

## Climate Change and Environment Committee Meeting and Forum Agenda – 8 November 2023

#### **NOTICE OF MEETING**

This meeting will be held in the Supper Room, Waihinga Centre, 62 Texas Street, Martinborough and via audio-visual conference, commencing at 9:30am. The meeting will be held in public and will be live-streamed and will be available to view on our YouTube channel.

**Committee Membership:** Councillor Rebecca Gray (Chair), Mayor Martin Connelly, Councillors Pip Maynard, Colin Olds, Martin Bosley, Kaye McAulay, and Violet Edwards-Hina (Māori Standing Committee representative)

All SWDC meeting minutes and agendas are available on our website: https://swdc.govt.nz/meetings/

#### A. Open Section

- A1. Mihi / Karakia Timatanga Opening
- A2. Apologies
- **A3.** Conflicts of interest
- **A4.** Public participation

As per standing order 14.17 no debate or decisions will be made at the meeting on issues raised during the forum unless related to items already on the agenda.

- **A5.** Actions from public participation
- **A6.** Extraordinary business
- **A7.** Confirmation of minutes

Pages 1-4

**Proposed resolution:** That the minutes of the Climate Change and Environment Committee meeting held on 23 August 2023 are a true and correct record.

**A8.** Matters arising from previous minutes

#### B. Information Reports from Chief Executive and Staff

**B1.** Action Items

Pages 5-7

#### C. Chairperson Reports

**C1.** Report from Councillor Rebecca Gray

Pages 8-9

#### D. Members Reports

**D1.** Report from Councillor Martin Bosley - Berm Planting and No Mow Zones.

Pages 10-29

#### E. Forum presentations

**Proposed resolution:** That Standing Orders are suspended for item D to allow for presentations as listed in the Climate Change and Environment Committee Meeting agenda.

**E1.** *Climate Change* – Sky Halford, Climate Change Advisor

Pages 30-76

#### F. Karakia Whakamutunga - Closing



## Climate Change and Environment Committee Minutes from 23 August 2023

Present: Councillor Rebecca Gray (Chair), Councillors Kaye McAulay, Pip Maynard (until

10:35am), Colin Olds, Martin Bosley, and Māori Standing Committee

representative Violet Edwards-Hina (from 9:38am).

Apologies: Mayor Martin Connelly.

**In Attendance:** Deputy Mayor Melissa Sadler-Futter.

Also in Attendance Paul Gardner (Interim Chief Executive Officer), Amanda Bradley (General Manager

Policy and Governance), Russell O'Leary (Group Manager Planning and Environment), Sky Halford (Climate Change Advisor), Mandy De Ritter (Environmental Sustainability Advisor), Nigel Carter (Health, Safety and

Emergency Advisor) and Amy Andersen (Committee Advisor).

Debbie O'Byrne (BECA)

Will Hansen and Judy Harris (Earth Starch)

Conduct of Business:

This meeting was held in the Supper Room, Waihinga Centre, 62 Texas Street, Martinborough and via audio-visual conference. This meeting was live-streamed is available to view on our YouTube channel. The meeting was held in public under

the above provisions from 9:30am to 11:49am.

#### **Open Section**

#### A1. Karakia Timatanga - Opening

Cr Gray opened the meeting.

#### A2. Apologies

CLIMATE CHANGE AND ENVIRONMENT COMMITTEE RESOLVED (CCE2023/06) to accept apologies from Mayor Connelly.

(Moved Cr Maynard/Seconded Cr McAulay)

Carried

#### A3. Conflicts of Interest

There were no conflicts of interest declared.

#### A4. Public Participation

There was no public participation.

#### A5. Actions from public participation

There was no public participation.

#### A6. Extraordinary Business

There was no extraordinary business.

#### A7. Confirmation of minutes

CLIMATE CHANGE AND ENVIRONMENT COMMITTEE RESOLVED (CCE2023/07) to accept That the minutes of the Climate Changes and Environment Committee meeting held on 1 March 2023 and the forum held on 23 May 2023 are a true and correct record.

(Moved Cr Olds/Seconded Cr Gray)

**Carried** 

#### A8. Matters arising from previous minutes

Noted by Mr Gardner that Item B3 from the meeting held on 1 March 2023 is being addressed in item B1 of this meeting.

#### **B** Information Reports from Chief Executive and Staff

#### B1. Cyclone Gabrielle – Recovery and Building Resiliency

Ms Edwards-Hina joined the meeting at 9:38am.

Mr Gardner, supported by Mr Carter spoke to matters included in the report, and responded to queries from members regarding: rural community support and how this is funded, what role the Rural Support Trust play, funding being oversubscribed, land categorisation, housing support, planning for coastal communities - storm surge/sea level rise, resillience workshops and public awareness campaigns, support for the disabled community, generators for Council business continuity, the involvement of Council Officers in the WREMO debrief, use of community amenities and alternative power sources e.g. solar energy to support communities in civil defence emergencies.

Noted that the community board's resilience and management plans must be updated for critical response to emergency events.

Noted that Ms Byrne stated via Zoom chat function: "At the council I worked for in Australia, we put solar on our carpark shades and installed bidirectional chargers so the EVs could be a source of power for business continutiy in an emergency."

CLIMATE CHANGE AND ENVIRONMENT COMMITTEE RESOLVED (CCE2023/08) to receive the Cyclone Gabrielle – Recovery and Building Resiliency Report.

(Moved Cr Bosley/Seconded Cr Maynard) Carried

#### **B2.** Updates From Previous Committee Forum

Ms Bradley spoke to matters included in the report.

CLIMATE CHANGE AND ENVIRONMENT COMMITTEE RESOLVED (CCE2023/09) to receive the Updates From Previous Committee Forum Report.

(Moved Cr Bosley/Seconded Cr Olds)

Carried

#### **B3.** Action Items

Noted that action 86 is to remain open.

CLIMATE CHANGE AND ENVIRONMENT COMMITTEE RESOLVED (CCE2023/10) to receive the Action Items Report.

(Moved Cr Maynard/Seconded Cr McAulay)

Carried

Cr Maynard left the meeting at 10:35am.

#### C Forum Presentations

CLIMATE CHANGE AND ENVIRONMENT COMMITTEE RESOLVED (CCE2023/11) to agree that Standing Orders are suspended for item C to allow for presentations as listed in the agenda.

(Moved Cr Maynard/Seconded Cr McAulay)

<u>Carried</u>

#### <u>Debbie O'Byrne – BECA, Circular Economies presentation (via Zoom)</u>

Ms O'Byrne responded to queries regarding work underway with other councils.

#### Will Hansen and Judy Harris – Earth Starch presentation

Mr Hansen and Ms Harris responded to queries regarding: patents, applications to rural communities and discussions with other councils and businesses.

Members discussed potential use in the local area.

Both presentations will be made available on our website:

https://swdc.govt.nz/meeting/climate-change-environment-committee-23-august-2023/

#### D Karakia Whakamutunga – Closing

Cr Gray closed the meeting.

The meeting closed at 11:49am.

Confirmed as a true and correct record				
(Chair)				
(Interim Chief Executive)				
(Date)				



#### **Climate Change and Environment Committee**

8 November 2023 Agenda Item: B1

#### **Action Items Report**

#### 1. Purpose

To present the Committee with updates on actions and resolutions.

#### 2. Executive Summary

Action items from recent meetings are presented to the Committee for information. The Chair may ask the Chief Executive for comment and all members may ask the Chief Executive for clarification and information through the Chair.

If the action has been completed between meetings it will be shown as 'actioned' for one meeting and then will be remain in a master register but no longer reported on. Procedural resolutions are not reported on.

#### 3. Appendices

Appendix 1 – Action Items to 8 November 2023

Contact Officer: Amy Andersen, Committee Advisor

Reviewed By: Paul Gardner, Interim Chief Executive Officer

### Appendix 1 – Action Items to 8 November 2023

Number	Raised Date	Responsible Manager	Action or Task details	Status	Notes
86	1 Mar 23	S Priest	To request the Communications Team develop a concept plan and options to initiate discussion and engagement with the community on a climate change database and information sharing.	Open	14/08/23: Officer note there are many different companies and organisations operating in this space. Instead, as we have a climate change web page, suggest we can host links to all those we work with in this space including presentations from anyone who comes to present to this committee or Council on say climate change and sustainability matters.  23/08/23: Discussed at CCE meeting, to remain open.

## SOUTH WAIRARAPA DISTRICT COUNCIL Kia Reretahi Tatau

#### **Climate Change and Environment Committee**

8 November 2023 Agenda Item: C1

#### **Chairperson's Report**

#### 1. Purpose

To provide the Climate Change and Environment Committee with updates and opportunities for discussion on relevant topics.

#### 2. Recommendations

The Chairperson recommends that the Climate Change and Environment Committee:

- 1. Receive the Chairperson's Report.
- 2. Discuss and collate feedback regarding the Climate Change and Environment Committee's function, progress during 2023, and future (self-assessment).
- 3. Provide recommendations to Council regarding the future of the Climate Change and Environment Committee.

#### 3. Review

As we come to the end of 2023, this is an opportune time to evaluate our progress over the year and to see how we feel this Committee is performing and how to proceed in future.

Here are some examples of questions we might like to pose at the meeting:

- The committee has the right number of members
- The responsibilities of committee members are clear
- The committee has the right number of meetings per year
- The committee meets at an appropriate time of day
- The committee meetings are well organized and planned
- There's time for everyone to speak (if desired) during committee meetings
- The committee meetings are an effective use of time
- The committee has the support it needs from management
- The committee has enough opportunities to report their work to Council
- The committee is on track to achieve this year's goals
- Overall, I'm satisfied with the committee's contribution to Council/the community.

I also encourage open-ended questions, additional comments and suggestions. Some of this feedback may be negative which is ok! It's all in the spirit of making our committees better.

The feedback collated will inform discussions with Council at it's next scheduled meeting to be held on 22 November 2023, where calendars for 2024 will be adopted.

Prepared By: Rebecca Gray, Chairperson, Climate Change and Environment

Committee

## SOUTH WAIRARAPA DISTRICT COUNCIL Kia Reretahi Tatau

#### **Climate Change and Environment Committee**

8 November 2023 Agenda Item: D1

#### Member's Report - Berm Planting and No Mow Zones

#### 1. Purpose

The purpose of this report is to propose a request be made that officers produce a guideline / policy / direction for berm planting and no-mow zones.

#### 2. Recommendations

The member recommends that the Climate Change and Environment Committee:

- 1. Receive the Member's Report Berm Planting and No Mow Zones.
- 2. Discuss the potential of a No-Mow Policy for the South Wairarapa District Council.
- Request further information from Council Officers relating to the development of a No-Mow Policy, including implications, for the South Wairarapa District Council.

#### 3. Executive summary

This report explores the advantages of implementing a no-mow policy for the SWDC and a suggestion that our Parks and Recreation teams / contractors' trial growing wildflower meadows and not mowing selected sites across the region during Late Spring and Summer through to Autumn. These trials will test the effectiveness of long grass and meadows across a variety of landscapes. By shifting away from traditional manicured lawns towards more natural landscapes, we can contribute to a heathier, more sustainable and more attractive environment.

This executive summary will also be provided to:

#### 4. Discussion

Urban areas are under increasing pressures to address environmental concerns, reduce resource consumption and enhance the quality of life for residents. One innovative approach to achieving these goals is the addition of a 'no-mow' policy,

which encourages a shift away from manicured lawns to more natural landscapes. This report aims to highlight the various benefits of implementing such a policy.

- 1. 'No-mow' policies foster the growth of native and wild plant species, which in turn support a diverse array of wildlife, including pollinators, insects and birds. These natural areas provide critical habitats for local species, contributing to urban diversity.
- 2. Tall grasses and native plants have a higher capacity for carbon sequestration than closely mown lawns. By allowing natural landscapes to thrive, council can play a legitimate role in mitigating climate change.
- 3. Conventional lawns often require chemical input to retain their manicured appearance. No-mow policies reduce the need for pesticides and herbicides, decreasing chemical run-off into waterways and minimising the risk to human and animal health.
- 4. Tall grasses and native plants have deeper roots, making them more resilient to drought conditions. As a result, no-mow policies can lead to significant water savings, reducing the strain on precious resources.
- 5. Mowing and maintaining traditional lawns and berms can be an expensive exercise in terms of labour, fuel and equipment. A no-mow policy can reduce operational costs, freeing up resources for other services.
- 6. Well-maintained natural landscapes can increase property values; implementing a no-mow policy can have positive effects on both homeowner's house values and the councils rating base.
- 7. Natural landscapes have a unique, aesthetically pleasing quality that many residents find attractive. These landscapes can enhance the visual appeal, contributing to a sense of community pride and identity.
- 8. Access to natural, open spaces within urban environments has been associated with improved mental and physical health. No-mow policies provide residents with the opportunity to connect with nature and enjoy green spaces.
- 9. No-mow policies can be used as a platform for education and community engagement. Citizens can get involved in the creation and maintenance of these spaces, fostering a sense of ownership and community cohesion.
- 10. Implementing a no-mow policy may face resistance from some community members who prefer traditional, manicured berms and lawns. Additionally, it may require a transition period during which natural landscapes become established. Careful planning, communication and community involvement are essential to overcome these challenges.

#### 5. Conclusion

The adoption of a no-mow policy by council offers numerous environmental, economic and social benefits. By prioritising biodiversity preservation, carbon sequestration, cost reduction, increased property values and improved community well-being, council can contribute to a more sustainable and attractive environment. While challenges may arise, the long-term advantages of no-mow policies make

them a compelling choice for a council seeking to enhance its overall quality of life and environmental sustainability.

#### 6. References

https://hamilton.govt.nz/strategies-plans-and-projects/projects/city-wide-community/wildflower-and-no-mow-trial/

<u>www.waikatotimes.co.nz/a/nznews/350076666/uk-hamilton-no-mow-project-looks-let-parks-run-</u>

<u>wild?utm\_source=stuff\_website&utm\_medium=stuff\_referral&utm\_campaign=stuff\_skybox&utm\_id=stuff\_skybox</u>

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#### 7. Appendices

Appendix 1 - Mossy Earth – Rewilding Cities: Why it's needed and how you can help

Appendix 2 – Waikato Times article – Hamilton Council Trials No Mow, 26 September 2023

Prepared by: Councillor Martin Bosley

## Appendix 1 - Mossy Earth – Rewilding Cities: Why it's needed and how you can help

# Rewilding Cities: Why it's needed and how you can help

There's an exciting opportunity to build better coexistence with nature in our concrete jungles.



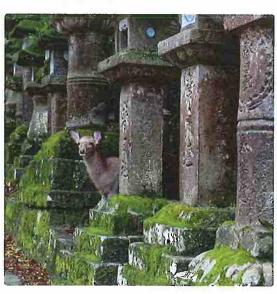
Rewilding Knowledge > Rewilding Cities: Why It's Needed And How You Can Help

Urban landscapes are our most densely human-populated areas on the planet and experienced perhaps the most dramatic changes during covid-19 lockdowns. The fast return of nature to our cities during this period underlined just how de-natured our urban areas are, and highlights a need to establish a more harmonious relationship with the natural world. Rewilding in cities is a way of making strides towards achieving this.

#### The Year the Earth Changed

'The Year Earth Changed', narrated by David Attenborough, reflects on the dramatic changes the world experienced during lockdown and is brimming with inspiring images of wildlife adapting and thriving in unexpected areas without humans. Some of the documentary's most striking imagery shows a stark contrast between wildlife and the urban areas they begin to invade, like a hippo wandering into a gas station in Saint Lucia or a puma prowling the streets of Chile.

The documentary highlights the ways in which we have excluded and negatively affected nature in our everyday lives, imploring us to find better ways to coexist with the natural world.



These deer in Nara, Japan co-existed with with humans before the pandemic, but thrived during lockdown even with nobody to feed them.



It's high time we cleaned up our act. Rewilding in our cities is one way to address the alarming levels of pollution.

## Building the case for urban rewilding

The UN predicts that by 2050, **two-thirds of the world population will live in urban areas**, even though cities take up less than 2% of Earth's surface. Cities also consume two-thirds of the world's energy and **produce around 70% of the world's carbon dioxide emissions**.

Now that we have returned to our briefly abandoned spaces, we must work to improve our cities, taking lessons from the pandemic and knowing the paramount importance of nature to our lives. Although rewilding is generally associated with rural projects, rewilding in cities is just as dynamic and exciting and aims to achieve many of the same goals. **Urban rewilding looks to restore natural processes and reintroduce nature on a city scale and has a wide range of benefits,** from improving health to helping to tackle the biodiversity and climate crises. It aims to balance the needs of humans and wildlife to create better urban landscapes for all.

#### Why rewild our cities?

There are numerous compelling reasons why we should rewild our cities. Here, we will look into three main categories: **environmental**, **social** and **economic**.

#### **Environmental benefits**

Rewilding cities can help mitigate the effects of climate change by making our cities more resilient. Many of the threats cities face from climate change, such as an increasing frequency of extreme weather events, an increasing threat of tropical diseases, and rising sea levels, could be reduced through urban rewilding in the following ways.

- Restoration of natural areas and processes, such as the capture and storage of rainwater by trees.
- Reduction of city pollution and <u>sequestration of carbon</u> in the atmosphere.
- Boosting <u>biodiversity</u> by introducing more green areas and recovering diverse natural spaces. This could provide food and habitats for wildlife and form green corridors to link together fragments of nature.
- Urban rewilding could also reconnect those living in cities with nature, enabling people to develop stronger connections, recognise its importance and foster a sense of stewardship of the natural world.



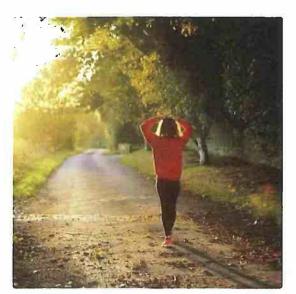
Green corridors are areas of land that link together green spaces to provide a network for wildlife to move through.



#### Take action now

Do you want to have a direct impact on climate change? Sir David Attenborough said the best thing we can do is to rewild the planet. So we run reforestation and rewilding programs across the globe to restore wild ecosystems and capture carbon.

Get involved



Strict lockdown measures during the pandemic has renewed many people's appreciation of green spaces in their cities.

#### Social benefits

Introducing more green spaces could improve both *mental* and *physical health* and therefore improve the quality of life of those living in cities.

Spending time in nature has shown to lift your mood, reduce loneliness, stress and anger, and help you relax. There's also evidence to suggest that it improves your memory, boosts confidence and can help treat mental health problems, such as anxiety and depression. Some studies even show that just having a view of green spaces has a positive effect on mental health. All of which are especially important considering how widespread eco anxiety is becoming.

There are also many physical health benefits. For example, spending time in nature may lower your blood pressure, improve the function of your immune system and reduce your chances of having eyesight problems. Green spaces can also encourage more physical and social activity and ease pressure on local health service providers.

#### **Economic benefits**

Connecting our cities to natural processes could mitigate problems associated with urban areas. For example, a common problem in cities is the 'urban heat island' effect, a phenomenon that occurs in dense urban areas when heat generated by human activity (e.g. by people, transport, industry) is trapped by concrete structures. As a result, urban areas are a few <sup>o</sup>C hotter than the neighbouring countryside. The associated problems with this include:

- Increased demand and expenditure on cooling, resulting in higher energy consumption and burning of fossil fuels.
- More pollutants emitted and therefore poorer air quality, amplifying heat-related illnesses and mortality.
- Warmer water within a city is released into streams, rivers, and lakes, creating problems for aquatic ecosystems.

Rewilding urban areas can play a major role in addressing these problems whilst creating benefits in other areas.

- By introducing more greenery, particularly on roofs, plants could reduce the 'urban heat island' effect by providing shade and cooling the air through evapotranspiration.
- This also removes air pollution, sequesters carbon, and regulates water in the city by trapping storm water and filtering out pollutants that the rain carries.
- Rewilding could make a place more attractive, generate <u>nature-based tourism</u> and save money by making the city more resilient to events like flooding.
- Rewilding cities could also reduce the need and cost for active management of our green spaces. This includes procedures such as mowing lawns, using pesticides, watering, and weeding, since rewilded areas can have higher biodiversity and also be self-regulated.



Wildflowers feed pollinators, which are essential for many of the foods we depend on and are currently in decline due to reasons including intensive agriculture and urbanisation.

#### Ways to rewild a city

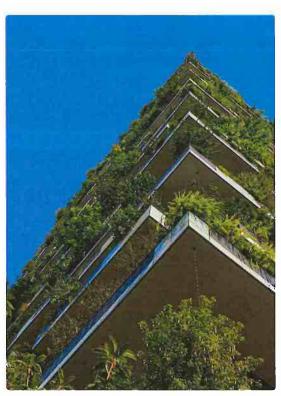
At its core, urban rewilding is about bringing back elements of wilderness, embracing natural processes and restoring ecosystems with less human interference. Rewilding within this city context can be done through small and big actions at an individual and city-wide scale.

#### How you can rewild at home:

- Introduce structures that attract and accommodate urban animals, like insect hotels, frog houses and bird hoxes.
- Create a variety of habitats, like hedgerows, window boxes and mini-meadows.
- Grow pollinator-friendly plants in any available pocket of green space, regardless of how small it is. Find out more in our <u>Rewild your Garden</u> article.

## Contact your local authorities to:

- 1. Leave wild areas in our parks.
- Stop the cutting back of weeds and reduce the use of pesticides.
- Rewild unused spaces, such as roadside verges and abandoned buildings. If all roadside verges in the UK were converted to meadows then 1.2% of the country's total landmass would already be rewilded.
- Install rooftop beehives, planting more trees and creating green roofs and walls.
- 5. Some urban areas could **reintroduce keystone species**, such as water voles or beavers, to help restore ecosystems.
- 6. Finally, on an even greater scale, our city buildings could be designed to accommodate wildlife, like the Mellor Primary School in the Lake District, and incorporate biophilic designs. For guidance on how to approach local authorities, read our guide on a <u>Political Toolkit for climate action</u>.



Green walls and roofs in cities will encourage wildlife and help purify the air.

There are so many possibilities but there is no one fixed way to rewild since methods must ultimately adapt to a city's specific climate, its regional species, and the existing architecture. However, an important first step is to rewild our mindset and in pursuing these actions, you can help make your city greener.

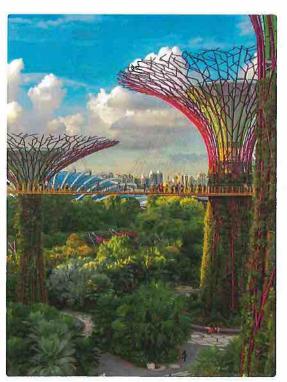
#### Misconception and fears

People are often skeptical of rewilding because it is sometimes associated with the reintroduction of large animals and of a return to a pre-human environment. However, urban rewilding focuses on finding a compromise between the needs of humans and nature, and hopes to include cities as part of a wider solution to nature's current decline. This rewilding is more on the scale of planting wildflowers, designing better, sustainable urban spaces and changing our ideas of what cities must look like.

That being said, while urban rewilding won't see the reintroduction of apex predators, smaller animals like water voles might be introduced to help ecosystem restoration and our cities might see more animals like birds, bees, and butterflies. City rewilding and how it hopes to play a role in restoring ecosystems and natural processes might also reduce animal/human conflicts since we would be reducing the human disturbance on animal habitats that forces them to adapt and enter our urban areas.



Water voles have already been introduced in London.



Singapore's 'supertrees'

#### **Existing city rewilding projects**

#### Singapore

Singapore is widely considered to be one of the greenest cities on the planet, while also having an advanced economy and one of the densest populations in the world. It's known as a 'Biophilic City' and 'City in a Garden' because of how it seamlessly blends urban and natural environments.

Singapore have worked to rewild their spaces by: introducing green walls and roofs (and incentivising people to install them); installing 18 'Supertrees', 50 meter tall artificial trees that contain over 150,000 diverse plants and act like trees by filtering rainwater, generating solar power and providing shade; and creating 150 kilometres of 'Nature Ways', which mimic the multilayered structure of a rainforest habitat and act as green corridors to boost biodiversity.

#### Others following suit

In **Dublin**, the city council reduced mowing and use of pesticides and so 80% of its green spaces are now pollinator friendly.

Abandoned spaces have become successfully rewilded in: Germany, where abandoned lots in **Frankfurt**, **Dessau and Hanover** were transformed into wildflower meadows.

**New York**, where a former railway track has been transformed into a public park; and **Nottingham**, which restored a central shopping centre into a wetland.

In the city of **Harbin**, an urban storm water park has been created to filter and store storm water as well as provide habitats and recreational use for residents.

Other cities are beginning to utilise nature-based buildings. For example, Liuzhou Forest City in China began construction in 2020 and will be the world's first forest city. An estimated 40,000 trees and 1 million plants from over 100 species will cover the facade of all buildings and infrastructure, absorbing around 10,000 tons of carbon dioxide and 57 tons of pollutants per year, while producing about 900 tons of oxygen. The city will be energy self-sufficient (using geothermal and solar power) and will be integrated into the surrounding environment.



Dublin is setting the example by reducing mowing and use of pesticides so 80% of its green spaces are now pollinator friendly.

#### Conclusion

Urban rewilding is both daunting but hugely hopeful. It challenges our assumptions about where conservation and nature restoration can be done and recognises how cities are complicit in nature's decline. It will take time to shift out of the mindset of wanting to completely manage nature in cities but given the enormous benefits of having ecologically rich urban environments, it seems that urban rewilding is something we must all participate in.

Although adapting cities is a small part of the wider rewilding effort, urban spaces will be a key area to focus on and hopefully, through rewilding and connecting people to nature, we can transition to having greener, wilder, and truly sustainable cities.

The magnitude of threats posed by climate change drove us to create the <u>Mossy Earth Membership</u> – a simple and effective way for you to make a difference. Join and you will fund high impact rewilding projects that restore wilderness and biodiversity. Check out our range of <u>rewilding projects</u> you could be supporting each month!



Imagining a greener future.

#### Glossary

**Biophilic design**: design influenced by the idea of biophilia, an innate human attraction to nature; designs aim to connect occupants to the natural world.

Carbon sequestration: the removal of carbon dioxide from the atmosphere.

**Ecosystem services**: the benefits that ecosystems provide for humans such as water and air purification.

**Green roofs/walls:** when a layer of vegetation partially or completely covers a roof or wall.

#### **SOURCES & FURTHER READING**

Peer Reviewed Research Section

- 1. "What is Urban Rewilding?" <u>Citizen Zoo</u>
- 2, "Wild Cities" The Guardian

... view more

## Appendix 2 – Waikato Times article – Hamilton Council Trials No Mow, 26 September 2023

ADVERTISEMENT/ WHAKATAIRANGA

WHAKATAIRANGA KI PUNA

Wednesday, November 1, 2023

20°C Hamilton 23°C / 10°C

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### **Hamilton City Council trials no-mow** meadows to boost biodiversity, cut emissions



Te Aorewa Rolleston | September 26, 2023



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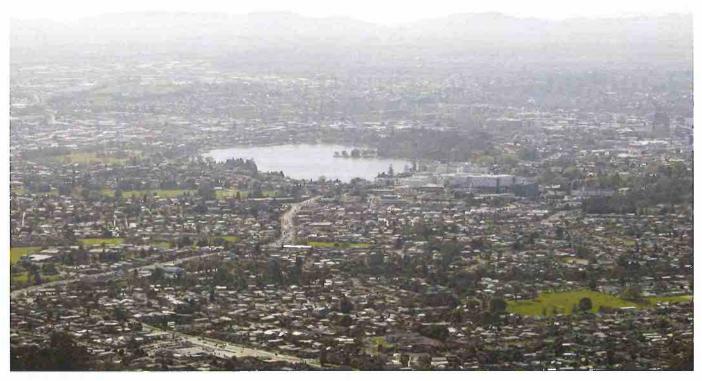


Hare Puke Park and proponents say it will benefit biodiversity while cutting emissions.

Others, however, worry that the "flower meadows" could become riddled with rubbish, vermin and leave their feet soggy after a morning stroll.

For Kathy He, the thought of creepy crawlies or litter beneath her feet isn't something she'd like to add to her walks at Hamilton Lake.

"Having the grass shorter is better," she said, while taking a breather beside Lake Rotoroa, "tidier is better I think because it might attract flies and rats if the grass is too long."



Hamilton Lake Domain is one of the 13 parks being trialled in the no-mow project. CHRISTEL YARDLEY/STUFF / WAIKATO TIMES

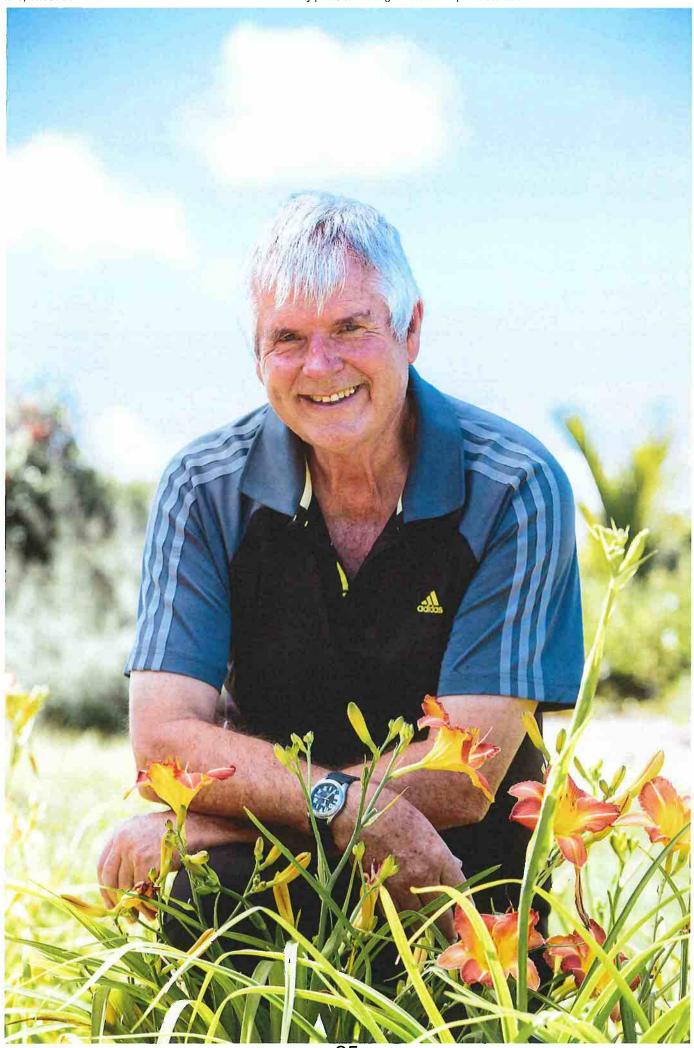
Nevertheless, she was cautiously open to the idea.

The ambition is to re-imagine the city as an "urban playground" where biodiversity can flourish and emissions are reduced.

While council said it hadn't engaged with nearby residents for the trial, it did consult nearby organisations, local clubs and schools who were supportive.

"This isn't the first time it's been done in Hamilton, but it's the first time it's been trialled by Hamilton City Council on this scale," council spokesperson Luke Archbold said.

Early examples of the meadow trial popped up in the UK with the "naturalism" approach, Auckland Botanical Gardens manager, Jack Hobbs told the *Waikato Times*.



Jack Hobbs, the manager of Auckland Botanic Gardens.

"It's a growing trend around the world ... it's really accelerated ... why mow if you don't need to? The less you mow the less emissions you have."

Creating urban meadows has a multitude of benefits for a range of flora and fauna, Go Eco environment centre team lead Krissy Barnes said.

Perhaps New Zealanders had become used to manicured lawns, she said, but that comes at a cost.



Waikato environment centre Go Eco team Lead Krissy Barnes is a fan of the idea.

MARK TAYLOR / WAIKATO TIMES

"It's an amazing idea - these sorts of projects have been trialled in other parts of the country and overseas as well.

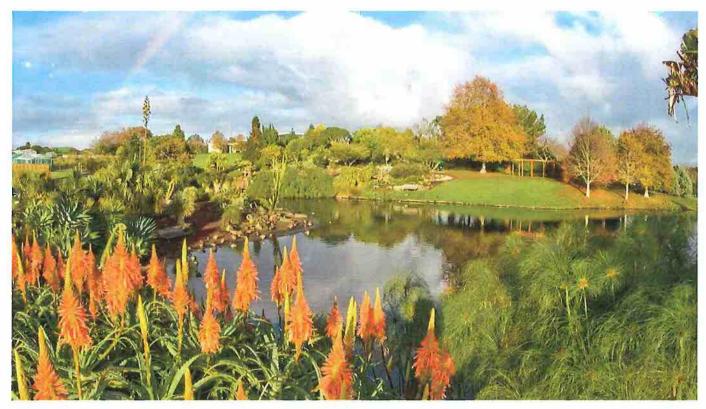
"It filters storm water and holds water generally better ... from a biodiversity point of view it has massive impacts on urban biodiversity in a positive sense, urban meadows really provide habitat and it's a lot more stable."

At the Auckland Botanical Gardens, their meadow gardens were installed in 2015 and have been ongoing ever since.

Hobbs said part of the societal shift towards meadows and un-mown grass has been influenced by people's more conscious awareness of climate change.

"It's certainly a growing trend where gardens are seen just as much for biodiversity as they are for pleasure ... it's very aligned with people's appreciation with the environment," Hobbs said.

Given the growing popularity of the trend, he expected meadow trials would become "mainstream", nationwide within the next 10 years.



Auckland Botanical Gardens first installed meadow gardens in 2015. **SUPPLIED** 

Another successful meadow garden model close to home was Waikumete Cemetery in West Auckland.

In Britain, one meadow caused a spike in public interest when Olympic Park in Stratford saw three-quarters of a hectare of the massive site bloomed with wild flowers like poppies, coreopsis and marigolds.

After the gardens opened, sales of wildflower mixes went through the roof.

Back at Hamilton Lake, Michael Purvis said allowing things to be more natural would be beneficial for the waterways.

Purvis complimented the South Island where he said there was more biodiversity visible due to the brush having been allowed to grow wild.

"You can leave some of it natural, more insect life and bird life.

"I'm all for less pollution and less fossil fuels ... I've got no problem whatsoever."

The Hamilton meadow trial is expected run until January 22, 2024. During the trial period the 13 sites will be monitored on a regular basis and evaluated.

"The sites' success will be measured by-aesthetics, growth of grass, the value of play, and the effectiveness of the maintenance technique," council said.

The parks included in the trial are: Beale Cottage, Derek Heather Park, Hamilton East Cemetery, Hamilton Lake Domain, Hare Puke Park, Hillcrest Park, Innes Common, Korikori Park, Mangaiti Park, Minogue Park, Resthills Park, Tauhara Park and Yendell Park.

#### - Waikato Times

Share









### More from the Waikato Times





## Agenda Item E1: Forum Presentation, Climate Change





- Masterton local
- BSc in Environmental Science & Physical Geography
- MenvStud Ecosystem Services at Lake Wairarapa
- Attempted PhD Emerging contaminants in wastewater (Civil and Nat Res Engineering)
- Tutor VUW and UC
- Summer research assistant roles ESR and GNS Science

## **Agenda**

- Key definitions
- Global information
- National information
- Regional information
- Carterton information
- Ruamāhanga Strategy
- Strategy review



Sex Ratio Bias and Extinction Risk in an Isolated Population of Tuatara (Sphenodon punctatus)

Kristine L. Grayson ☑, Nicola J. Mitchell, Joanne M. Monks, Susan N. Keall, Joanna N. Wilson, Nicola J. Nelson 32

Published: April 8, 2014 • https://doi.org/10.1371/journal.pone.0094214





# Mitigation

Reducing climate change

#### **Examples:**

- Better energy
- New technologies
- Changes in practices and behaviours
- Expanding carbon sinks

# Adaptation

Adapting to life in a changing climate

#### **Examples:**

- Hard engineering
- Soft engineering
- Urban cooling
- Managed retreat

## **Gross Emissions**

Total GHG emissions from human activity

## **Net Emissions**

GHG emissions including the removal of GHGs from the atmosphere through land use and forestry

Gross emissions 76.8 Mt CO<sub>2</sub>-e

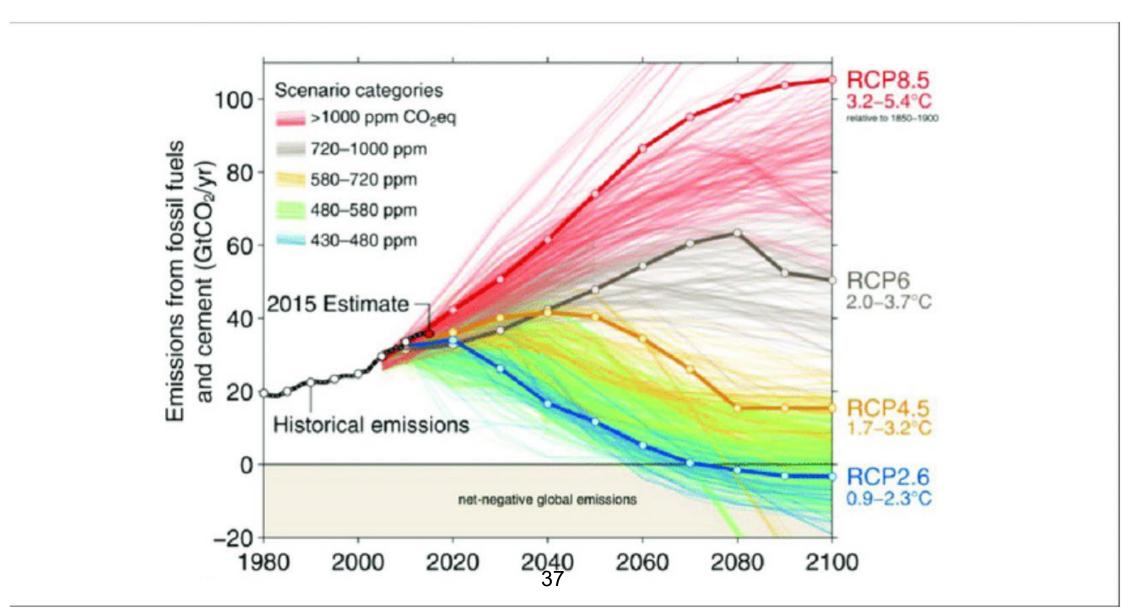


Land Use, Land-Use Change and Forestry -21.1 Mt CO<sub>2</sub>-e



Net emissions 55.7 Mt CO<sub>2</sub>-e

#### RCPs vs. SSPs

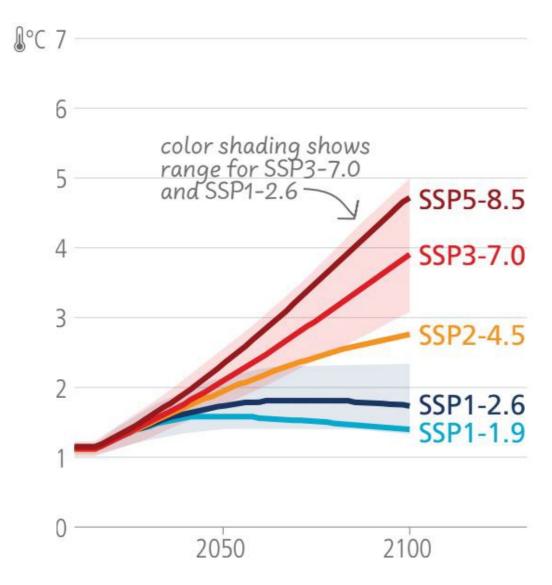


## RCPs vs. SSPs

SSP: Shared Socio-economic Pathway

Describe alternative socio-economic futures in the absence of climate policy intervention, comprising:

- sustainable development (SSP1)
- middle-of-the-road development (SSP2)
- regional rivalry (SSP3)
- inequality (SSP4)
- fossil–fuelled development (SSP5)



# RCPs vs. SSPs

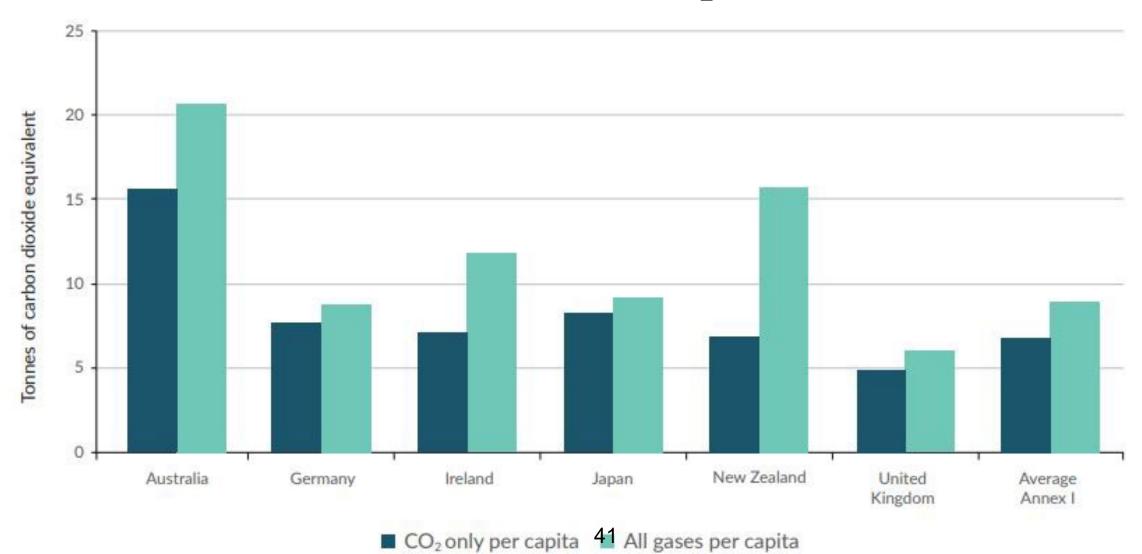
Category description	GHG emissions scenarios (SSPx-y*) in WGI & WGII	RCPy** in WGI & WGII	
limit warming to 1.5°C (>50%) with no or limited overshoot	Very low (SSP1-1.9)		
return warming to 1.5°C (>50%) after a high overshoot			
limit warming to 2°C (>67%)	Low (SSP1-2.6)	RCP2.6	
limit warming to 2°C (>50%)			
limit warming to 2.5°C (>50%)			
limit warming to 3°C (>50%)	Intermediate (SSP2-4.5)	RCP 4.5	
limit warming to 4°C (>50%)	High (SSP3-7.0)		
exceed warming of 4°C (>50%)	Very high (SSP5-8.5)	RCP 8.5	

39

# Who is Responsible?

Total emissions   1st   2nd   USA	3rd	4th	5th	NZ
Total emissions China LICA				and a little of
Total emissions China USA	India	EU27	Russia	61st
Total emissions Qatar Palau per capita	Bahrain	Kuwait	Trinidad & Tobago	19th
Highest GDP USA China	Japan	Germany	India	52nd
Highest GDP Luxembourg Ireland per capita		Switzerland	d Singapore	21st
Cumulative emissions USA China	Russia	Brazil	Indonesia	Not stated
Cumulative New Zealand Canad emissions per capita	a Australia 40	USA	Argentina	1st

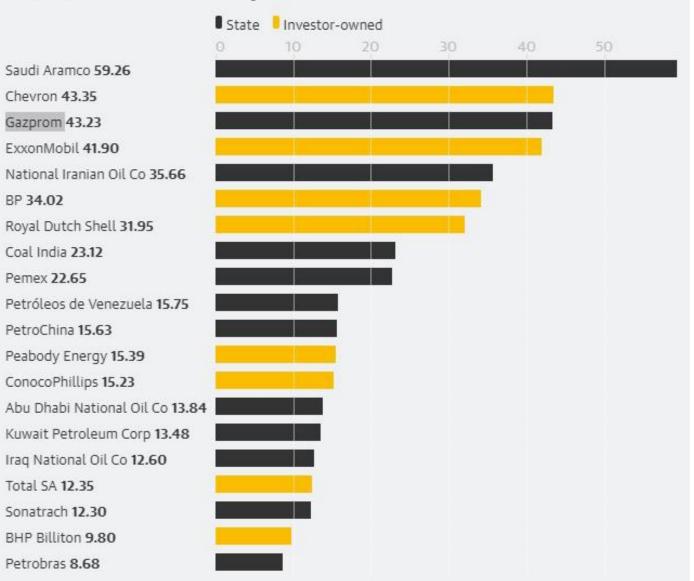
# 2020 Annex I Emissions Comparison



# 35% of global emissions produced by 20 companies

# The top 20 companies have contributed to 480bn tonnes of carbon dioxide equivalent since 1965

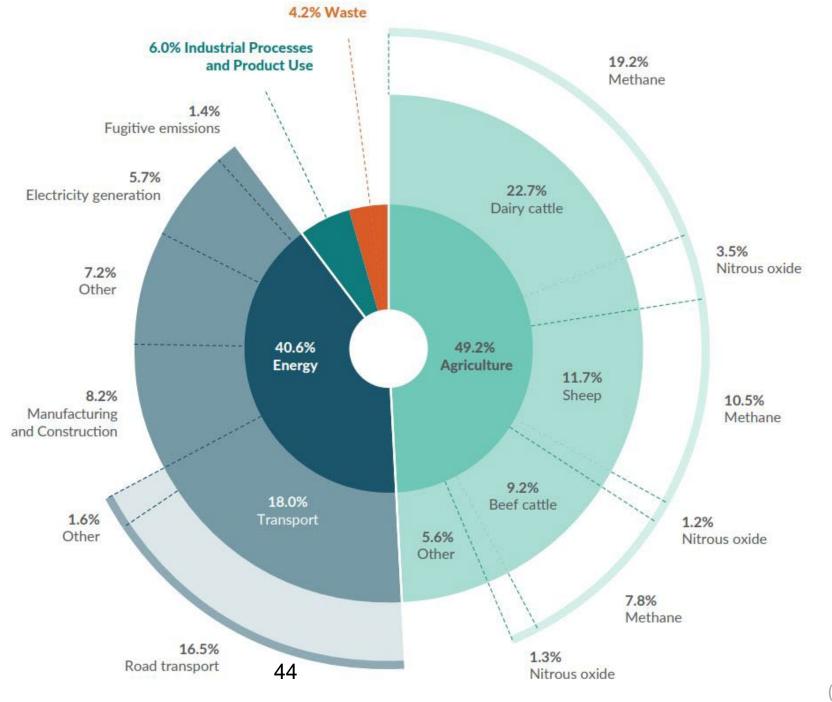
Billion tonnes of carbon dioxide equivalent



Guardian graphe Source: Richard Heede, Climate Accountability Institute. Note: table includes emissions for the period 1965 to 2017 only

# National Context

# 2021 NZ Emissions Profile



# Climate Change Response (Zero Carbon) Amendment Act 2019



- Limit global average temperature increase to 1.5°C
- Target to reduce net emissions of all greenhouse gases (excl. methane) to zero by 2050
- Target to reduce methane emissions to 24-47% below 2017 levels by 2050, as well as 10% reduction by 2030
- Establish emissions budgets
- Requires the government to develop and implement policies
- Establishes the Climate Change Commission

# Climate Change Response (Zero Carbon) Amendment Act 2019

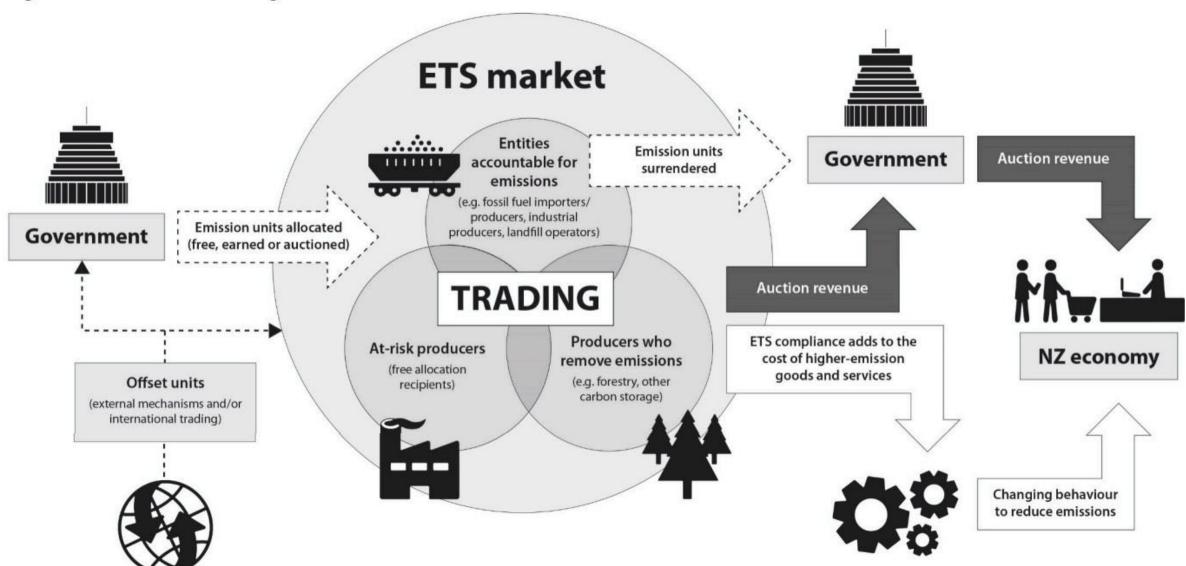


National: Committed to the net-zero by 2050 target, and had no plans to change the law. However, the party was "open to sensible changes"

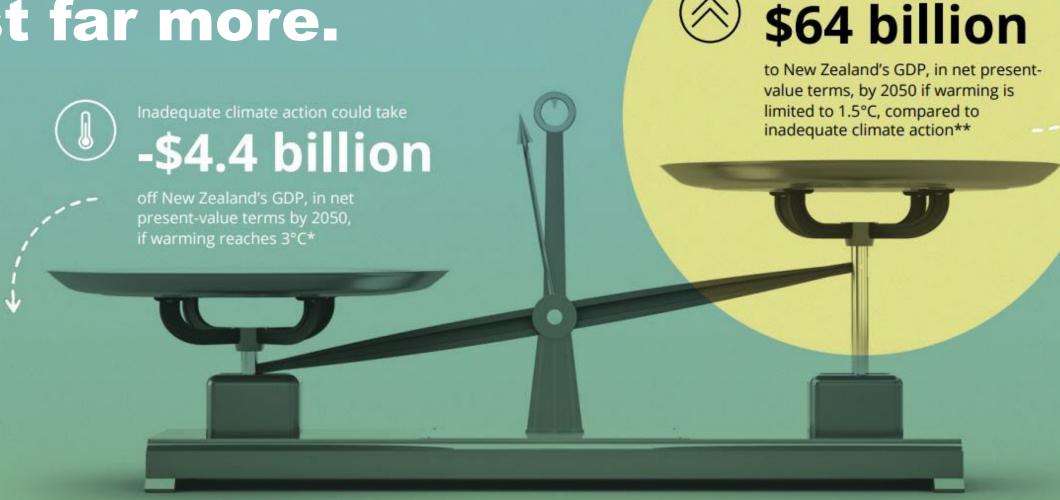
Act: Repeal the Zero
Carbon Act, including the
Climate Change
Commission

**NZ First**: No explicit policy direction for the Zero Carbon Act

Figure 1: How emissions trading works



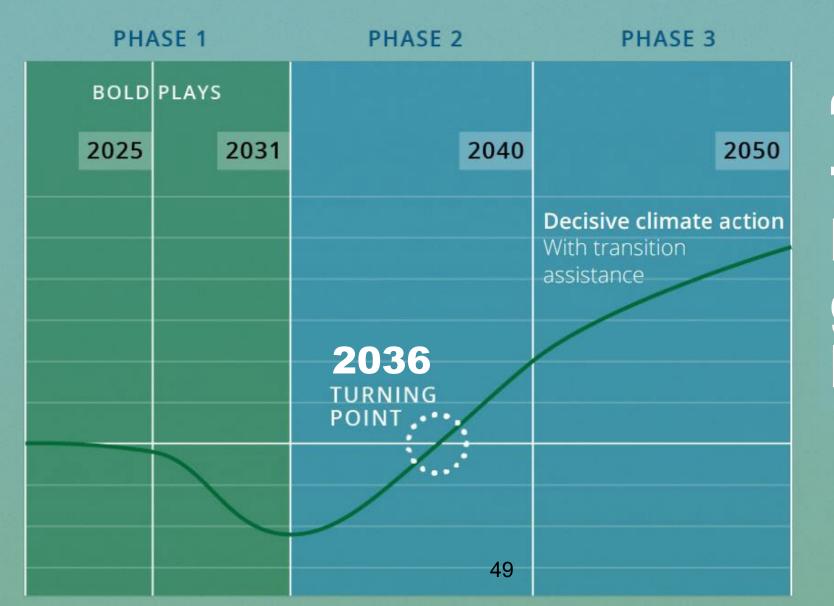
# Action will cost. Inaction will likely cost far more.



Decisive climate action could add

#### Change in GDP, 2023 to 2050 (constant prices)

The % deviation is relative to a scenario with 'inadequate' action on climate change



"It gets tough before it gets better"

# Regional Context

# 2021/22 Regional Emissions Profile

Total Gross Emissions (excluding Forestry): 3,852,625 tCO<sub>2</sub>e

Total Net Emissions (including Forestry): 1,571,578 tCO<sub>2</sub>e



#### **FORESTRY**

Sector Contributors



Harvest Emissions 1,115,570 tCO<sub>2</sub>e



Native Forest Sequestration

-887,575 tCO<sub>2</sub>e



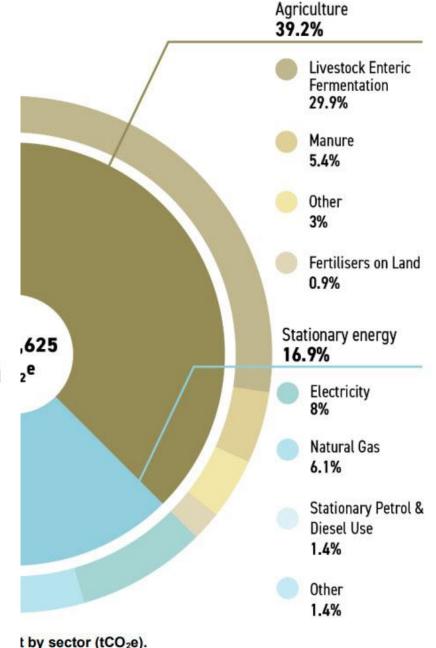
**Exotic Forest Sequestration** 

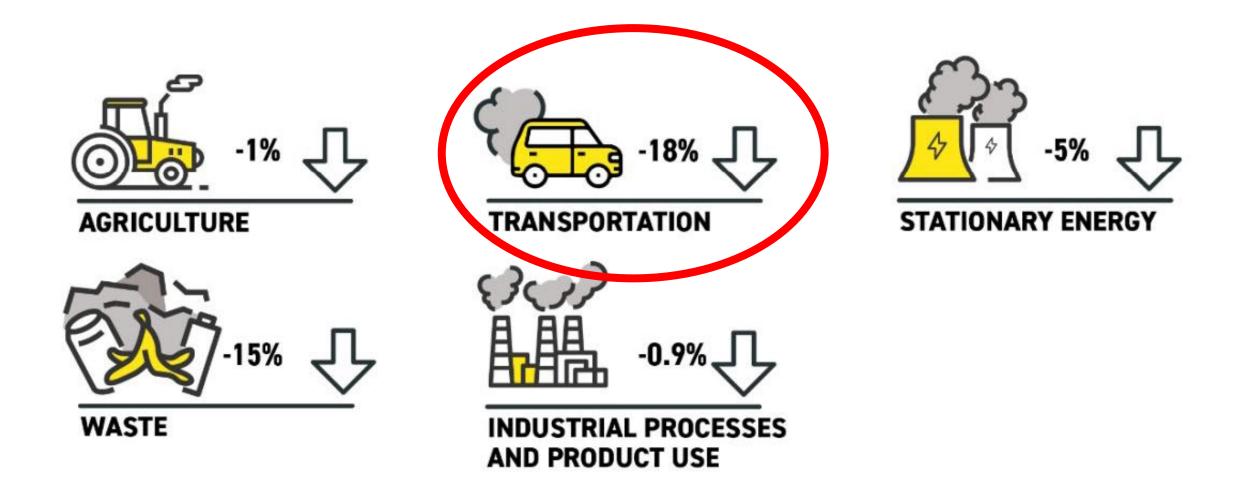
-2,509,042 tCO<sub>2</sub>e



**Net Forestry Emissions** 

-2,281,047 tCO<sub>2</sub>e

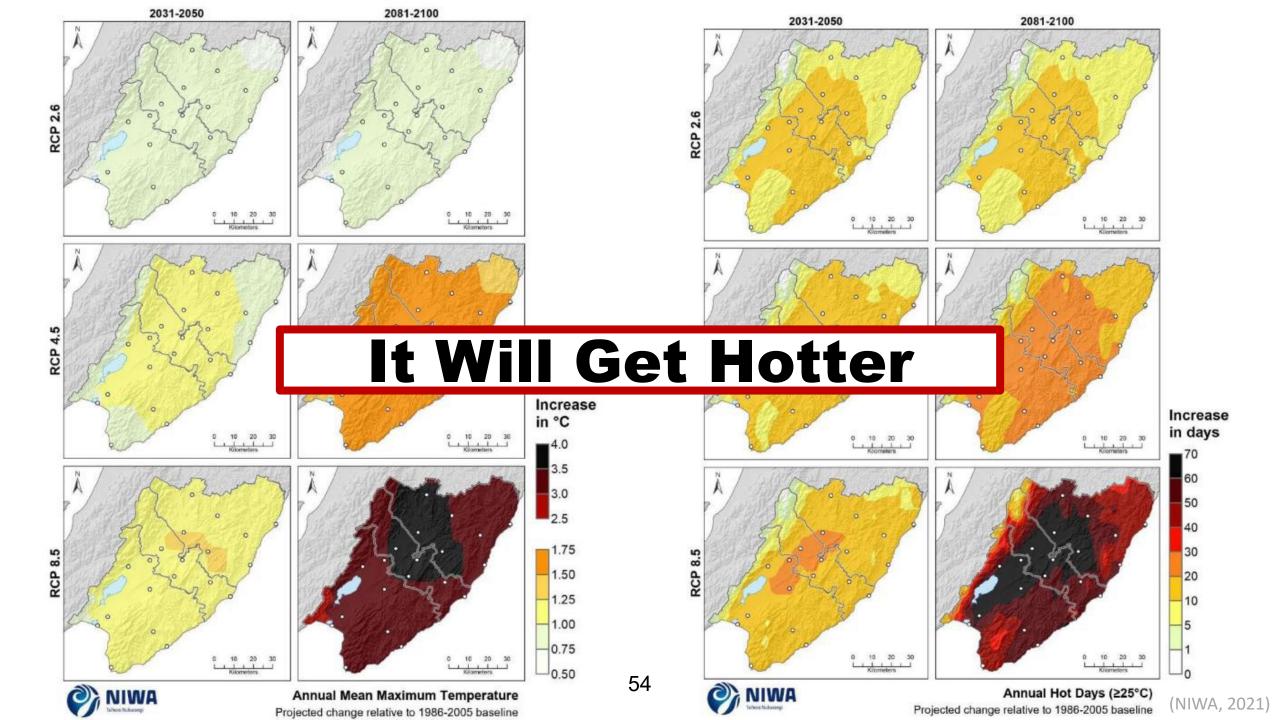


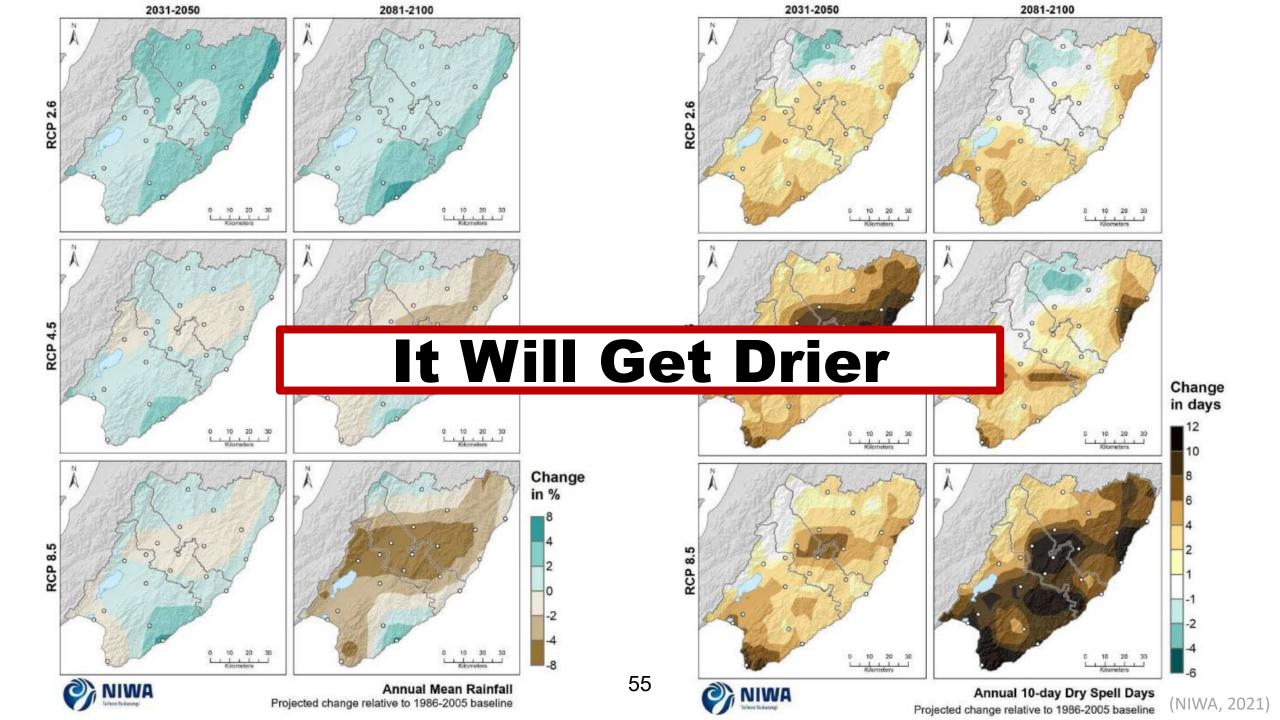


Change in Gross Emissions between 2018/19 and 2021/22:



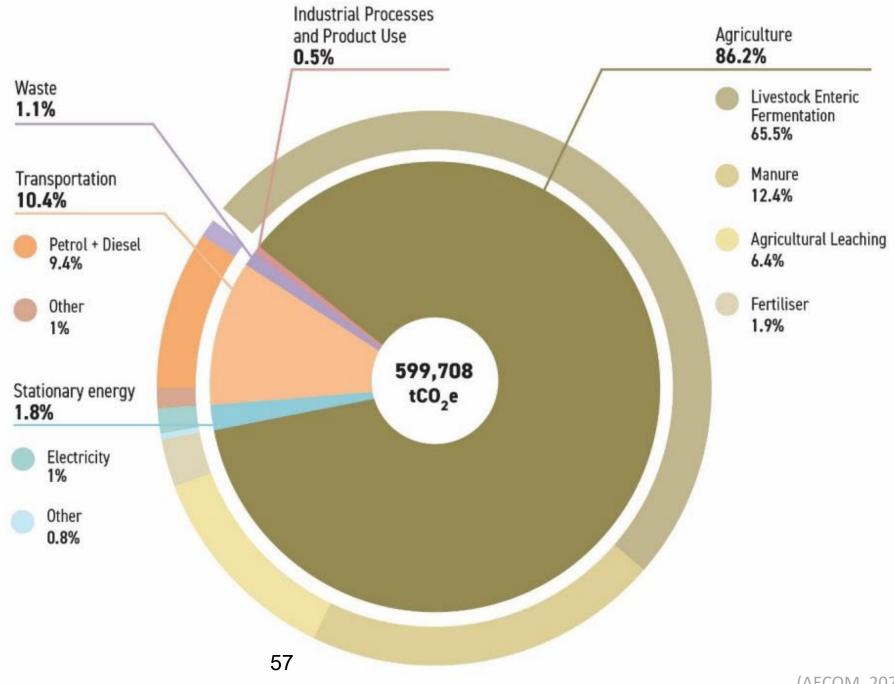






# Local Context

# 2021/22 South Wairarapa **District Emissions Profile**



# 2021/22 South Wairarapa **District Emissions Profile**



86%

#### AGRICULTURE

**Top Sector Contributors** 



**Enteric Fermentation** 



Manure from Animals on Pasture



Agriculture Leaching and Deposition



10%

#### TRANSPORTATION

Top Sector Contributors



Diesel 53%



Jet Kerosene 4%

1%



#### STATIONARY ENERGY

Top Sector Contributors



Electricity Consumption



Petrol and Diesel







1%





**Total Gross Emissions** (excluding Forestry): 599,708 tCO<sub>2</sub>e

Total Net Emissions (including Forestry): 7,442 tCO<sub>2</sub>e

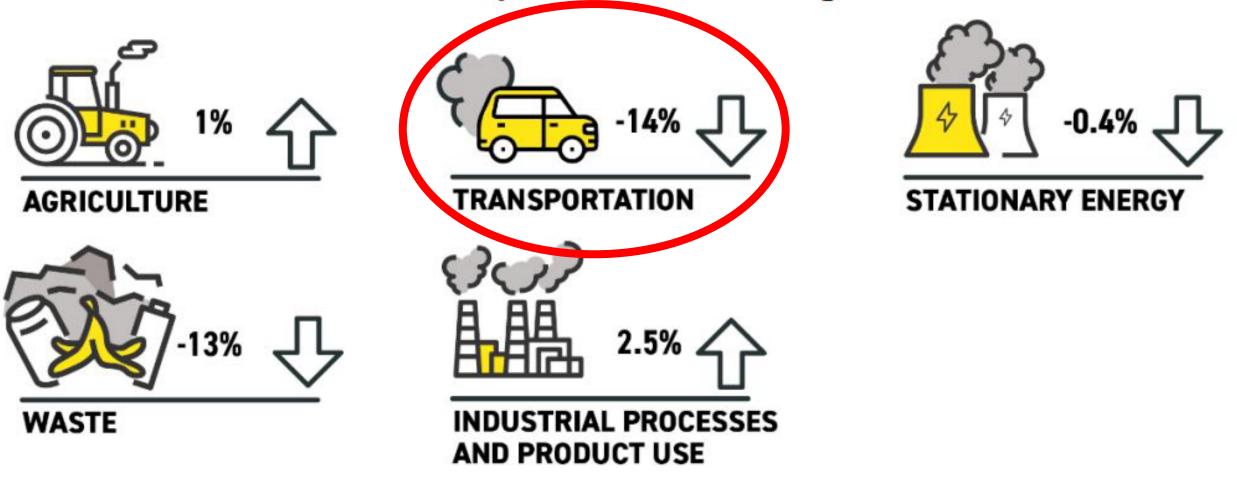








#### South Wairarapa Emissions Change 2018/19-2021/22



Change in Gross Emissions between 2018/19 and 2021/22:



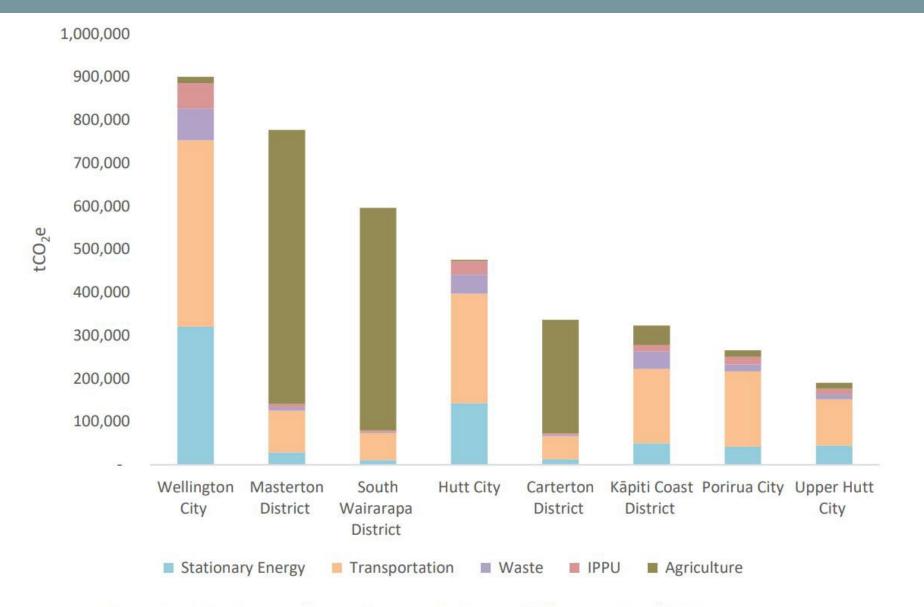


Figure 6 Total gross emissions by territorial authority in the Greater Wellington region (tCO<sub>2</sub>e).

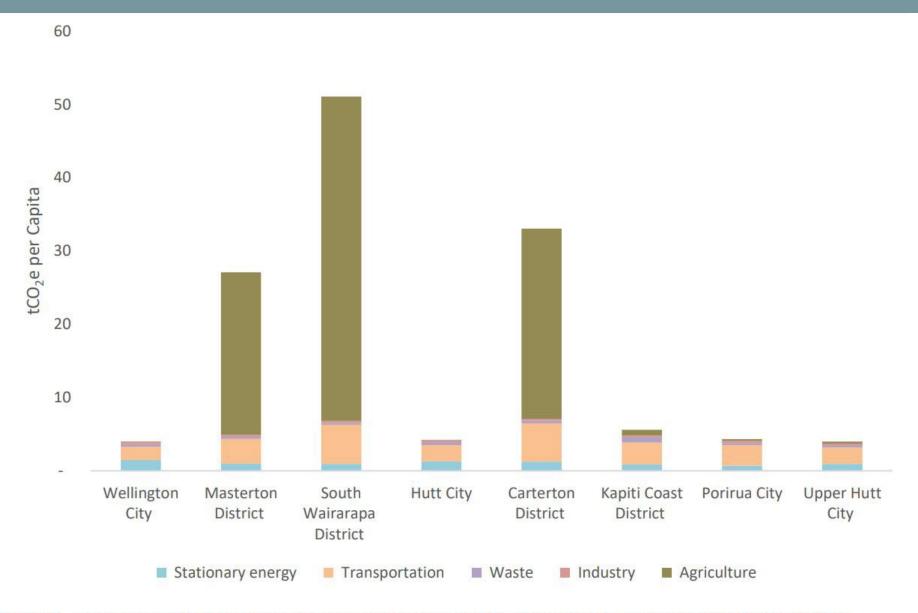
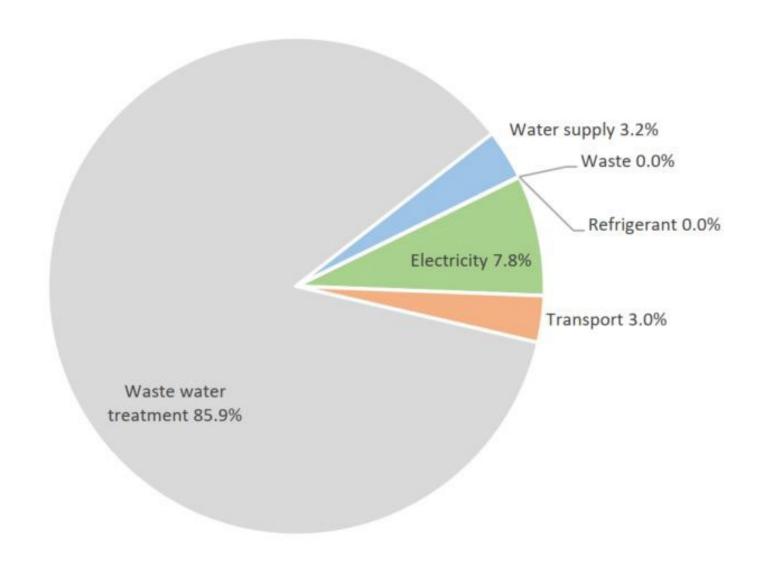


Figure 7 Total gross emissions per capita for the territorial authorities within the Greater Wellington Region (tCO₂e).

# 2021 South Wairarapa **District** Council **Emissions Profile**



Gross emissions by source (tCO2e)

**2021** South Wairarapa **District** Council **Emissions Profile** 

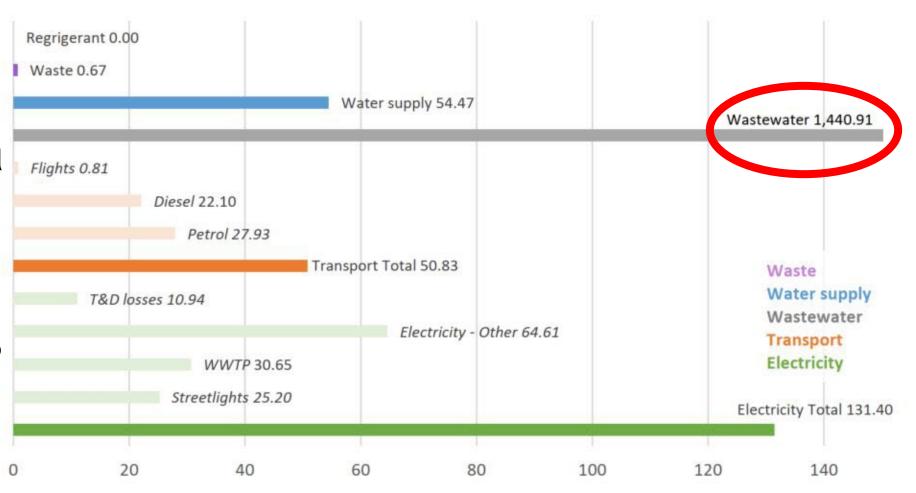


Figure 9: Gross emissions by source (tCO₂e)

# 2018-21 South Wairarapa **District** Council

Planted forest

Sequestration

Natural forest

Sequestration

Harvest emissions

Units

68.87 ha

7.88 ha

0 ha

0 ha

Growth

Regenerating

Planted forest

Native forest

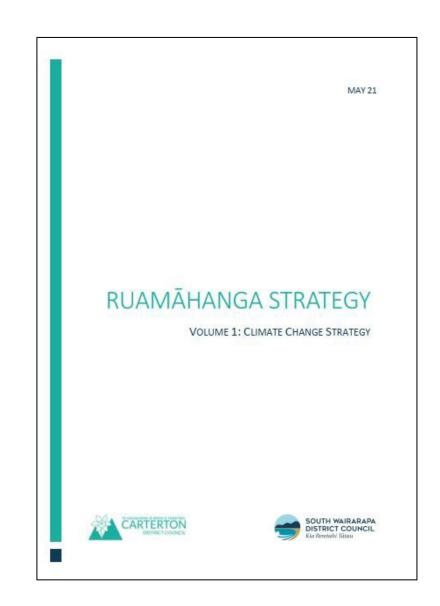


Figure 3: Annual emissions showing gross and net emissions (including forestry) since 2018

# Ruamāhanga Strategy

# **Volume 1: Strategy**

- Adopted February 2020
- Next review due 2024
- Socio-economic context
- Environmental context
- Historical and cultural context
- Climate change impacts
- GHG inventory
- Targets



# **Volume 1: Strategy**

#### 9.3 Councils' targets

Carterton and South Wairarapa District Councils aimed to set up greenhouse gas emissions targets in order to comply to Climate Change Response (Zero Carbon) Amendment Act and to the Paris agreement.

The targets must be ambitious but also, achievable and realistic. Being small councils, we have to be aware of our limits.

During the period 2020 - 2030, Carterton and South Wairarapa District Councils aim to:

- · Reduce their gross greenhouse gas emissions;
- Increase the reservoirs, therefore the amount of greenhouse gas sequestered every year;
- Reduce biogenic methane<sup>9</sup> by 10% below 2017 levels.

To be able to be able to achieve these targets, the councils set up an action plan that is exposed in the following part of the strategy. The actions are intended for:

- the councils;
- the community;
- the businesses.

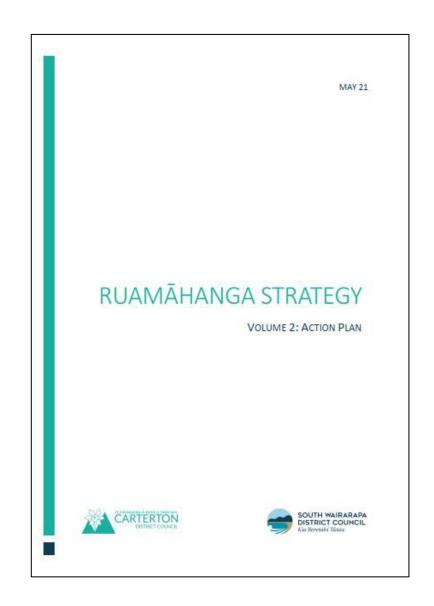
The greenhouse gas inventories will allow the councils to keep track and record of their emissions and make sure the councils are in the right direction.

MAY 21 RUAMĀHANGA STRATEGY VOLUME 1: CLIMATE CHANGE STRATEGY

- Adopted May 2021
- Next review due 2024

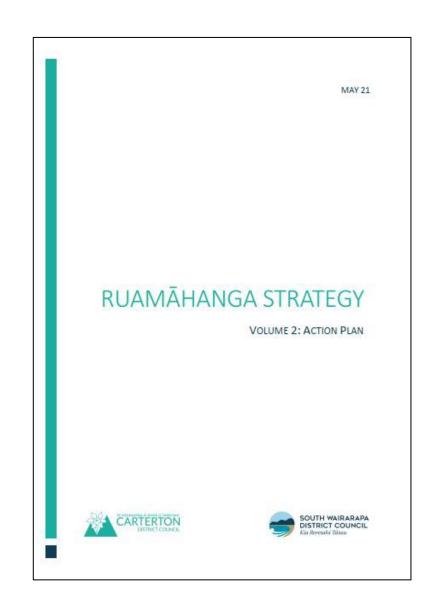
#### Achieved 2019-2021 - Council

- Council GHG inventories
- Work with other councils within the region
- Implement council policies (carbon reduction, procurement)
- Fleet review
- Transition streetlights to LEDs



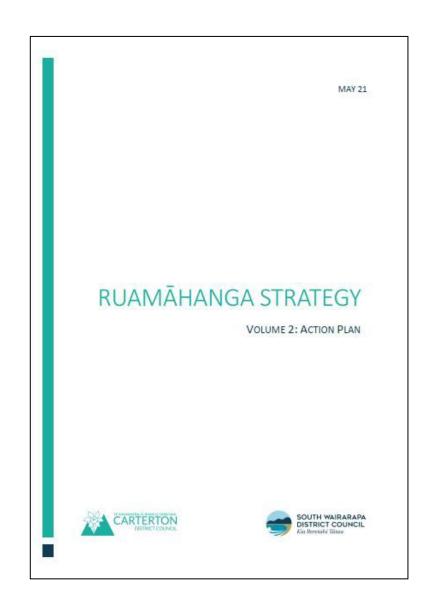
#### **Achieved 2019-2021 – Community**

- Promote climate change actions
  - Active and public transport
  - Non-ICE vehicles
  - Energy saving behaviours
- Support Enviroschools



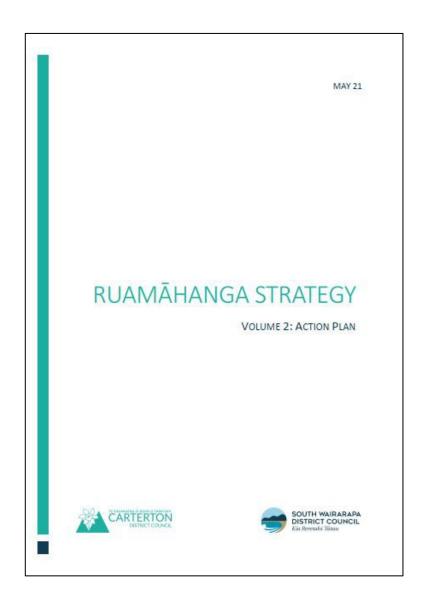
#### Three-year actions (2021-2023) - Council

- Review strategy
- Implement a low-carbon events policy
- Update fleet
- Energy audit and implementation
- Increase rainwater collection
- Increase afforestation and restore wetlands



#### Three-year actions (2021-2023) – Community

- Promote healthy homes and develop home health assessment kits
- Promote renewable energy
- Support a seed bank
- Organise a climate change biennial

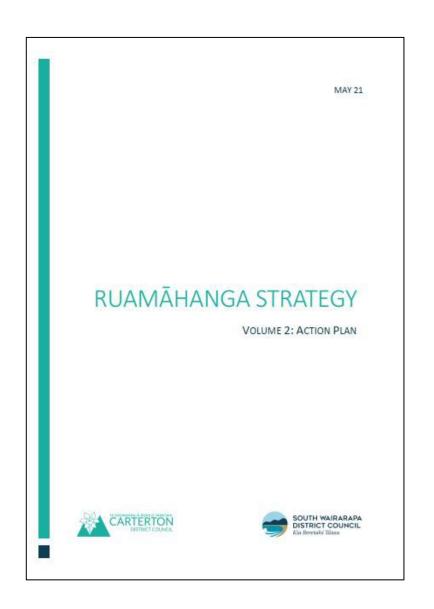


#### Ten-year actions (2021-2023) - Council

- Fleet transition to Evs
- Investigate and implement solar

#### **Ten-year actions (2021-2023) – Community**

- Support long term bike hire
- Support carpool car parking



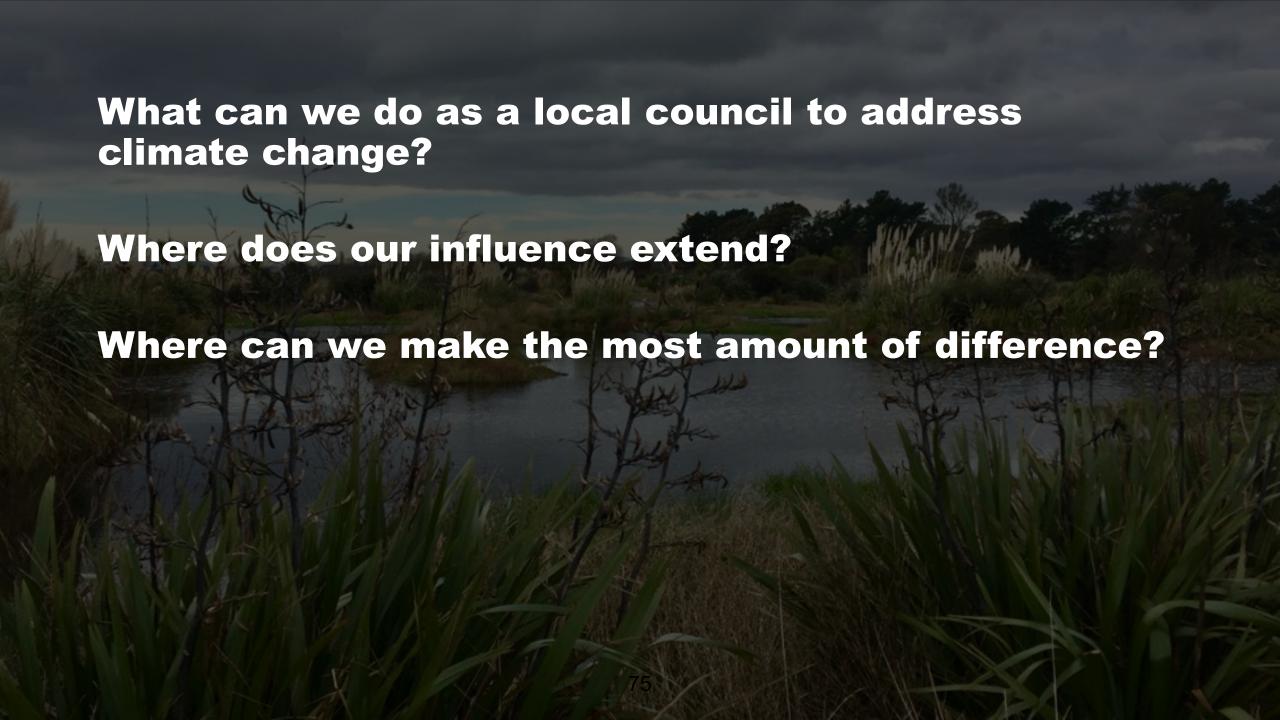
# Questions?

Information overload?

Stress bikkie break?

Quick time to cry about the state of the future in the bathroom?





# Regarding our climate change strategy: What is good / What should stay ? What needs improvement / What needs tweaking ? What is missing / What is not currently reflected? What should go / What doesn't add value ?