



**WHANGANUI
DISTRICT COUNCIL**
Te Kaunihera a Rohe o Whanganui

AGENDA

Infrastructure, Climate Change, and Emergency Management Committee Meeting 1 October 2020

NOTICE IS HEREBY GIVEN that a Meeting of Infrastructure, Climate Change, and Emergency Management Committee will be convened on:

Date: Thursday, 1 October 2020

Time: 1.00pm

**Location: Council Chamber
101 Guyton Street
Whanganui**

**Kym Fell
Chief Executive**

**Infrastructure, Climate Change and Emergency Management Committee
Membership**

Cr Alan Taylor (Chair), Cr Hadleigh Reid (Deputy Chair),
Mayor Hamish McDouall, Crs Charlie Anderson, Philippa Baker-Hogan,
James Barron, Josh Chandulal-Mackay, Brent Crossan, Helen Craig, Jenny Duncan,
Kate Joblin, Rob Vinsen, Graeme Young.
Whanganui Rural Community Board Appointee: Michael Dick

Terms of Reference

The Infrastructure, Climate Change and Emergency Management Committee has been delegated the following responsibilities by the Council:

To discuss and make recommendations to Council on

- Water supply stormwater and wastewater matters
- Roading and footpaths
- Waterways and natural drainage
- Parking Rules
- Emergency Management (Civil Defence) matters
- Climate Change
- Waste minimisation activity

Delegation to Committee: Decision-making on Parking Rules.

Items of business not on the agenda which cannot be delayed

Items not on the agenda may be brought before the meeting through a report from either the chief executive or the Chairperson. The meeting must resolve to deal with the item and the Chairperson must explain at the meeting, when it is open to the public, the reason why the item is on the agenda and the reason why the discussion of the item cannot be delayed until a subsequent meeting. Refer to Standing Order 9.11

Note: nothing in this standing order removes the requirement to meet the provisions of Part 6, LGA with regard to consultation and decision-making.

Discussion of minor matters not on the agenda

A meeting may discuss an item that is not on the agenda only if it is a minor matter relating to the general business of the meeting and the Chairperson explains at the beginning of the public part of the meeting that the item will be discussed. However, the meeting may not make a resolution, decision or recommendation about the item, except to refer it to a subsequent meeting for further discussion. Refer to Standing Order 9.12

Order Of Business

1	Apologies	5
2	Declarations of Interest	5
3	Reports to Committee	6
3.1	Infrastructure Activity Report - June to August 2020	6
3.2	Climate Change Strategy and general update.....	12
3.3	Minutes of the Waste Minimisation Advisory Group Meeting 16 September 2020.....	60

1 APOLOGIES

2 DECLARATIONS OF INTEREST

Elected Members will be provided with the opportunity to declare any disclosable pecuniary or other non-pecuniary interest in any matter to be considered at this meeting, or declare any new conflicts that have arisen since last completing the Elected Members' Interests Register.

3 REPORTS TO COMMITTEE

3.1 INFRASTRUCTURE ACTIVITY REPORT - JUNE TO AUGUST 2020

Author: Hannah Bailey - EA to GM Infrastructure and GM Strategy

Authoriser: Mark Hughes - General Manager Infrastructure

References: Nil

Recommendation

That the Infrastructure, Climate Change, and Emergency Management Committee receive the report – Infrastructure Activity Report - June to August 2020.

Executive Summary

This report is to advise the Infrastructure, Climate Change, and Emergency Management Committee on recent and upcoming activities within the Infrastructure portfolio.

Key information

3 Water Stimulus Investment

- MOU signed and submitted
- Procurement Plan went to the Tenders Board on Thursday, 17 September and has been approved.
- Applications / Delivery Plan and Funding agreement will be made before the end of September.
- An outline of projects:
 - Accelerated water supply renewals
 - New Mosston Road water supply main
 - Water supply network resilience to Airport water zone
 - Water supply connection between Whanganui and Fordell
 - Wastewater Scum baffles on Clarifiers at WWTP
 - Wastewater Westway Pipe Bridge replacement
 - Stormwater – New Pipelines (across several contracts)
 - Stormwater – Storage Development
 - Stormwater – System Improvements

Shovel Ready Project Programme

Final confirmation came through this week that we were not successful for any of our infrastructure projects submitted.

Water

- **Bore Security**

We are obtaining a bore head security assessment for municipal supply bores. The assessment reviews bore compliance; well head security requirement as defined by the Drinking Water Standards for New Zealand 2005 (Revised 2018) (DWS NZ) for: Kai iwi 1, 2, 3, Aramoho and Fordell Bore. We have sent the final report to the water assessor for all above sites. There are still outstanding recommendations for Kai iwi bores which will be completed in the summer period.

- **Global Consent**

We are working with Iwi on the proposed global consent. The proposed consent for Whanganui's water supply will involve working with all iwi within the district to look at refining existing water takes from all source water. Maxwell consent is still being worked through with iwi but we are looking at finalizing in the next week or so. Another consent coming up for renewal in February 2021. Application letter has been sent to Horizons.

- **Mill Road Growth Project**

The new 225mm water-main from Mill Road along Mosston Road to Fitzherbert Ave has been completed. The main will be connected to the Fitzherbert Ave main to provide a more resilient water supply down Mosston Road towards Mill Road. It has also provided a water service to the immediately adjacent properties which allows for the future servicing of the other areas as this main can be extended. As the area grows the benefit of this project increases.

- **Hillside Terrace**

Hillside Terrace has been tendered out. Work is planned to be completed in October 2020.

- **Castlecliff Watermain Replacement**

Cameron Road East to Erin Road has been tendered out. The section of main being replaced is SW-U 300 mm diameter and is 58 years old. 800 meters 457 mm concrete lined steel pipe will be upgraded to link into the existing upgraded section of water main. Replacement section from Cameron Road East to Erin Road for 800 meters.

Wastewater

- **Beach Road and small pump stations Update**

All of the pump stations have been operating reliably and only minor maintenance has been required. Most outages have been caused primarily by planned power outages or foreign objects in the pumps. Both the beach road screens have had significant breakdowns this month but within a day they were both back in operation.

- **Beach Road Gantry Renewal Contract**

On site installation was meant to begin late August but as the contractor is based in Auckland they were delayed due to the Level 3 regional lockdown. The materials were delivered to site 9 September and installation is beginning on site 17 September with installation expected to take 7 weeks.

- **Beach Road Screen Renewal Contract**

Delivery of the screens is now expected mid-February 2021 with the target of having the installation complete prior to next winter.

- **WWTP Update**

The focus of the treatment plant continues to be on sludge removal. Good progress has been made this month in the blending of WAS with primary pond sludge and processing it through the dewatering process, this has also vastly expanded the knowledge base of the crew and allowed them to better control the sludge train and how adjustments to the sludge concentration can be made and the downstream effects.

This has worked well throughout the system and mean we aren't always discharging WAS into the primary pond continually and thus restricting the effectiveness of the rest of the treatment process.

A lot of time has been spent on the UV disinfection system ensuring that it is operating optimally and we are getting the expected kill in the effluent as it passes through the disinfection. This continues to be a focal point for our electrical/mechanical operator.

The tender document is almost finalised for the purchase of the generators that have been budgeted for, to be used when we have power outages. With the WWTP being a 24 hour a day biological process the site is susceptible to damage due to power failure. When this occurs we are left vulnerable to discharging non-compliant effluent to the environment and overflows. The purchase of the generators will greatly reduce this risk.

We have started doing frequent sampling and analysis of both the flared gas and the primary pond sludge in order to gather a bank of information to measure the feasibility of using the gas as an energy source and the sludge in comparison to bio solids guidelines.

Stormwater

- **'Healthy Streams' Initiative (Integrated Catchment Management)**

Engagement with Iwi (Tuupoho and Ngaa Rauru) is continuing. Consideration is currently being given on a plan for engaging with Nga Tangata Tiaki regarding the same.

- **Gloucester Street Stormwater Main**

Work is 38% complete. A material quality issue is currently under investigation.

- **Wilson Street Stormwater Main Renewal**

Work is focused on the Wilson Street/Ridgeway Street intersection. The Alliance is on site, and has commenced with the road-reconstruction project that follows the drainage construction.

- **Eastown Road Wastewater renewal (supporting the Wastewater Activity)**

Geotechnical investigation is being commissioned – awaiting a response from Kiwi Rail for access.

- **Nixon Street Wastewater renewal (supporting the Wastewater Activity)**
Tender documents are being prepared, tender due to be released for pricing by October, 28 2020.
- **Smithfield Road Stormwater Main**
Procurement planning documentation has been drafted – and will be implemented as soon as funding is available.
- **Drainage Compliance**
A compliance matter is currently being worked through with the owner of 21 Turoa Rd for a private drain to be cleaned out, under S511 of the LGA. The landowner indicated verbally he wishes to comply over a longer timeframe. Awaiting written notice from his legal advisor.
- **Stormwater Quality Assessment Programme**
In anticipation of future consultation and consenting processes for Stormwater, a quality assessment plan is being scoped and costed at the moment. This work will be considered for budget inclusion in the next LTP.

Roading

- The Road corridor maintenance contract in our Alliance with Downer has been extended for 6 years to 30 June 2026 as per contractual obligations in our contract.
- An extensive number of small slips dominated the rural area throughout July and were cleaned up in August, including the Kauarapoua and the Whanganui River Road. Some pressure has been placed on our Environmental Maintenance budget very early in the financial year.
- Following lockdown, the district roading network has seen a spike in logging traffic entering into the city centre, split between destinations to the Eastown marshalling yard or out towards New Plymouth. There is renewed interest in the export market currently with a sudden increase in that commodity market noting the log boats cleared out existing port stock during the lockdown period. A meeting was originally planned with forestry harvesters in August to establish expected trend data to plan our next 3 year funding block. In lieu of that meeting a series of maps and spreadsheets has been sent to representatives of forestry to fill out and send back to us for data collection on harvesting trends ahead.
- The footpath and kerb & channel programme is underway for the financial year beginning with work in Wilson Street to accommodate the services upgrade, and the completion of work in Hakeke Street in Whanganui East to extend carparking for the community library. Harper Street kerb and channel renewal is also underway.
- Traffic signals are now operating at the Te Tuaiwi Shared Pathway rail crossing on Glasgow Street (adjacent to the Pak'nSave supermarket entranceway). They will make crossing Glasgow Street much safer for pedestrians, mobility impaired persons and cyclists, including the many school children who now use the shared pathway along the rail corridor. KiwiRail and Whanganui District Council have worked together to synchronise the rail controller and

traffic systems and the new signals are fitted with infra-red cameras which will monitor the crossing for the presence of pedestrians or cyclists, helping to minimise traffic interruption in this busy area.

- A company called Supersealing has been undertaking joint and crack sealing on key city routes at night during September including Somme Parade and Glasgow Street. Commonly used overseas, the method encompasses an applicator unit to follow the cracks and create a high quality and effective water proof sealed finish. It relies on having enough work lined up to bring the unit rate down to make it viable on scales of economy. It is not particularly aesthetically pleasing but very effective in terms of return on investment to stop moisture penetrating the pavement on very heavily trafficked routes. The intention is to put further funds into this type of upfront protection to avoid chasing expensive repairs in future noting a “stitch in time saves nine”.
- Drainage maintenance of rural surface water channels has been an ongoing concern and was highlighted in a recent NZTA technical audit. The Road Science (Downer) Mobile mapper has now carried out a laser survey along the Whanganui River Road and Mangamahu Valley with the aim to determine the improvement needs along these routes using spatial data. This information will contribute to our programme business case to NZTA for funding towards climate change drainage resilience.
- Pre-reseal repairs are happening at present to our 2020/21 reseal sites in readiness for Reseal season beginning in October.
- Design on the 2020/21 rehabilitation sites is underway noting the key site planned for this financial year is the Heads Road and Beach Road (200m in length leading to and beyond the Rail Crossing) in conjunction with Kiwirail.

Whanganui Redeployment Contracts (Provincial Growth Fund)

- **Fitzherbert Ave Extension to Mosston Road** - Tender went out to the open market on 10th August 2020. Closing date for tender has been extended to 17th September 2020 noting a number of contractors could not get logistical support from head office during the recent Auckland Level 3 lockdown.
- **Whanganui River Road Guardrail upgrades** - Sites have been being scoped in order to measure and undertake a materials order to CSP Pacific for Guardrail components. \$120,000 worth of guardrail stock was delivered in late July 2020. Initial order covers 6 sites including Pitangi bridge RP14.462km, Whauteihi Bridge RP13.932km, Operiki Bridge RP32.499km, Taupiri Bridge RP20.210km, Whariki Bridge RP8.672km and Otoutahi Bridge RP54.329km. Site details are now drawn up and work is beginning in late September.
- **London Street Shared pathway (SH3).**
Stage 2 of the project involves extension of the shared pathway down to the rail reserve including retaining walls in the section immediately north of Grey Street. There have been delays in approvals and building consent due to the lockdown. The project will run through

into the 2020/21 financial year with a more definitive timeframe to be determined in September.

- **Emergency Works**

Roading is close to an agreement with iwi on the 2018 emergency works site in Jerusalem in order to secure resource consent. Roading were given permission from NZTA to roll the subsidised funding into 2020/21 to complete this site involving a rock armouring of an estimated value of \$800k. Construction is being lined up for work in February noting the rock has already been sourced.

Developments

- Subdivision application statistics as shown below, the past month has been slower than usual:

Year	Number of applications	Original number of lots	Number of lots created	Increase in lot numbers	Average number of lots created per subdivision	Notes
2020	67	70	202	132	1.970149254	Figures are for Calendar year
2019	90	95	295	200	2.222222222	Figures are for Calendar year
2018	91	96	230	134	1.472527473	Figures are for Calendar year
2017	61	68	188	120	1.967213115	Figures are for Calendar year
2016	54	55	124	69	1.277777778	Figures are for Calendar year
2015	39	37	84	47	1.205128205	Figures are for Calendar year

- Subdivision infill information is shown below:

Infill information (By Calendar year)	2015	2016	2017	2018	2019	2020
Applications for infill	6	12	13	31	35	37
Number of new Lots	11	12	26	44	83	88
Lots New+Old	17	25	40	78	119	127

- Developer agreement (draft) is with the Fitzherbert developer.
- Developer agreement (draft) is with the Tawhero developer and a schedule of works is well advanced (Tawhero-Magnolia link road)
- Land acquisition for the Fitzherbert to Fox Road corridor has commenced with valuers producing the initial report on the Mosston Road property, public works act to be used for land acquisition process.

Asset Management

- Prepared and ran 3 waters asset valuations for external peer review
- Prepared Executive Summary documents for Water Supply, Wastewater, Stormwater and Recreation Facilities asset management plans and sent links to respective activity managers for updating.

3.2 CLIMATE CHANGE STRATEGY AND GENERAL UPDATE

Author: Charlotte Almond - Contractor

Authoriser: Kym Fell - Chief Executive

References:

1. [Whanganui Community Carbon Footprint 2020](#) ↓
2. [Regional Climate Action Plan 2020](#) ↓

Recommendation

That the Infrastructure, Climate Change, and Emergency Management Committee receive the report – Climate Change Strategy and general update.

Executive Summary

The purpose of this report is to provide an update on progress with the Climate Change Strategy and other climate change related matters:

- Regional Council Collaborative Network
- Regional Climate Change Action Plan 2020
- Whanganui Community Carbon Footprint 2020
- Climate Change Joint Action Committee
- Regional Climate Change Risk Assessment
- National Climate Change Risk Assessment

Key information

Joint Climate Change Strategy Workshop

The fourth climate change strategy workshop hosted by Whanganui District Council was held on 9 September 2020. The workshop was attended by Council, Te Runanga o Tupoho, Ngaa Rauru Kiitahi, Nga Tangata Tiaki, and Youth Committee representatives. Apologies were received from Te Runanga o Tamaupoko and Horizons Regional Council. A presentation from Mavis Mullins, Chair of the Ātīhau-Whanganui Incorporation Toi Tu Te Whenua, was given looking at managing climate change from a Maori worldview through an agriculture business setting.

The forum reviewed and endorsed the high level components of the strategy – vision, mission, values and principles. Co-drafting of this section of the strategy has ensured it is relatable from either a Maori or European worldview. Time was spent considering the potential focus areas for the strategy. It was determined that the agriculture area requires additional focus and engagement to strengthen it.

One final joint workshop is proposed to present the final draft focus areas. The draft will then be presented to Council to move through to the public consultation stage.

Regional Council Collaborative Network

The Whanganui Community Carbon Footprint 2020 **Ref 1** and the Regional Climate Change Action Plan **Ref 2** are *attached* to this report.

Regional Climate Change Action Plan 2020

This document provides an overview of the sorts of activities local government in our region is already progressing in response to climate change. It is intended to serve as a baseline, which we can expand upon over time. It does not encompass the full suite of current actions for each District.

Whanganui Community Carbon Footprint 2020

This report was finalised in August 2020. It reports on Greenhouse Gas (GHG) emissions produced in, or resulting from activity or consumption within the geographic boundaries of Whanganui territorial authority.

Major findings from the report:

- In the 2019 reporting year, Whanganui emitted gross 905,613 tCO₂e.
- Agriculture (e.g. emissions from livestock and crops) is the largest emitting sector in Whanganui, representing 57% of total gross emissions, with sheep and cattle accounting for 98% of agricultural emissions. Transport (e.g. road, rail, and air travel) is the second largest source of emissions, accounting for 24% of total gross emissions, with petrol and diesel (on and off-road) accounting for 99% of transport emissions. Stationary Energy (e.g. consumption of electricity and natural gas) is the third highest emitting sector in Whanganui, producing 15% of total gross emissions.
- After consideration of carbon sequestration (carbon captured and stored in plants or soil by forests) and emissions from the forestry sector, Whanganui emitted net 779,736 tCO₂e emissions. Carbon sequestration from forests in Whanganui totalled 1,051,850 tCO₂e in 2019 while emissions produced by harvesting of forestry totalled 925,972 tCO₂e.

It is anticipated that the Whanganui District Council organisational emissions profile will be completed when the climate specific role is appointed.

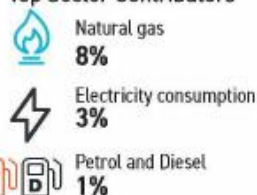
Figure 1: Summary of change in emissions in Whanganui 2018/19 including top contributors to total gross emissions from each sector in 2018/19.

Greenhouse Gas Emissions Whanganui District



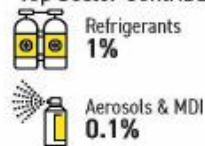
STATIONARY ENERGY

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IPPU

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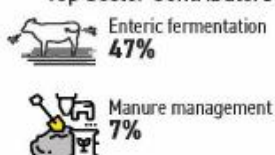
TRANSPORTATION

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AGRICULTURE

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WASTE

Sector Contributors



FORESTRY

Sector Contributors



Total (gross) emissions excluding forestry: 905,613 tCO₂e

Total (net) emissions including forestry: 779,736 tCO₂e

Climate Change Joint Action Committee

A proposal has been to Horizons Regional Council in August, with a recommendation to appoint a joint Climate Action Committee. Terms of Reference have been drafted. This proposal focuses on coordination and governance oversight across the Region's local authorities. A joint Climate Action Committee would provide a mechanism for more consistent engagement with communities on climate change in the future.

There may be an LGA procedural action required for Whanganui District Council to formally participate in the joint committee. The governance team is looking into the process steps.

Regional Climate Change Risk Assessment (RCCRA)

Horizons has commenced a round of community engagement for the Regional Climate Change Risk Assessment (RCCRA) project. Whanganui District is promoting this work through our engagement

channels also. The engagement is seeking to understand the values at risk from climate in each District. Whanganui District Council has participation at the steering group, which has recently had its first meeting. The methodology is outlined below:

Regional Climate Change Risk Assessment (RCCRA) approach

The RCCRA will be a high-level, largely desktop exercise that uses existing datasets, reports, information and expert knowledge. Where suitable data is available spatial analysis will be used to layer various maps of climate change hazards (e.g. flooding extents), sensitivity measures (e.g. community age profiles) and communities adaptive capacity (e.g. New Zealand Index of Multiple Deprivation) to develop a better understanding of our communities' vulnerability to climate change across the region. The risk assessment will be split into two stages as shown below in Figure 3.

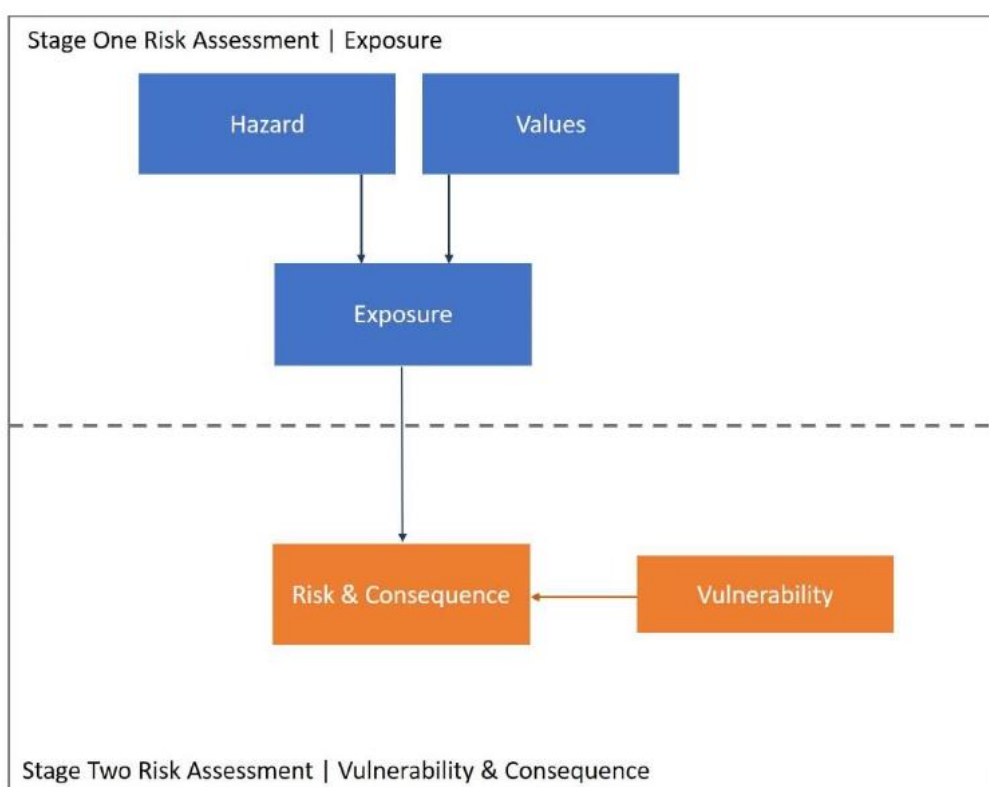


Figure 3: Risk Assessment Stages

While largely a desktop approach, it will be important to engage with tangata whenua at various points in the process to identify values, draw on local knowledge and mātauranga Māori, and assess potential consequences of change. The process itself should accommodate tikanga. There will also need to be a level of broader public engagement to confirm what communities' value.

National Climate Change Risk Assessment (NCCRA)

The Ministry for the Environment published the first NCCRA in August 2020. <https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/national-climate-change-risk-assessment-main-report.pdf>

This Assessment presents a national overview of how the country is likely to be affected by climate change-related hazards. The NCCRA identifies main risks and opportunities, highlights knowledge gaps and helps identify where central government needs to prioritise actions and adaptation. Horizons Regional Council staff have been engaged as a stakeholder.

The NCCRA findings are very high level to capture the most significant risks across the country. There is no reference in the NCCRA to particular locations that may be most vulnerable to a specific risk. The Manawatu-Whanganui RCCRA approach has been guided by the NCCRA framework and will ensure specific issues in the region are addressed.

The findings of the NCCRA will inform the National Adaptation Plan (NAP), to be completed within two years of the release of the NCCRA. The NAP will set out the measures Government proposes to take in response to a changing climate and associated risks.



Whanganui Community Carbon Footprint 2019

August 2020



Prepared for:

Abby Matthews
Science & Innovation Manager

August 2020
Report No. 2020/EXT/1078
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Prepared by:

AECOM NZ Limited
Level 19, 171 Featherston Street
Wellington
www.aecom.com

CONTACT 24 hr Freephone 0508 800 800 help@horizons.govt.nz www.horizons.govt.nz

SERVICE CENTRES	Kairanga Cnr Rongotea and Kairanga-Bunnythorpe Roads Palmerston North	REGIONAL HOUSES	Palmerston North 11-15 Victoria Avenue	DEPOTS	Levin 120 - 122 Hōkio Beach Road
	Marton Hammond Street		Whanganui 181 Guyton Street		Taihape Torere Road Ohotu
	Taumarunui 34 Maata Street				Woodville 116 Vogel Street

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Whanganui District Council
20-Aug-2020

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Whanganui Community Carbon Footprint 2019

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Client: Whanganui District Council

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Level 19, 171 Featherston Street, Wellington 6011, PO Box 27277, Wellington 6141, New Zealand
T +64 4 896 6000 F +64 4 896 6001 www.aecom.com

20-Aug-2020

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Revision 4 – 20-Aug-2020
Prepared for – Whanganui District Council – Co No.: N/A

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Whanganui Community Carbon Footprint 2019

Quality Information

Document Whanganui Community Carbon Footprint 2019

Ref 60623594

Date 20-Aug-2020

Prepared by Adam Swithinbank

Reviewed by Ruth Williams

Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
4	20-Aug-2020	Final Report	Anthony Hume Team Leader - Sustainability	

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Whanganui Community Carbon Footprint 2019

Table of Contents

Executive Summary	5
1.0 Introduction	7
2.0 Approach to Analysis	7
3.0 Overall Results	9
3.1 Biogenic emissions	13
3.2 Net emissions	13
3.3 Comparison with other territorial authorities in the region	15
4.0 Comparison with other areas in New Zealand	18
5.0 Closing statement	19
6.0 Limitations	19
Appendix A	
Emissions Breakdown	A
Appendix B	
Assumptions	B

Executive Summary

Greenhouse Gas (GHG) emissions for the Whanganui Territorial Authority have been measured using the Global Protocol for Community Scale Greenhouse Gas Emissions Inventory (GPC). The method includes emissions from stationary energy, transportation, waste, industry (IPPU), agriculture and forestry sectors.

This document reports greenhouse gas emissions produced in, or resulting from activity or consumption, within the geographic boundaries of Whanganui Territorial Authority for the 2018/19 financial reporting year, referred to hereafter more commonly as 2019 for ease. Whanganui Territorial Authority is referred to hereafter as Whanganui. Greenhouse gas emissions are generally reported in this document in units of Carbon Dioxide Equivalents (CO₂e). The results of the community carbon footprint are summarised in Figure 1.

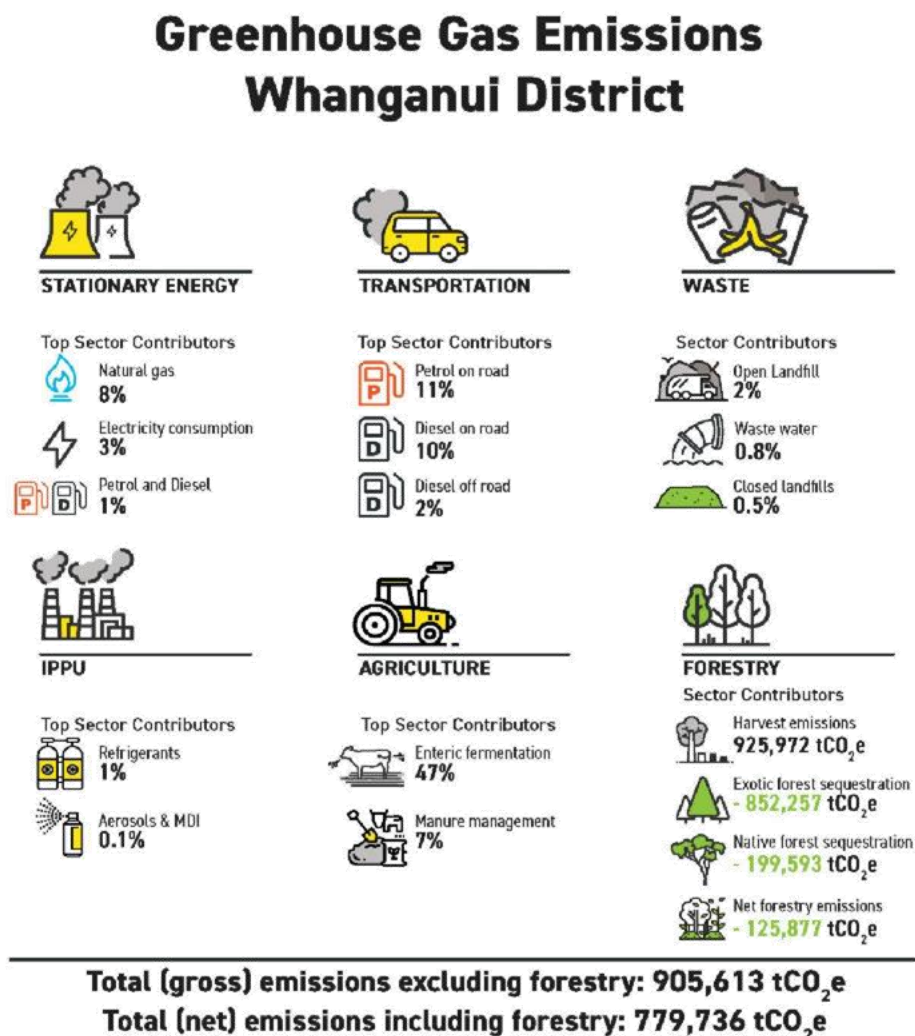
Major findings from the 2019 Emissions Inventory:

- In the 2019 reporting year, Whanganui emitted **gross 905,613 tCO₂e**.
- Agriculture (e.g. emissions from livestock and crops) is the largest emitting sector in Whanganui, representing 57% of total gross emissions, with sheep and cattle accounting for 98% of agricultural emissions. Transport (e.g. road, rail, and air travel) is the second largest source of emissions, accounting for 24% of total gross emissions, with petrol and diesel (on and off-road) accounting for 99% of transport emissions. Stationary Energy (e.g. consumption of electricity and natural gas) is the third highest emitting sector in Whanganui, producing 15% of total gross emissions.
- After consideration of carbon sequestration (carbon captured and stored in plants or soil by forests) and emissions from the forestry sector, Whanganui emitted **net 779,736 tCO₂e** emissions. Carbon sequestration from forests in Whanganui totalled 1,051,850 tCO₂e in 2019 while emissions produced by harvesting of forestry totalled 925,972 tCO₂e.

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Whanganui Community Carbon Footprint 2019

Figure 1 Summary of change in emissions in Whanganui 2018/19 including top contributors to total gross emissions from each sector in 2018/19



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Prepared for – Whanganui District Council – Co No.: N/A

1.0 Introduction

AECOM New Zealand Limited (AECOM) has been commissioned by Horizons Regional Council (HRC) to assist in the development of a greenhouse gas footprint for the Region and each territorial authority in the Region for the 2018/19 (2019) financial year. The study boundary incorporates the jurisdiction of Whanganui Council.

2.0 Approach to Analysis

The methodological approach used to calculate emissions follows the Global Protocol for Community Scale Greenhouse Gas Emissions Inventory (GPC) published by the World Resources Institute (WRI) 2015. The GPC includes emissions from stationary energy, transport, waste, industry, agriculture and forestry activities within Whanganui's boundary. The sector calculations for Agriculture, Forestry, Solid Waste and Wastewater are based on Intergovernmental Panel on Climate Change (IPCC) workbooks and guidance for emissions measurement. The sector calculators also use methods consistent with GHG Protocol guidance published by the WRI for emissions measurement when needed. Data are reported in the GPC sectors, and per activity/emission source, using the format recommended by the GPC.

The same methodology has been used for other community scale greenhouse gas (GHG) inventories around New Zealand, (e.g. Wellington, Auckland, Christchurch, Dunedin, Tauranga and Southland) and internationally. The GPC methodology¹ represents international best practice for city and regional level GHG emissions reporting.

This inventory assesses both direct and indirect emissions sources. Direct emissions are production-based and occur within the geographic area (Scope 1 in the GPC reporting framework). Indirect emissions are produced outside the geographic boundary (Scope 2 and 3) but are allocated to the location of consumption. An example of indirect emissions is those associated with the consumption of electricity, which is supplied by the national grid (Scope 2). All other indirect emissions such as cross-boundary travel (e.g. rail and flights), and energy transportation and distribution losses fit into Scope 3.

All assumptions made during data collection and analyses have been detailed within **Appendix B– Assumptions**. The following aspects are worth noting in reviewing the inventory:

- Emissions are expressed on a carbon dioxide-equivalent basis (CO₂e) including climate change feedbacks using the 100-year Global Warming Potential (GWP) values². Climate change feedbacks are the climate change impacts from GHGs that are increased or decreased as the climate changes. For example, once the Earth begins to warm, it triggers other processes on the surface and in the atmosphere. Current climate change feedback guidance is important to estimate the long-term impacts of GHG's.
- GPC reporting is production-based (as opposed to consumption-based) but includes indirect emissions from energy consumption. Production-based emissions reporting is generally preferred by policy-makers due to robust established methodologies such as the GPC which enables comparison between different studies. Production-based approaches generally exclude globally produced emissions relating to consumption (e.g. embodied emissions relating to products produced elsewhere but consumed within the geographic area).
- Total emissions are reported as gross emissions (excluding forestry) and net emissions (including forestry)
- Where location specific data was not accessible, information was calculated via a per capita break-down of national or regional level data.

¹ <http://www.ghgprotocol.org/greenhouse-gas-protocol-accounting-reporting-standard-cities>

² https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter08_FINAL.pdf (Table 8.7)

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210820\Whanganui\HorizonsCCF_T819_Horizons_Whanganui_Final.docx
Revision 4 – 20-Aug-2020

Prepared for – Whanganui District Council – Co No.: N/A

- Emissions for individual main GHG gases are provided in the supplementary spreadsheet information supplied with this report.
- Transport emissions:
 - Transport emissions associated with air, rail and port activity were calculated using the induced activity method. Fuel consumption data was determined from the number of journeys taken, distance travelled and consumption rates for the appropriate transport mode.
- Solid Waste
 - Solid waste emissions from landfill are measured using the IPCC First Order Decay method that covers landfill activity between 1950 and the present day. Solid waste emissions were calculated for the currently operating landfill sites at Bonny Glen and Levin. In the years prior to each landfill site's operation we have allocated the remaining waste volume to 'Closed landfill sites'.
- Wastewater emissions:
 - Emissions have been calculated based on the data provided following IPCC 2006 guidelines. Where data is missing, IPCC and MfE provided figures have been used. Wastewater emissions from individual septic tanks have been calculated.
 - Wastewater emissions include those released directly from wastewater treatment, flaring of captured gas and from discharge onto land/water.
- Industrial emissions
 - Due to data confidentiality, the inventory reports all the known industrial product use emissions as one single value and does not break-down emissions by product type. The availability of emissions associated with industry is also restricted due to confidentiality issues and constraints in communication from relevant stakeholders.
 - Industry and solvent related emissions are estimated based on data provided in the New Zealand Greenhouse Gas Emissions 1990-2017 report (MfE 2019). Emissions are estimated on a per capita basis applying a national average per person.
- Forestry emissions:
 - This inventory accounts for forest carbon stock changes from afforestation, reforestation, deforestation and forest management (i.e. it applies land-use accounting conventions under the UN Framework Convention on Climate Change rather than the Kyoto Protocol). It treats emissions from harvesting and deforestation as instantaneous rather than accounting for the longer-term emission flows associated with harvested wood products.
 - The inventory considers regenerating (growing) forest areas only. Capture of carbon from the atmosphere is negligible for mature forests that have reached a steady state.

Overall sector data and results for the GHG inventory have been provided to HRC in calculation table spreadsheets. All assumptions made during data collection and analyses have been detailed within **Appendix B – Assumptions**.

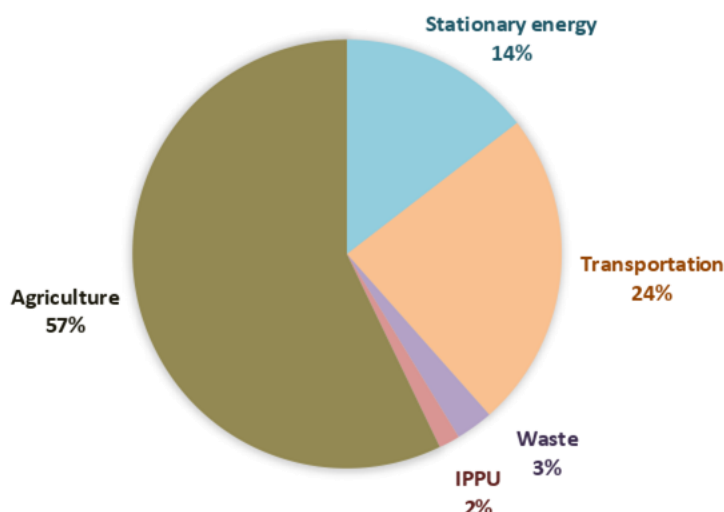
3.0 Overall Results

The paragraphs, figures and tables below explain the overall emissions and emissions from each sector. The focus of the information presented are the gross emissions produced in Whanganui. Reporting of gross emissions informs and enables local action to address emissions.

Discussion of per capita emissions is limited to when it is useful for comparing emission figures across with other geographic areas. Net emissions including results from forestry resources are reported separately.

During 2019, Whanganui emitted **gross 905,613 tCO₂e** and **net 779,736 tCO₂e** emissions. The population in 2019 was approximately **47,000** people, resulting in per capita gross emissions of **19.3 tCO₂e/person**. Agricultural emissions are the largest contributor to the inventory for Whanganui, followed by Transport (refer to Figure 2 and Table 1).

Figure 2 Whanganui's GHG emissions gross emissions split by sector (tCO₂e)



The carbon footprint inventory comprises emissions for six different sectors, summarised below:

Stationary Energy: Producing 131,788 tCO₂e in 2019, stationary energy was Whanganui's third highest emitting sector (14.6% of total gross emissions). Electricity consumption was the cause of 26% of stationary energy emissions (34,258 tCO₂e, or 4% of total gross emissions). Natural gas consumption was the cause of 61% of stationary energy emissions (79,777 tCO₂e, or 9% of total gross emissions). Petrol and diesel consumption used for stationary energy was the cause of 8% of stationary energy emissions (10,904 tCO₂e, or 1% of total gross emissions). Stationary uses of LPG, coal and biofuel produced the remaining 5% of stationary energy emissions (6,849 tCO₂e).

Stationary energy demand is broken down by fuel type, and also by the sector in which it is consumed. Stationary energy demand is reported for the following sectors: industrial (which includes agriculture, forestry and fishing); commercial; and residential. Additional to agriculture, forestry and fishing, the industrial sector includes mining, food processing, textiles, chemicals, metals, mechanical/electrical equipment and building and construction activities. Emissions from petrol and diesel used for stationary energy are not broken down into these sectors.

- Residential stationary energy consumption accounts for 15% of stationary energy emissions (19,576 tCO₂e) and 2% of total gross emissions. Residential stationary energy is energy used in homes (e.g. for heating, lighting and cooking).

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Revision 4 – 20-Aug-2020
Prepared for – Whanganui District Council – Co No.: N/A

- Commercial stationary energy consumption accounts for 17% of stationary energy emissions (21,902 tCO₂e) and 2% of total gross emissions. Commercial stationary energy is energy used in all non-residential and non-industrial settings (e.g. in retail, hospitality, education and healthcare).
- Industrial stationary energy consumption accounts for 60% of stationary energy emissions (79,406 tCO₂e) and 9% of total gross emissions. Industrial stationary energy is energy used within all industrial settings (e.g. mining, food processing, textiles and building and construction activities), and includes agriculture, forestry and fishing activities.
- The remaining 8% of stationary energy emissions (10,904 tCO₂e, 1% of gross emissions) were produced by diesel and petrol, which were not allocated to the above categories. Stationary Energy uses of diesel and petrol include use in stationary generators and motors and for heating.

Transportation: The second highest emitting sector, transport, produced 216,588 tCO₂e in the reporting year (23.9% of Whanganui's gross total emissions). Almost all of these emissions can be attributed to Petrol and Diesel used for transport, which produced a total of 214,475 tCO₂e (99% of the sector's emissions and 24% of total gross emissions). The rest of the transport emissions are produced by air, rail, LPG and port activities totalling 2,113 tCO₂e (1% of the sector's total emissions and 0.2% of total gross emissions).

Waste (solid & wastewater): Waste originating in Whanganui (solid waste and wastewater) produced 25,739 tCO₂e in 2019 which comprises 2.8% of Whanganui's total gross emissions. Solid waste produced 18,558 tCO₂e in 2019, making up 72% of total waste emissions. Wastewater produced the remaining 28% of waste emissions (7,181 tCO₂e).

Solid waste emissions include emissions from open landfills and closed landfills. Both open and closed landfills emit landfill (methane) gas from the breakdown of organic materials disposed of in the landfill. Open landfills contributed 14,317 tCO₂e (2% of Whanganui's total gross emissions). Closed landfills emitted 4,241 tCO₂e (0.5% of Whanganui's total gross emissions).

Wastewater produced 7,181 tCO₂e making up 28% of total waste emissions (0.8% of Whanganui's total gross emissions). Wastewater tends to be relatively small emission source compared to solid waste as advanced treatment of wastewater produces low emissions. In contrast, solid waste generates methane gas over many years as organic material enters landfill and emissions depend on the efficiency and scale of landfill gas capture.

Industrial Processes and Product Use (IPPU): This sector includes emissions associated with the consumption of GHGs for refrigerants, foam blowing, fire extinguishers, aerosols, metered dose inhalers and Sulphur Hexafluoride for electrical insulation and equipment production. The IPPU sector also includes emissions associated with industrial activity within Whanganui, which due to confidentiality of data, are reported as a single value. IPPU emissions do not include energy use for industrial manufacturing, which is included in the relevant stationary energy sub-category (e.g. coal, electricity and/or petrol and diesel). These emissions are based on nationally reported IPPU emissions due to the difficulty of allocating emissions to particular geographic locations. Addressing IPPU emissions is typically a national policy issue.

IPPU in Whanganui produced 14,177 tCO₂e in 2019, contributing 1.6% to the area's total gross emissions. 92% of IPPU emissions (13,103 tCO₂e) are the result of the use of refrigerants.

Agriculture: The highest emitting sector, agriculture, emitted 517,321 tCO₂e in 2019, 57.1% of Whanganui's total gross emissions. Agricultural emissions are the result of both crop and livestock farming. Livestock farming emitted 99% of agricultural emissions. Sheep are farmed in the largest numbers across the area, accounting for 86% of farmed livestock (569,923 animals) and 54% of agricultural emissions. Cattle make up 13% of farmed livestock (83,063 animals) and 44% of agricultural emissions.

Enteric fermentation produced 82% of Whanganui's agricultural emissions (423,295 tCO₂e), with dairy cattle, non-dairy cattle and sheep emitting the vast majority of these emissions (16%, 28%

and 55% respectively). The second highest source of agricultural emissions were produced from N₂O released by manure from grazing animals on pasture (63,253 tCO₂e or 12% of the sector), with dairy cattle, non-dairy cattle and sheep emitting the vast majority of these emissions (17%, 25% and 58% respectively). A breakdown of agricultural emissions by source is shown in Table 6 in Appendix A.

Forestry: Whanganui has a regenerative native forested area which includes Gorse, Broom, Manuka, Kanuka, Mixed Exotic Shrubland and Broadleaved Hardwoods. Regenerating natives occupy 30,535 ha with exotics occupying a further 22,453 ha of land. In total, 1,051,850 tCO₂e were sequestered by forests in Whanganui in 2019.

Of the total sequestered CO₂, native forests sequestered 199,593 tCO₂e while exotic forests sequestered 852,257 tCO₂e in 2019. Forest harvesting releases carbon stored in forests in the form of carbon dioxide. Harvesting of forestry in Whanganui in 2019 produced 925,972 tCO₂e.

Table 1 Summary of gross emissions split by Sector and associated sub-categories

Sector	tCO ₂ e	% Gross	% Sector
Stationary Energy			
Electricity Consumption	31,658	3.5%	24.0%
Electricity T&D Loss	2,600	0.3%	2.0%
Natural Gas	68,798	7.6%	52.2%
Natural Gas T&D Loss	10,980	1.2%	8.3%
LPG	3,489	0.4%	2.6%
Stationary Petrol & Diesel Use	10,904	1.2%	8.3%
Coal	2,597	0.3%	2.0%
Biofuel / Wood	763	0.1%	0.6%
Total:	131,788	14.6%	100%
Transportation			
Petrol	105,045	11.6%	48.5%
Diesel	109,430	12.1%	50.5%
Rail Emissions	730	0.1%	0.3%
Jet Kerosene	1,176	0.1%	0.5%
Aviation Gas	120	<0.1%	0.1%
Marine Diesel	3	<0.1%	<0.1%
LPG	84	<0.1%	<0.1%
Total:	216,588	23.9%	100%
Waste			
Open landfill	14,317	1.6%	55.6%
Closed landfill	4,241	0.5%	16.5%
Wastewater	7,181	0.8%	27.9%
Total	25,739	2.8%	100%
IPPU			
Industrial Emissions	14,177	1.6%	100%
Total	14,177	1.6%	100%
Agriculture			
Enteric Fermentation	423,295	46.7%	81.8%
Manure from Grazing Animals	63,253	7.0%	12.2%
Other Agriculture	30,772	3.4%	5.9%
Total	517,321	57.1%	100%
Forestry			
Exotic Forest Sequestration	- 852,257	N/A	N/A
Native Forest Sequestration	- 199,593	N/A	N/A
Harvest Emissions	925,972	N/A	N/A
Total	- 125,877	N/A	100%
Total (net) incl. forestry	779,736		
Total (gross) excl. forestry	905,613		

3.1 Biogenic emissions

Biogenic CO₂ and methane emissions are stated in Table 2 and Table 3, respectively.

Biogenic CO₂ emissions from plants and animals are excluded from gross and net emissions as they are part of the natural carbon cycle. For example, as wood biofuels originate from forestry the Biogenic CO₂ from biofuels is excluded from gross emissions.

Biogenic CH₄ emissions are included in gross emissions due to their relatively large impact on warming relative to Biogenic CO₂. For example, farmed cattle produce Biogenic CH₄ emissions, via enteric fermentation, that are included in gross emissions.

The importance of Biogenic CH₄ is highlighted in NZ's Climate Change Response (Zero Carbon) Amendment Act. The Act includes targets to reduce Biogenic CH₄ by between 24 percent and 47 percent below 2017 levels by 2050, and a 10 percent reduction below 2017 levels by 2030. More information on the Act is available here: <https://www.mfe.govt.nz/climate-change/zero-carbon-amendment-act>.

Table 2 Biogenic CO₂ (Excluded from gross emissions)

Biogenic CO ₂ (Excluded from gross emissions)		
Biofuel	8,032	t CO ₂
Biodiesel	-	t CO ₂
Landfill Gas	4,580	t CO ₂
Total biogenic CO₂	12,612	t CO₂

Table 3 Biogenic Methane (Included in gross emissions)

Biogenic Methane (Included in gross emissions)		
Biofuel	20	t CH ₄
Biodiesel	-	t CH ₄
Landfill Gas	420	t CH ₄
Wastewater Treatment	194	t CH ₄
Enteric Fermentation	12,450	t CH ₄
Manure Management	327	t CH ₄
Total biogenic CH₄	13,411	t CH₄

3.2 Net emissions

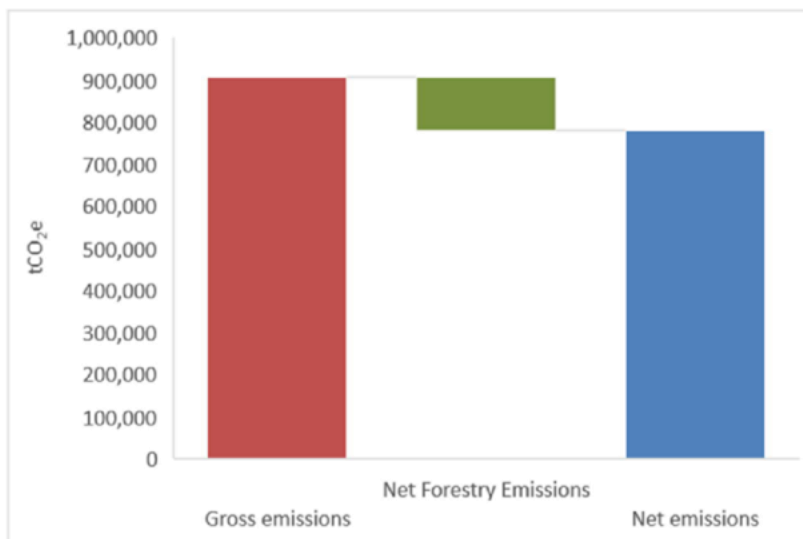
Net emissions differ from gross emissions because they include emissions related to forestry activity within an area. Emissions from forestry include two main types of activity. Harvesting of forest increases emissions via the use of fuel by equipment and releasing carbon from plants and soils. Planting of native forest e.g. Manuka, Kanuka, and exotic forest e.g. pine, sequesters (captures) carbon from the atmosphere while the trees are growing to maturity. When sequestration by forests exceeds emissions from harvesting the extra quantity of carbon sequestered by forest reduces total gross emissions.

Overall, forestry is a net negative source of emissions of 125,877 tCO₂e due the sequestration of carbon mostly by exotic forest (see Figure 3). The net-negative emissions from forestry reduce gross emissions by 14% to a total of 779,736 tCO₂e (total net emissions). Figure 4 shows gross emissions versus net emissions in 2019 and the impact of sequestration by Forestry.

Figure 3 Horizons Region's forestry harvest emissions, forestry sequestration and net forestry emissions (tCO₂e)



Figure 4 Horizons Region's Gross and Net emissions including net forestry emissions (tCO₂e)



Carbon sequestered by forestry can be viewed as a liability/risk needing careful consideration. For example, what happens if there is large downturn in exports of exotic pine? If plantations are not replanted or other land use change occurs to exotic forested areas, then emissions will quickly rise. Equally, if native forest is not protected from removal, and removal does happen, then emissions will rise. In summary, when a large amount of carbon is captured by forests, long-term planning is needed on how best to manage this carbon sink.

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Revision 4 – 20-Aug-2020
Prepared for – Whanganui District Council – Co No.: N/A

3.3 Comparison with other territorial authorities in the region

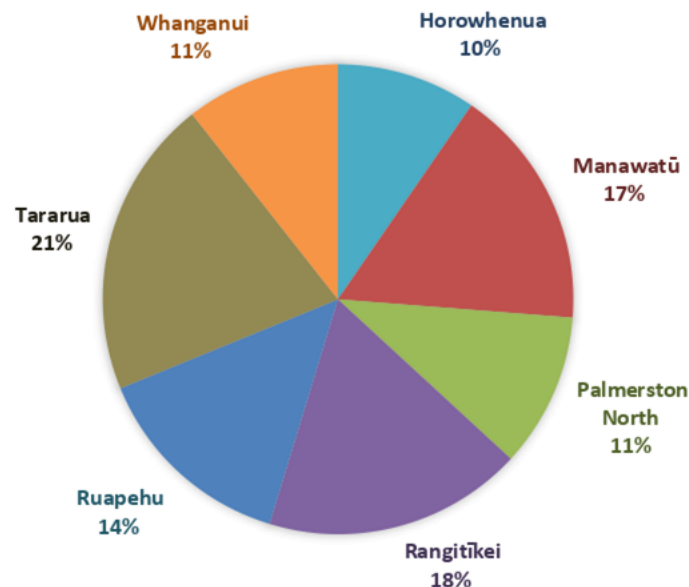
Table 4 shows gross emission results across the Horizons Region. Whanganui contributed to 11% of the Horizons Region’s total gross emissions for the 2019 reporting year.

Whanganui had the third highest population, and the joint second lowest emissions in the region. The relatively low total emissions were due to much smaller agricultural emissions and relatively low transport emissions. Whanganui had the lowest per capita transport emissions and second lowest agricultural emissions in the Region resulting in the second lowest per capita emissions.

Table 4: Gross emissions in the Horizons Region, by territorial authority

	Horowhenua	Manawatū	Palmerston North	Rangitīkei	Ruapehu	Tararua	Whanganui
Total Gross Emissions (tCO ₂ e)	819,053	1,419,704	905,802	1,519,421	1,203,611	1,752,405	905,613
% of Region Gross Emissions	10%	17%	11%	18%	14%	21%	11%
Total Gross Emissions Per Capita (tCO ₂ e)	23.6	45.2	10.3	97.2	94.8	94.3	19.3

Figure 5 Breakdown of gross emissions between the cities and districts in the Horizons Region (tCO₂e)



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Revision 4 – 20-Aug-2020
Prepared for – Whanganui District Council – Co No.: N/A

Figure 6 Total gross emissions in the Horizons Region, by sector (tCO₂e)

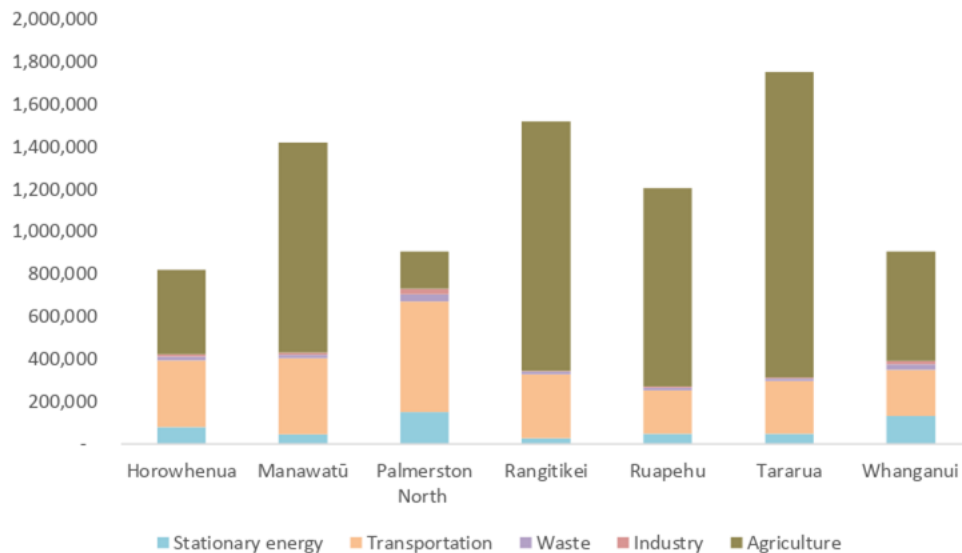


Table 5 shows net emissions including sequestration from forestry and emissions from the forestry sector. Net emissions can produce a widely different pattern of results across the region than gross emissions. For example, net emissions for Ruapehu, which has the one of the highest gross emissions, are lower than all other territorial authorities due to high levels of sequestration from forests in the area.

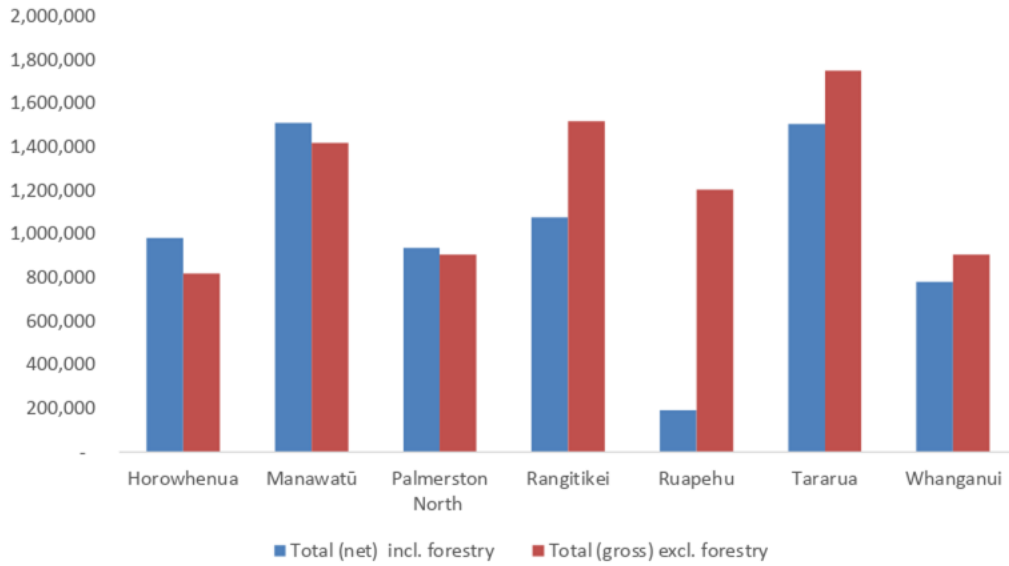
Table 5 Net emissions (incl. forestry) in the Horizons Region, by territorial authority

	Horowhenua	Manawatū	Palmerston North	Rangitikei	Ruapehu	Tararua	Whanganui
Total Net Emissions (tCO ₂ e)	983,864	1,512,606	936,737	1,077,814	192,008	1,505,774	780,544
% of Region Net Emissions	14%	22%	13%	15%	3%	22%	11%

The influence of forest sequestration of carbon, and forestry emissions, on gross emissions across the Horizons Region, can be seen clearly in Figure 7.

In Rangitikei, Ruapehu, Tararua and Whanganui, forest sequestration of carbon was greater than the carbon released through forest harvesting in 2019, this meant that total net emissions were lower than total gross emissions. In Horowhenua, Manawatū and Palmerston North, carbon emissions from forest harvesting were greater than the carbon sequestered from forests in 2019, therefore total net emissions were higher than total gross emissions.

Figure 7 Gross emissions and net emissions (incl. forestry) in the Horizons Region (tCO₂e)



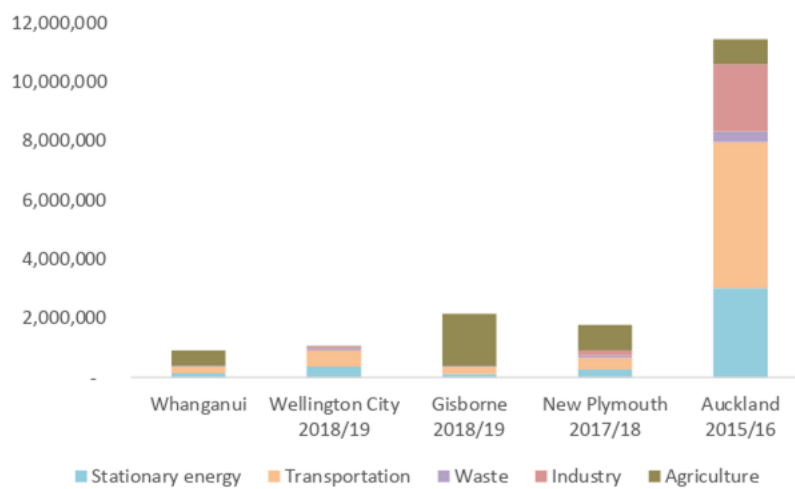
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Revision 4 – 20-Aug-2020
Prepared for – Whanganui District Council – Co No.: N/A

4.0 Comparison with other areas in New Zealand

Figure 8 shows a comparison of gross emissions (excluding forestry) for Whanganui with other local authorities in New Zealand split by sector. These studies have been chosen to represent different areas of New Zealand and are all reported using the GPC approach. Note however, that these studies were conducted at differing geographic levels, in differing timeframes, with vastly different population numbers and with slight differences in methodology.

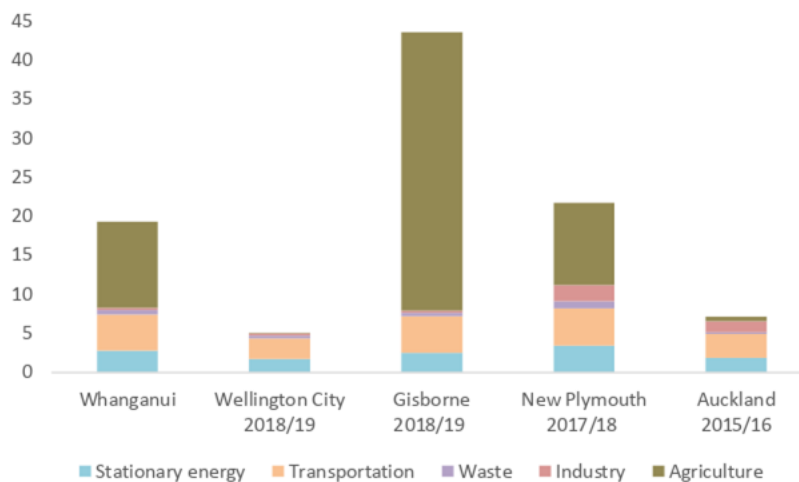
When compared, Whanganui had lower gross emissions than each of the compared areas.

Figure 8 A comparison of GHG emissions with other areas of New Zealand by gross emissions (tCO₂e)



When comparing different regional carbon footprints, a per capita figure can be useful because it provides a common reference point to understand the difference in emissions. Whanganui has higher per capita gross emissions than the Wellington City, Tauranga and the Auckland Region, predominantly due to large agricultural emissions within Whanganui. Whanganui has lower total per capita gross emissions than the Gisborne Territorial Authority.

Figure 9 A comparison of GHG emissions with other areas of New Zealand on a per capita basis (tCO₂e)



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210820\WhanganuiHorizonsCCF_1819_Horizons_Whanganui_Final.docx
Revision 4 – 20-Aug-2020
Prepared for – Whanganui District Council – Co No.: N/A

5.0 Closing statement

Whanganui District Council's GHG inventory provides information for decision-making and action by the council, their stakeholders and the wider community.

The inventory of greenhouse gas emissions the council has developed covers emissions produced in the stationary energy, transport, waste, industry, agriculture and forestry sectors using the GPC reporting framework. Sector-level data allows the council to target and work with those sectors which contribute the most emissions to the footprint.

The agriculture and transport sectors represent the highest emitting sectors in the area, 57% and 24% respectively. Within these sectors, enteric fermentation from farmed livestock and on-road transport (petrol and diesel use) are the largest emissions sources, 47% and 22% respectively. Results clearly highlight the need to reduce the impact of greenhouse gas emissions from on-road travel and the agriculture sector to limit the area's contribution to global climate change.

Data quality and availability varies widely between the sectors. Higher quality data for aviation, solid waste and on-road transport would be beneficial in improving accuracy of the results of future inventories.

Understanding of the extensive and long-lasting effects of climate change is improving all the time. It is recommended that this emissions inventory is updated regularly to inform ongoing positive decision making to address climate change issues locally and globally.

6.0 Limitations

Where this Report indicates that information has been provided to AECOM by third parties, AECOM has made no independent verification of this information except as expressly stated in the Report. AECOM assumes no liability for any inaccuracies in or omissions to that information. This Report was prepared between **January 2020 and July 2020** and is based on the information reviewed at the time of preparation. AECOM disclaims responsibility for any changes that may have occurred after this time. This Report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This Report does not purport to give legal advice.

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Appendix A

Emissions Breakdown

Appendix A Emissions Breakdown

The pie charts below show a breakdown of the proportion of gross emissions from each sector and source.

Note: Emission sources lower than 1% of total emissions are not shown but can displayed, if needed.

Figure 10 Total gross emissions breakdown, by sector (tCO₂e)

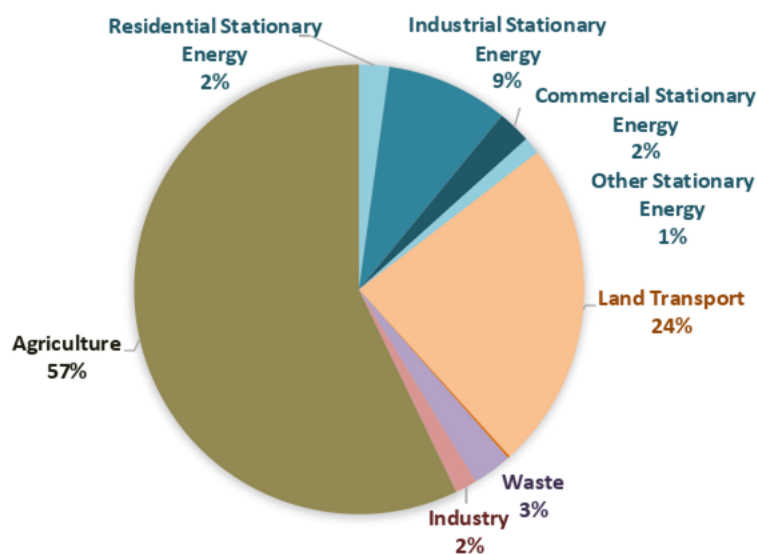
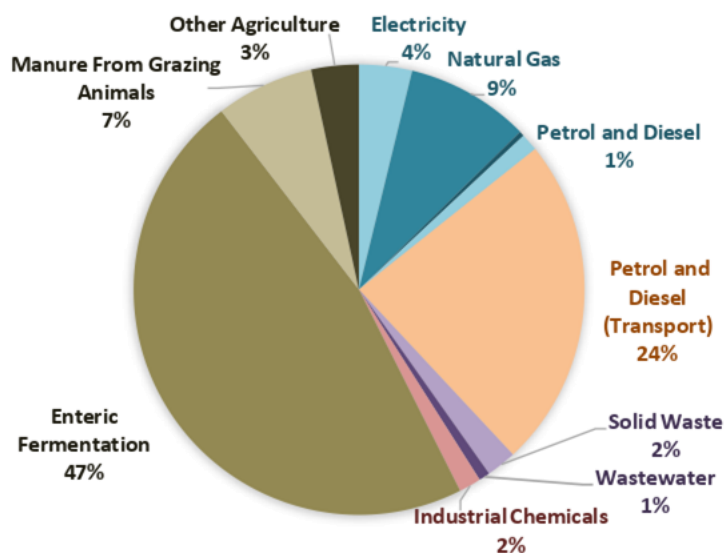


Figure 11 Total gross emissions breakdown, by source (tCO₂e)



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Revision 4 – 20-Aug-2020
Prepared for – Whanganui District Council – Co No.: N/A

Figure 12 Total gross emissions breakdown, by fuel type source, highlighting stationary energy emissions (tCO₂e)

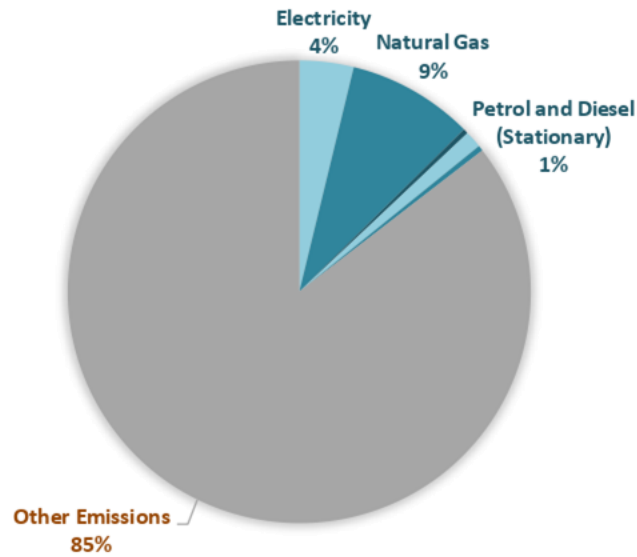
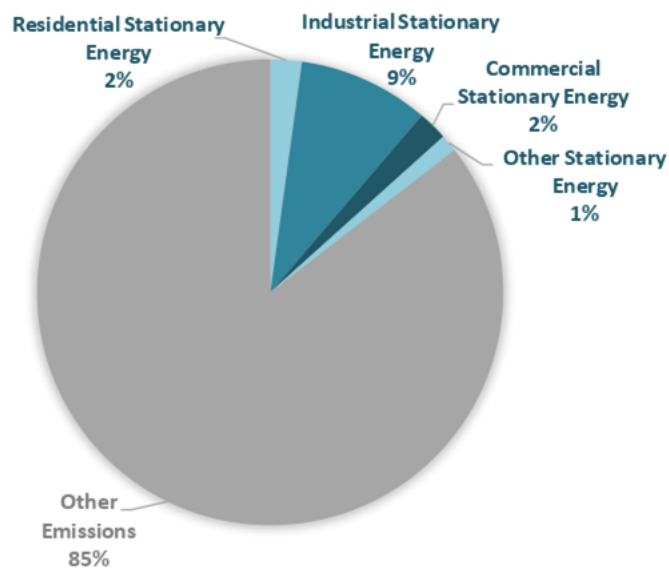


Figure 13 Total gross emissions breakdown, highlighting stationary energy emissions, showing source of stationary energy emissions (tCO₂e)



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 Revision 4 – 20-Aug-2020
 Prepared for – Whanganui District Council – Co No.: N/A

Figure 14 Total gross emissions breakdown, by source, highlighting transport emissions (tCO₂e)

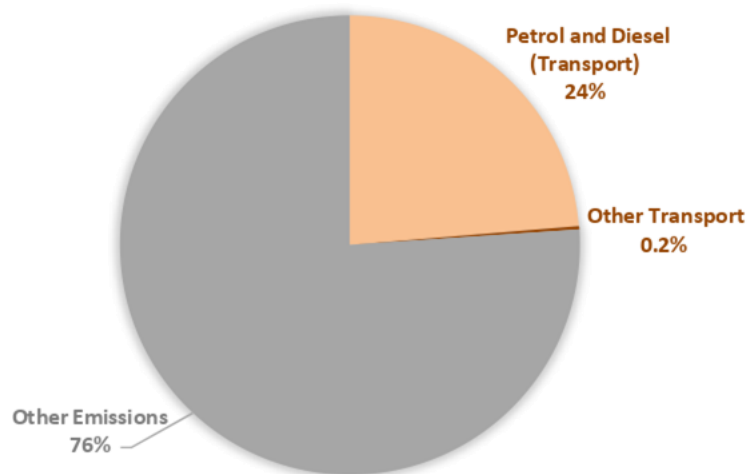
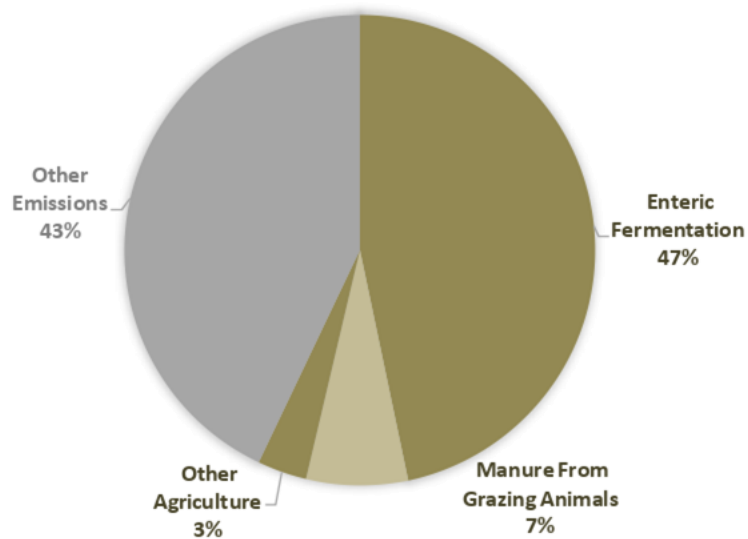


Figure 15 Total gross emissions breakdown, by source, highlighting agriculture emissions (tCO₂e)



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Revision 4 – 20-Aug-2020
Prepared for – Whanganui District Council – Co No.: N/A

Table 6 Agricultural emissions, by source (tCO₂e)

Emission Source	tCO ₂ e	% Sector
Dairy Cattle	88,651	17%
Non-Dairy Cattle	136,771	26%
Sheep	278,122	54%
Other Livestock	6,343	1%
Crops	7,311	1%
Other Agricultural Emissions	124	0%

Figure 16 Agricultural emissions, by source (tCO₂e)

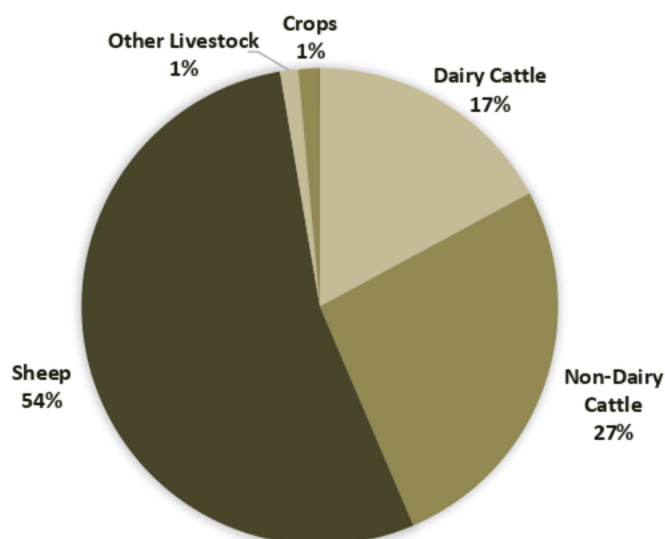


Table 7 Gross emissions, net emissions, per capita emissions and emissions per hectare for all districts within the Horizons Region (tCO₂e)

	Horowhenua	Manawatū	Palmerston North	Rangitikei	Ruapehu	Tararua	Whanganui
Total Gross Emissions	819,053	1,419,704	905,802	1,519,421	1,203,611	1,752,405	905,613
Total Net Emissions	983,392	1,512,053	935,600	1,077,394	191,684	1,505,497	779,736
Total Gross Emissions per Capita	23.6	45.2	10.3	97.2	94.8	94.3	19.3
Total Gross Emissions per hectare	7.7	5.5	22.9	3.4	1.8	4.0	3.8

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Revision 4 – 20-Aug-2020
Prepared for – Whanganui District Council – Co No.: N/A

Basic and Basic+ emissions reporting (Global Covenant of Mayors)

BASIC and BASIC+ emissions reporting are standardised reporting methods used by the Global Covenant of Mayors for Climate and Energy for comparison of emissions with other cities around the world and to demonstrate the importance of regional-level climate action at a local and global scale. BASIC and BASIC+ emissions are reported as outlined in the Global Protocol for Community Scale Greenhouse Gas Emissions Inventory (GPC).

BASIC emissions reporting excludes emissions from Industrial Processes and Product Use (IPPU), Agriculture, Forestry and Other Land Use and greenhouse gas emissions occurring outside the district boundary as a result of activities taking place within the regional boundary. BASIC+ emissions reporting includes those emissions excluded from BASIC emissions reporting (which is equal to the total gross emissions reported in this study).

Table 8 BASIC and BASIC+ emissions

	Emissions tCO₂e
BASIC	360,536
BASIC per capita	7.7
BASIC+	905,613
BASIC+ per capita	19.3

Appendix B

Assumptions

Nova Sector / Category	Assumption and Exclusions
General	
Geographical Boundary	LGNZ local council mapping boundaries have been applied
Transport Emissions	
Petrol and Diesel:	<p>Petrol and diesel consumption have been divided by likely end use. The division into transport and stationary energy end use (and within transport, on-road and off-road) was calculated using fuel end use data provided by the Energy Efficiency and Conservation Authority (EECA) in April 2020.</p> <p>On-road transport is defined as all standard transportation vehicles used on roads e.g. cars, bikes, buses.</p> <p>Off-road transport is defined as machinery for agriculture, construction and other industry used off-roads.</p> <p>Stationary energy petrol and diesel use is defined as fuel not used for transport either on or off roads. Petrol and diesel used for stationary energy has been reported in the Stationary Energy sector.</p> <p>Data provided directly for Whanganui Territorial Authority.</p>
Rail Diesel	<p>Consumption was calculated by Kiwi Rail using the Induced Activity method for system boundaries. The following assumptions were made:</p> <ul style="list-style-type: none"> - Net Weight is product weight only and excludes container tare (the weight of an empty container) - The Net Tonne-Kilometres (NTK) measurement has been used. NTK is the sum of the tonnes carried multiplied by the distance travelled. - National fuel consumption rates have been used to derive litres of fuel for distance. - Type of locomotive engine used, and jurisdiction topography, have not been incorporated in the calculations. <p>Using the induced activity method, the trans-boundary routes were determined, and the number of stops taken along the way derived. The total amount of litres of diesel consumed per route was then split between the departure territorial authority, arrival territorial authority and any territorial authority the freight stopped at along the way. If the freight travelled through but did not stop within a territorial authority, no emissions were allocated.</p> <p>All rail emissions have been classified as Scope 3.</p>
Jet Kerosene	<p>Calculated using the Induced Activity method as per rail diesel.</p> <p>Palmerston North Airport has been treated as a regional airport serving a wider area than just Palmerston North City. Emissions from aircraft fuel connected to Palmerston North airport have been distributed between all territorial authorities in the region on a per capita basis.</p>

	<p>An estimate of fuel use was calculated for flights departing and arriving from Palmerston North Airport:</p> <ul style="list-style-type: none"> - Previously obtained fuel use data for FY1617 has been updated and used for this study due to difficulty in obtaining more recent data. An additional scheduled route has been added to Napier since 2017 so this additional fuel use has been calculated and added to the 2016/17 figure. - Departures and arrivals information, and aircraft models, were used to calculate flight numbers, flight distances and fuel use. - All flight-path distances between Palmerston North and the destination / origin airport were calculated. - A density for kerosene of 0.81g/cm³ was applied to all trips. - Fuel Burn (kgCO₂e/km) for each model of aircraft was sourced where accessible. Where not available, the national inventory average figures were applied. - As per the induced activity method, only 50% of emissions calculated per one-way arrival and departure were allocated to Palmerston North Airport. The remaining 50% of each leg was allocated to the originating or destination airport. <p>An estimate of fuel use for Whanganui Airport has also been calculated using the above methodology. Whanganui Airport is a small, local airport and so emissions have been allocated to the Whanganui Territorial Authority only.</p> <p>All aircraft fuel emissions have been classified as Scope 3. Scope 2 electricity use by airport / planes are incorporated within the general electricity consumption data for the territorial authority.</p>
Aviation Gas	<p>Aviation gas is mostly used by small aircraft for relatively short flights. Aviation Gas consumption of 250,000 liters per airport was estimated based on community carbon footprints developed for other regions in New Zealand, using advice from industry experts. Included in this fuel use is fuel consumed by the flight school located at Palmerston North Airport.</p> <p>All aircraft fuel emissions have been classified as Scope 3.</p>
Marine Diesel	<p>Freight and commercial:</p> <ul style="list-style-type: none"> - This has not been calculated due to difficulty of obtaining reliable data <p>Private use:</p> <ul style="list-style-type: none"> - This is assumed to be an insignificant contributor to emissions. - Most small private boats use fuel purchased at vehicle gas stations so this consumption will be included in transport petrol and diesel emissions. <p>Port Operations:</p> <ul style="list-style-type: none"> - All port operations fuel use is allocated to Whanganui District as these vessels do not cross territorial authority boundaries.
LPG	<p>Total North Island consumption data was used and then split on a per capita basis to determine the territorial authority's consumption. National LPG end use data has been used to breakdown consumption into stationary energy and transport usage, these are then reported separately in their respective categories.</p>
Bitumen	<i>Not calculated</i>
Lubricants	<i>Not calculated</i>
Stationary Energy Emissions	
Consumer Energy End Use	<p>Stationary energy demand (e.g. electricity use, natural gas, etc.) is broken down by the sector in which they are consumed. We report stationary energy demand in the following categories: industrial (which includes agriculture, forestry and fishing); commercial; and residential. These sectors follow the Australia New Zealand Standard Industrial</p>

	<p>Classification 2006 definitions. Additional to agriculture, forestry and fishing, the industrial sector includes mining, food processing, textiles, chemicals, metals, mechanical/electrical equipment and building and construction activities. Emissions from petrol and diesel used for stationary energy are not broken down into these sectors. Energy demand used for transport is reported in the transport sector.</p>
Electricity Consumption	<p>Electricity consumption for the territorial authority has been calculated using grid demand trends from the EMI website (www.emi.ea.govt.nz) to obtain raw grid exit point data. The breakdown into sectors is based on NZ average consumption per sector (residential, commercial and industrial).</p>
Electricity Generation	<p>There is electricity generation in the Horizons Region, however, emissions produced in electricity generation are not required to be reported for the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) standard.</p>
Public Transport Electricity	<p>Any electricity used in the public transport system is included in stationary energy electricity consumption figures.</p>
Coal production	<p>Not Calculated: There are no active coal mines within the region. (NZP&M 2019)</p>
Coal Consumption	<p>Coal consumption calculated using national per capita coal consumption. The breakdown into sectors is based on NZ average consumption per sector (residential, commercial and industrial).</p>
Biofuel and Wood Consumption	<p>Consumption has been calculated based on national per capita Commercial and Residential emissions for biofuel use (provided New Zealand Greenhouse Gas Emissions 1990 -2017 (MfE 2019)).</p>
LPG Consumption	<p>LPG consumption has been calculated using total North Island per capita LPG consumption data. National LPG end use data has been used to breakdown consumption into stationary energy and transport usage, these are then reported separately in their respective categories.</p>
Petrol and Diesel (stationary energy end-use)	<p>Total Petrol and diesel fuel use was divided by likely end use. The division into transport and stationary energy end use (and within transport, on-road and off-road) was calculated using fuel end use data provided by the Energy Efficiency and Conservation Authority (EECA) in April 2020. Stationary energy petrol and diesel use is defined as fuel not used for transport either on or off roads. Petrol and diesel used for transport has been reported in the Transport sector (see above).</p>
Coal Fugitive Emissions	<p>Not Calculated: There are no active coal mines within the region. (NZP&M 2019)</p>
Oil and Gas Fugitive Emissions	<p>Not Calculated: There are no gas or oil processing plants within the region.</p>
Biogenic Emissions	<p>Some Carbon Dioxide (CO₂) emissions are considered to be biogenic. These are CO₂ emissions where the carbon has been recently derived from CO₂ present in the atmosphere (for example, some agricultural and waste emissions). These emissions are not included in calculating total CO₂e.</p>
Agricultural Emissions	
General	<p>No assumptions were made during the collection of agricultural data as it was sourced from territorial authority-specific data provided by Statistics NZ and the Ministry for the Environment National Inventory.</p>
Solid Waste Emissions	
Landfills	<p>Solid waste emissions from landfill are measured using the IPCC First Order Decay method that covers landfill activity between 1950 and the present day. Solid waste emissions</p>

	<p>were calculated for the currently operating landfill sites at Bonny Glen, Levin and Ruapehu. Bonny Glen and Levin do process waste from outside the Region but the data we have only concerns waste produced in the Region. Waste from Ruapehu is treated exclusively at Ruapehu landfill and the site does not accept waste from outside Ruapehu.</p> <p>Where waste volume data was not available, we have used the national per capita waste volume to estimate waste volume for each territorial area and distributed between the landfill sites based on their proportion of the Region's waste volume.</p> <p>In the years prior to each landfill site's operation we have allocated the remaining national average waste volume per person to 'Closed landfill sites'. Unless new data is provided, we assume that there is no landfill gas recovery on closed landfill sites.</p>
Landfill Gas Recovery	LFG efficiency has been estimated based on LFG generation from waste deposited and reported LFG extraction volumes.
Wastewater Emissions	
Wastewater Volume	<p>Wastewater treatment plant data provided at territorial authority level. Emissions have been calculated based on the data provided following IPCC 2006 guidelines. Where data is missing, IPCC and MfE provided figures have been used, e.g. for biochemical oxygen demand (BOD). Calculation of emissions includes emissions released directly from wastewater treatment, flaring of captured gas and from discharge onto land/water. Calculations for wastewater emissions from individual septic tanks are also included. Populations not connected to known wastewater treatment plants are assumed to be using septic tanks.</p> <p>We have not calculated emissions from combustion within sludge digestion. We have also not accounted for overflows, fugitive emissions or sludge removal.</p>
Biochemical Oxygen Demand (BOD)	<p>The biochemical oxygen demand (BOD) is the amount of dissolved oxygen needed (i.e. demanded) by aerobic biological organisms to break down organic material present in water. It is used as a surrogate to measure the degree of organic pollution in water.</p> <p>BOD has been assumed using influent composite samples and inlet flow meters.</p>
Population Connected to WWTP or Septic Tanks	Population connected to wastewater treatment plants have been provided at the territorial authority level.
Industrial Emissions	
Industry & Solvent Emissions	Calculated from MfE National Inventory data, as this the latest, most recently available data on the required solvents. Emissions are estimated on a per capita basis.
Industrial Activity	No information could be obtained from Industry representatives within the territorial authority. National level data has been used and split on a per capita basis to determine the territorial authority's consumption.
Forestry Emissions	
Exotic Wood Harvested	Territorial authority figures were calculated using the assumed percentage share of territorial authority forest area of harvest age (>26 years old) in the region, in the reporting year.
Roundwood Removal	It has been assumed that only 70% of the tree is removed as roundwood and that the above ground tree makes up approximately 74% of the total carbon stored.
Emission Factors	

General	All emission factors have detailed source information in the calculation tables within which they are used. Where possible, the most up to date, NZ specific emission factors have been applied.
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horizons.govt.nz

24 hour freephone 0508 800 800
fax 06 952 2929 | email help@horizons.govt.nz
Private Bag 11025, Manawatu Mail Centre, Palmerston North 4442



Manawatū-Whanganui Climate Change Action Plan Towards a Climate-Resilient Region

Ruapehu District Council | Whanganui District Council | Rangitīkei District Council |
Manawatū District Council | Palmerston North City Council | Tararua District Council
| Horowhenua District Council | Horizons Regional Council

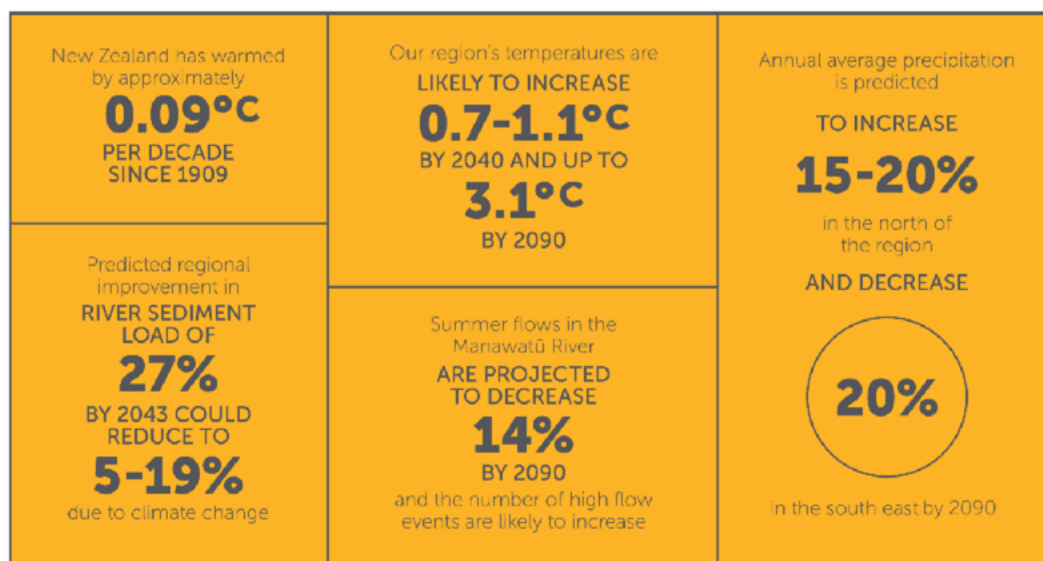
September 2020



OUR CHANGING CLIMATE

Climate change may be the biggest environmental challenges we face. Our region is likely to see both longer dry spells and more intense rainfall events. Stormier weather will exacerbate erosion in the hill country and on the coast. Rivers will flood more often. In a warmer climate, threatened species may struggle to survive while pest species thrive. Some of those impacts are already being felt.

Over the coming decades, a changing climate will affect our economy, environment, and way of life. Submissions on council plans, protest movements, and discussions with iwi and community groups all show us that people want to see action. We need to prepare for a future that is different from today.



OUR REGION'S EMISSIONS

On a per capita basis, our region's emissions are slightly above the national average (about 24t CO₂e, compared to about 17t CO₂e). The region's emissions fell by 2 percent over the 2007-18 period – slightly faster than the national average.

Most emissions in our region (around two-thirds) are from livestock agriculture – however, these emissions fell by about 7 percent over the decade 2007-18.

Emissions from other sources have been increasing, reflecting a growing population. Energy use is the region's second biggest source of emissions, with the main component being transportation.

As a region, a relatively small proportion of our emissions are offset by forestry (about 18 percent, compared to a national average of 30 percent). The exception to this pattern is Ruapehu District, where most emissions are offset by 'removals' through forestry.

While local government has no direct responsibility for setting or achieving emissions reduction targets in its area, we do have a role in supporting the transition communities will need to make to a low-emissions economy.

RESPONDING TO CLIMATE CHANGE

The pace, scale, and impact of climate change will be influenced by many factors – future greenhouse gas emissions, global environmental processes, development of new technologies, investment decisions, and the community’s response. Much remains uncertain and there are competing ideas about what should be done.

Decisions must nonetheless be made to manage the transition to a low-emissions economy and to ensure our communities thrive in a changing climate. These decisions will need to be adaptable, enabling us to make adjustments as new information emerges.

We will need to consider both ‘mitigation’ and ‘adaptation’ in our response.

Mitigation means reducing our impact on the climate. A certain amount of change is ‘locked in’ due to greenhouse gases that have already been emitted – but we can limit future impacts by reducing emissions from now. The Paris Agreement seeks to limit temperature increase to 1.5-2.0°C above pre-industrial levels. Scientists believe that increases greater than this will see many natural systems cross dangerous points of no return. The frequency of extreme weather events (e.g. storms, droughts, flooding) increases more rapidly the more temperatures rise. Average global temperatures have already risen by about 1.0°C, so the window to achieve that target is closing quickly.

New Zealand’s national targets align with the Paris Agreement goals. They require us to:

- reduce net emissions of all greenhouse gases except biogenic methane (from waste and agriculture) to zero by 2050; and
- reduce emissions of biogenic methane to 24–47 per cent below 2017 levels by 2050, including to 10 per cent below 2017 levels by 2030.

Adaptation means modifying the way we do things to reduce the impact of climate change on us. The climate affects where it’s safe to live, our jobs, food supply, health, cultural practices and recreational activities, and infrastructure like roads and water pipes. Some impacts will be relatively easy to deal with; others will present significant challenges – but there will also be opportunities if we are able to respond proactively and creatively.

We all have a role to play in responding to climate change – central and local government, iwi and hapū, farming and urban communities, companies and individuals. A transition needs to occur if our children and grandchildren are to enjoy the same quality of life as previous generations.

LOCAL GOVERNMENT'S ROLE

Local government exists to enable local decision making for communities and to promote their social, economic, environmental, and cultural wellbeing – now and for the future.

The eight councils in the Horizons Region recognise the urgency of addressing climate change, and are committed to playing our part. We have agreed to work together at a regional and local level. A Memorandum of Understanding, signed in September 2019, commits us to:

- Collaborate across our organisations to build organisational, community and regional resilience in the face of a changing climate
- Collaborate across our organisations to mitigate the effects of climate change
- Collaborate and communicate within our organisations and our communities, openly sharing how our community can transition to a sustainable future and significantly lower contribution to the causes of climate change
- Place priority on developing strategies to address climate change
- Communicate openly, sharing what we know about likely effects and response options
- Engage and involve our communities in decisions that affect them
- Give effect to our engagement responsibilities with iwi and hapū in our areas of responsibility and arrangements detailed in Treaty of Waitangi Settlements
- Report regularly on work going on to address climate change adaptation and mitigation across the region
- Support each other with skills and knowledge from our respective organisations
- Work collectively as a region to engage with central government

ACTION IN OUR REGION

This document provides an overview of work being undertaken by councils to tackle climate change, in accordance with our joint commitment. It is organised into four themes:

- Natural environment
- Built environment and infrastructure
- Social and cultural wellbeing
- Local governance

Each of these themes is described, with examples of activities that local councils are undertaking or have committed to undertake. The list is not exhaustive, nor is it final. Rather, it provides a starting point upon which we will build as our work programmes develop.

NATURAL ENVIRONMENT

Our region is home to a wide range of species and habitats, including iconic places like the Tongariro World Heritage Area, the Whanganui River, Te Āpiti, and the Manawatū Estuary.

Ecosystems and the services they provide are essential to us. We rely on the environment for clean water and food. Forests and wetlands absorb floodwaters and reduce erosion. The natural environment also provides less tangible benefits such as spiritual wellbeing and places for recreation.

Many of the environmental challenges we already face will be exacerbated by climate change. The impacts of land use, invasive species, sea-level rise, and changing climatic conditions can constrain the natural resilience of our ecosystems, and their ability to adjust and adapt. Conversely, restoring natural environments can do much to improve the resilience of both ecosystems and local communities.

Erosion control

Horizons Regional Council has a long-running programme to reduce hill-country erosion through the Sustainable Land-Use Initiative (SLUI). The focus is on supporting landowners to build resilience to storms, improve water quality, and reduce sedimentation. SLUI has significant benefits in reducing the impact of climate change on erosion-prone hill country (adaptation) and sequestering carbon in trees (mitigation).

Green corridors

Several councils are working to re-establish green corridors to enhance native biodiversity and ecosystem services. These projects, usually involving both planting and pest control, are underway across the region including in Taranaki, Palmerston North, Whanganui, and Rangitikei.

Wetland restoration

Wetlands are important for native biodiversity, and can provide a range of benefits such as buffering floodwaters and acting as carbon sinks. In the Manawatū district, work is underway to restore wetlands at Kitchener Park and along the Ōroua River.

Coastal management

Horowhenua and Manawatū District Councils are undertaking dune restoration and protective planting to improve stability and prevent degradation of the dunes during severe weather events. This should enhance the resilience of coastal ecosystems and coastal settlements to impacts such as sea level rise and storm surges.

BUILT ENVIRONMENT AND INFRASTRUCTURE

Critical infrastructure like water and energy supply, roads, and bridges sustain and connect our communities. They may be susceptible to damage from slips and storms, or exposed to sea-level rise and flooding. Maintaining these services is important to the functioning of our society and economy, and particularly vital to supporting our rural communities.

Urban design and transport services are key elements in making it easier for people to reduce their carbon footprints. Alternative energy sources can be integrated into the urban landscape, like Palmerston North City's 100kW solar array, and use of gas captured at the old Awapuni landfill to power the adjacent wastewater treatment plant. Local councils are investing in the transition towards low-carbon, adapting and improving the resilience of our infrastructure and the wider built environment.

Water supply

Tararua District Council has recently improved water storage systems for Woodville and Dannevirke in preparation for future drought scenarios. Horowhenua District Council is working to improve the efficiency of its water supply network and investigate future water storage options to cope with the anticipated effects of climate change.

Storm water

Ruapehu and Rangitikei District Councils are both working to improve the resilience of infrastructure (including culverts and roads) to cope with larger, and more frequent and intense rainfall events – and bigger peaks in storm water.

Transport

The Regional Public Transport Plan and Regional Land Transport Plan aim to support the transition to a low-carbon economy by increasing use of alternative transport options such as buses, walking or cycling, and by improving the emissions efficiency of the public transport fleet. Councils are advocating for improved rail infrastructure. Road upgrades will improve network efficiency and resilience to the impacts of climate change such as slips and flooding. Tararua and Horowhenua District Councils are installing more EV charging facilities (there are already facilities in many of the region's towns).

Urban design

In Palmerston North, urban design improvements are focused on encouraging more active use of public spaces and active transport. Whanganui District Council is improving pathways for active and low-carbon travel around the city. In Horowhenua, work is underway to green urban spaces to enhance resilience.

SOCIAL AND CULTURAL WELLBEING

Resilient communities are communities that are connected, informed, and empowered to look after the things they care about. Climate change impacts on all of our communities; each will be affected in different ways. As well as direct, physical impacts, climate change may affect our sense of place, cultural identity, or social cohesion. These things are important. Local people are best placed to make decisions about what matters at a local level.

Community plans

Manawatū District Council is working with communities to develop response and recovery plans to reduce the disruption caused by disaster events, including the sorts of extreme weather events that will become more frequent with climate change.

Resilient homes

Palmerston North City Council provides free advice on sustainable design and affordable energy options for people to implement in their homes. Ruapehu District Council is developing information for the public on stormwater management and rainwater harvesting on their property. Both initiatives aim to improve resilience at a local and community level.

Local Governance

Governance encompasses the way we make decisions, processes for community involvement, and the information upon which strategic decisions are based.

Much of our immediate focus is on making sure we have processes and information to support the significant decisions we will have to make, in consultation with communities, over the next few years. We are also making changes to reduce the carbon footprint of councils' own activities.

Climate Action Committee

Local government leaders have agreed to establish a joint Climate Action Committee, across the eight councils, to oversee our climate change response. The Committee's first meeting is planned for December 2020.

Council strategies

Several councils are in the process of developing strategies to ensure our respective approaches are well directed and clearly communicated. Manawatū District Council is developing an environmental **sustainability strategy** and commissioning research to better understand localised impacts of climate change. Horizons Regional Council and

Whanganui District Council are both preparing climate change strategies, while Palmerston North City Council is developing a **low-carbon roadmap**.

Regional Climate Change Risk Assessment

Councils are jointly conducting a high-level **risk assessment** in the 2020/21 financial year. This will provide an assessment of issues across the region that need attention, helping to inform decisions about relative priorities and what resourcing should be made available. Future action plans will be informed by the risk assessment's findings.

Corporate footprints

Like any organisation, councils are responsible for the impact of our own operational activities. Ruapehu District Council has an organisational commitment to zero waste, and has undertaken to purchase carbon credits to offset emissions from landfill. Palmerston North City Council tracks its corporate emissions and is working to reduce emissions from council services. Manawatū and Rangitīkei District Councils also have active programmes to improve the efficiency and reduce the footprint of their operations.

WHAT'S NEXT

This document provides an introduction to the range of actions councils in our region are pursuing in response to climate change.

Over the next twelve months, we will establish joint governance arrangement across councils and complete a regional risk assessment. Each council will consider priorities and resourcing through its long-term planning process. These will be reflected in the next iteration of our regional action plan.



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2020/INT/1991

24 hour freephone 0508 800 800
fax 06 952 2929 | email help@horizons.govt.nz
Private Bag 11025, Manawatū Mail Centre, Palmerston North 4442

3.3 MINUTES OF THE WASTE MINIMISATION ADVISORY GROUP MEETING 16 SEPTEMBER 2020

Author: Stuart Hylton - Contractor

Authoriser: Leighton Toy - General Manager Property

References: 1. [Minutes of the Waste Minimisation Advisory Group Meeting 16 September 2020](#) ↓

Recommendation

That the Infrastructure, Climate Change, and Emergency Management Committee receive the report – Minutes of the Waste Minimisation Advisory Group Meeting 16 September 2020.

Executive Summary

The purpose of this report is to update the Committee on the activities of the Waste Minimisation Advisory Group (WMAG) and to receive unconfirmed minutes from the WMAG meeting held on 16 September 2020.

Key information

The WMAG is set up to oversee Council's Waste Management and Minimisation activity and generally give effect to Council's Waste Management Plan.

The WMAG is chaired by Cr Rob Vinsen and has a membership of Cr Josh Chandulal-Mackay, Cr Alan Taylor, Cr Hadleigh Reid, Cr Helen Craig, Cr Brent Crossan, Cr Charlie Anderson and Community Board Member Michael Dick.

The WMAG Terms of Reference are –

- To investigate and keep abreast of waste management and minimisation and issues and initiatives.
- To monitor and develop initiatives to progress the Council's Waste Management and Minimisation Plan
- To administer the Council's Waste Minimisation Fund including delegated authority to determine applications.
- To report minutes and key issues to Council's Infrastructure, Climate Change and Emergency Management Committee.
- To receive, discuss and recommend 'sustainability' matters for Council consideration.

The minutes of the meeting held 16 September are at Appendix "A". Key decisions or issues discussed at this meeting were:

- Update on new camera's, signs and camera box's being installed for illegal dumping surveillance around the District including resolutions around sign placements and a media campaign.

- Non approval of a coffee cup cycling scheme for Whanganui.
- Overview and learnings from site visit to Hastings District Council to view waste services.
- Update on changing waste landscape in Whanganui.
- Update on Waste Management and Minimisation Plan 2015 Review including pre thinking for upcoming workshop.

Next Steps

The next meeting of the WMAG is set for 28 October 2020.

Whanganui District Council
Waste Minimisation Advisory Group
Minutes (unconfirmed)

Meeting held on Wednesday, 16 September 2020, 1.00pm to 3.00pm

Toowoomba Room, Council.

Present: Cr Rob Vinsen (Chair), RCB Member Michael Dick, Cr Alan Taylor; Cr Hadleigh Reid, Cr Brent Crossan, Cr Josh Chandulal-Mackay,

In attendance: Stuart Hylton, Graeme Paulger, Holly Hoddinott (Comms.)

Apologies: Cr Helen Craig, Cr Charlie Anderson

Welcome: Chair Rob Vinsen welcomed everyone to the Waste Minimisation Advisory Group meeting.

Item	Action
<p>1.0 Previous Minutes</p> <p>Resolution: That the previous minutes of the Waste Minimisation Advisory Group (WMAG) meeting held on the 5th August 2020, are accepted as a true and correct record.</p> <p>Cr Brent / Cr Alan Carried</p>	
<p>2.0</p> <p>Matters arising from Minutes: Noted most of the matters arising were on today's agenda items.</p> <p>Illegal Dumping Campaign – reported the following areas were currently being investigated to get surveillance cameras installed:</p> <ul style="list-style-type: none">• Mole area• Sailing Club Area• Papaiti Rd Cycleway area• Readjustment of current camera at Longacre/Kaimatira Road site to bring in bag area has occurred and Kawhaiki camera is just about to go up. <p>The Chair noted the Campaign/Strategy had not been fully implemented. It was noted the signs that property department had installed around the district were</p>	

<p>very small and insignificant. It was suggested the 'Jeff Croot' signs needed to be finalised and installed in known dumping areas. Signs are to encourage the public to report illegal dumping and publicize 'RID Report Illegal Dumping' idea along with 'snap, send, solve' app, \$400 infringement fine and "txt" number for reporting. The following recommendations were passed:</p> <p>THAT the RID Illegal Dumping signage is completed and installed THAT approval is sought from Parks and Property for installation and location. THAT a media plan is requested from Comms to support the RID Illegal Dumping campaign.</p> <p>Cr Rob/Brent Carried</p>	<p>Rob/Stuart</p>
<p>3.0 Waste Minimisation Fund Applications:</p> <p>It was noted that a funding application was expected from the Whanganui Resource Recovery Centre for a second hand tail lifter truck to assist with monthly collections form elderly/ schools and collections of glass from clubs/hospitality sector. Expected to be around \$40k and will be sent around electronically. This will not be the glass vehicle for any kerbside glass collection service.</p>	<p>Stuart</p>
<p>4.0 Cup Cycling</p> <p>Following previous reports from this project, Stuart produced a preferred option to introduce a 'cup (coffee) cycling' scheme for Whanganui involving 'Again Again' scheme. The scheme and preferred option involves an initial 10 cafes being 50% subsidised to sign up to the scheme to introduce 1000 re-usable coffee cups to be used in participating cafes. Total cost including implementation costs were around \$5k, to come from waste minimisation fund. Another one pager was also produced showing the experiences of other TA's adopting same or similar schemes.</p> <p>The recommendation was put and lost 3 votes to 2.</p>	
<p>5.0 Hastings District Council Field Trip – recap and learnings</p> <p>The meeting reviewed the day field trip to view waste initiatives in the Hastings District earlier in the month. Key places and facts viewed during the visit included:</p> <ul style="list-style-type: none"> • In 2017 HDC jointly reviewed WMM Plan with Napier DC • Hastings/Napier jointly own their own landfill and charge a very cheap \$120/T for disposal; they have capacity to extend landfill • Community wanted more recycling and a decrease of organics going to landfill • So HDC is introducing a - <ul style="list-style-type: none"> - three crate recycling system – three 55L bins (\$70 UAC), - a new rubbish bin (\$129 UAC) (120L wheelie bins with RFID tag), currently weekly although may decrease to fortnightly in future and/or 	

<p style="text-align: center;">reward householders by way of a rebate for less rubbish or pick-ups as technology allows</p> <ul style="list-style-type: none"> • Allowed an extra \$1M for education, staff and roll out for services, only used 50% thus far • Smart Environmental have the recycling contract • Ceased picking up Council rubbish bags but allow them through the transfer station • Local firm won rubbish collection contract – JJ’s Waste and Recycling • Hastings own a good transfer station • Organics - No kerbside organic collection system as yet. Bio rich composting company is a very good composting operation that accepts organics regionally and distributes good grades of compost. • Hawke Packaging - They make cardboard linings for fruit box packing and are wanting to double their 7 Tonne operation early next year. They currently take cardboard from PNCC and NPCC. We have talked to them about taking our fibre and they have indicated a willingness and given us a price. <p>Noted Hastings DC were very hospitable and giving of their time and knowledge. HDC have most of what we would desire and their key point of difference is that they jointly own the landfill with Napier CC. It was also noted Hastings had been proactive in the waste minimisation game for many years and had invested dollars and resources into their activity.</p> <p>Stuart produced a paper showing the effect of anticipated costs should we take our fibre to Hawke packaging as opposed to OJI’s current and projected prices. Whilst the prices to get rid of fibre with Hawke are only slightly less than Oji’s current prices, it was noted that baling costs were the killer at \$120/Tonne. Working at how to lessen this cost.</p> <p>Resolution: That the report is noted.</p>							
<p>6.0 Waste Management and Minimisation Plan 2015 Review</p> <p>Timeframes</p> <p>The following approximate timeframes were noted by the group.</p> <table border="0"> <tr> <td style="padding-right: 20px;">July 2020</td> <td>Project start</td> </tr> <tr> <td style="padding-right: 20px;">July/August</td> <td>Kerbside audit, transfer station, Resource Recovery Centre surveys</td> </tr> <tr> <td style="padding-right: 20px;">August/September</td> <td>Collating other data for Waste Assessment, drafting to the point of ‘key issues’</td> </tr> </table>	July 2020	Project start	July/August	Kerbside audit, transfer station, Resource Recovery Centre surveys	August/September	Collating other data for Waste Assessment, drafting to the point of ‘key issues’	
July 2020	Project start						
July/August	Kerbside audit, transfer station, Resource Recovery Centre surveys						
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October	Workshop one - Council
October /November Mid November	Completion of Waste Assessment draft WMMP, including potential action plan Workshop two - Council
End November/early December	Complete final WMMP draft and adopt for consultation
Receive Submissions	December/January
Hear Submissions	January February 2021
Make amendments to draft WMMP	February 2021
Council adopts WMMP 2021	February/ March 2021
<p>Workshop/s Pre-Thinking</p> <p>The Chair and Deputy Chair have given some thought to potential services Council may want to instigate within the WMM Plan review parameters. A general initial think piece was presented from which the Chairs preferred options were as follows:</p>	
<p>(A) Immediately – Look to introduce a user pays rubbish bag kerbside collection service partnering with a preferred contractor.</p>	
<p>(B) Kerbside Waste Collection Services – Leave wheelie bin collection services to market providers of user pays service. Look drive down price of services through encouraging market providers and competition and exploring alternative regional landfills or partnerships in landfill pricing.</p>	
<p>(C) Kerbside Recycling Service – Look to introduce a rate funded kerbside recycling service similar to that of HDC with a kerbside sort. \$50 - \$70 UAC</p>	
<p>(D) Organic Collection Service – Introduce a rates funded organic collection service.</p>	
<p>(E) Waste Transfer Station – Either encourage another competitive transfer station or introduce a transfer station at the WRRC</p>	
<p>(F) Product Stewardship Scheme – Work towards being ‘shovel ready’ to accept priority product stewardship scheme products through the WRRC</p>	

<p>(G) Waste Bylaw – Look at introducing a Waste Bylaw to demand waste data from waste companies. Note: The proposed revised waste levy fund is looking to demand this information from landfills as well.</p> <p>In general discussion the Chair updated the meeting on Low Cost Bins entry into the local market including their willingness to introduce a bag collection service run by themselves. The Chair noted a Council bag service for the rural area with a suitable collection contract would be the way to go for the rural waste collection review.</p> <p>Stuart advised that these options would be further discussed at October’s workshop to shape the waste management and minimisation plan review. The WMAG needed to pre-think these options before that workshop and that not all options would be either palatable or able to be afforded in year one of any plan. Any increase in services would probably need to be stepped.</p> <p>It was also advised that at least two other companies were looking to also come to Whanganui to offer waste collection services and there is strong rumours of a pyrolysis plant starting up in Fielding that are looking for waste feed stocks.</p>	
<p>7.0 General Business Items on agenda were taken as read.</p>	
<p>9.0 Next Meeting Wednesday 28th October 2020 (may be combined with workshop to review waste plan)</p>	

There being no further business, the meeting closed at 2.45pm.

