere was different to the northern hemisphere as we have large oceans. It was thought that perhaps the southern oceans were drawing down atmospheric CO2. It was not understood what the planet was doing with all the extra CO2.

Slide 7 – Baring Head, NZ and Mauna Loa atmospheric CO2 – this graph shows the exponential growth of atmospheric CO2 in New Zealand and Mauna Loa in Hawaii.

Slide 8 – Atmospheric Methane

Slide 9 – Humans are changing Earth’s radiation balance – the energy imbalance is colossal. The extra energy being produced is 1000 times more than all the earth’s power plants. The Earth is now going through regular periods of deglaciation and will not now go into another glaciation period.

Slide 10 – Climate crisis driven by humans – the earth’s temperature is 1.1°C degrees above the pre-industrial level. Droughts, floods and landslip are increasing dramatically because of how the atmosphere is holding all the extra water vapour. This is why we are having atmospheric rivers. Some estimates are that coral reefs will be gone in 20 to 30 years because of the increase in acidity and temperatures. It is estimated that in 20 to 30 years parts of Portugal, Spain and Greece will be uninhabitable in summer.

Slide 11 – The Paris climate agreement – at the United Nations Paris Climate Accord Conference held in 2015 it was realised that if the earth’s temperature rose above 1.5°C this would create dangerous climate change.

Slides 12 & 13– What’s happened since the Paris Accord in 2015? – atmospheric CO2 and methane levels continue to increase. There was a reduction in emissions during the covid pandemic. If this had continued, we would have halved emissions to reach net zero carbon by 2050.

Slide 14 – Lessons from Covid for climate change action – the approach taken by the government during covid – the team of 5 million approach is now needed for carbon emission reductions. Council needs to engage with residents to reduce their emissions.

Slide 15 – Hutt City residents carbon emissions will be dominated by transport, food and housing

Slide 16 – Transport: Reducing the number of cars in Hutt City and kms travelled?

Slide 17 – Transport ‘Electrification’ of NZs Vehicle Fleet.

Slide 18 – 2018 Nissan Leaf (EV) vs 2018 Toyota Corolla (petrol) – cost and performance comparison slide.

Slide 19 – Transport: Role of bikes and electric cargo bikes – electric bikes great for use by the older population.

Slide 20 – The future of housing in the Hutt Valley – Jackson Mews – example of medium density housing to reduce the number of vehicles used and carbon emissions.

Slide 21 – Home and community solar power – NZ’s weird electricity market!

Slide 22 – The future of agriculture? Ten billion people can’t eat beef!

Slides 23 to 25 – Reducing carbon emissions implies changing habits. What are you prepared to do? Plant based products are available to eat as protein. Need to think through other options to reduce emissions. Time banks for repairing and recycling things. Future fit website calculates your emissions and sends you email updates.

Slide 26 – The rights of individuals vs the needs of the many – the choices made by individuals on their vehicle ownership.

Slide 27 – Local government: front line for mitigation and adaptation.

Slide 28 – Climate change – we have to change – we can do this!

Slide 29 – One atmosphere, one decade, one last chance?

Slide 30 – How do scientists and local government communicate the urgency of reducing climate emissions?

Slide 31 – “I’ve lived this horror for 50 years” Dominion Post article.

Slide 32 – The alarmist a controversial title!? Slide about the book written by Dr Dave Lowe.

Slide 33 – Increasing carbon emissions not a valid option for life on a finite planet!

Next steps

There needs to be communication from local government to residents on ways to reduce carbon emissions. Young people are upset and want change. They made a request to government for compulsory climate change education in secondary schools, but nothing has happened. Belmont Regional Park and Baring Head should be rewilded. Long live natives should be planted, protected by covenants.

Use of electric bikes, electrification of vehicle fleets, medium density housing.

We have been relying on animals for producing protein which is a damaging way to use land. Pastoral farming uses a lot of fertiliser and water. There are options to be innovative in the way we eat. This way of farming has always been the backbone of the New Zealand economy, but this must change for the future.

Briefing materials

Attachment 1 – Presentation: Briefing on Climate Change

The briefing closed at 5.37pm