



## **PLANNING AND REGULATORY COMMITTEE**

### **Agenda**

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#### **NOTICE OF MEETING**

An ordinary meeting will be held in the Waihinga Centre, Texas Street, Martinborough, on Wednesday 17 June 2020 at 11:30am. The meeting will be held in public (except for any items specifically noted in the agenda as being for public exclusion).

#### **MEMBERSHIP OF THE COMMITTEE**

Councillors Ross Vickery (Chair), Pam Colenso, Rebecca Fox, Leigh Hay, Alistair Plimmer, Brenda West and Mayor Alex Beijen.

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#### **Open Section**

- A1.** Apologies
- A2.** Conflicts of interest
- A3.** Public participation  
*As per standing order 14.17 no debate or decisions will be made at the meeting on issues raised during the forum unless related to items already on the agenda.*
- A4.** Actions from public participation
- A5.** Extraordinary business
- A6.** Minutes for Confirmation: Planning and Regulatory Committee  
Minutes of 26 February 2020  
***Proposed Resolution:*** *That the minutes of the Planning and Regulatory Committee meeting held on 26 February 2020 are a true and correct record.*
- A7.** Notices of motion

Pages 1-3

**B. Information and Verbal Reports from Chief Executive and Staff**

- |            |   |               |
|------------|---|---------------|
| <b>B1.</b> | Proposed Combined Dog Pound Facility Report | Pages 4-40    |
| <b>B2.</b> | Climate Change Report                       | Pages 41-181  |
| <b>B3.</b> | Planning and Environment Group Report       | Pages 182-193 |
| <b>B4.</b> | Action Items Report                         | Pages 194-196 |

**C. Member and Appointment Reports**

*Proposed Resolution: To receive members' reports.*



**PLANNING AND REGULATORY COMMITTEE**  
**Minutes from 26 February 2020**

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<b>Present:</b>	Councillors Ross Vickery (Chair), Pam Colenso, Rebecca Fox, Leigh Hay, Alistair Plimmer, Brenda West and Mayor Beijen.
<b>In Attendance:</b>	Russell O’Leary (Group Manager Planning and Environment), Harry Wilson (Chief Executive) until 12:30pm, Melanie Barthe (Climate Change Advisor) and Suzanne Clark (Committee Advisor).
<b>Conduct of Business:</b>	The meeting was held in the Council Chambers, 18 Kitchener Street, Martinborough and was conducted in public between 11:30am and 1:05pm.

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**Open Section**

**A1. Apologies**

*PLANNING AND REGULATORY COMMITTEE RESOLVED (PR2020/01) to accept apologies from Cr Jephson.*

*(Moved Cr Vickery/Seconded Cr Fox)*

Carried

**A2. Conflicts of Interest**

There were no conflicts of interest declared.

**A3. Public Participation**

There were no public participants.

**A4. Actions from Public Participation**

There were no actions from public participation.

**A5. Minutes for Confirmation**

*PLANNING AND REGULATORY COMMITTEE RESOLVED (PR2020/02) that the minutes of the Planning and Regulatory Committee meeting held on 11 December 2019 are a true and correct record.*

*(Moved Cr Hay/Seconded Cr Colenso)*

Carried

**A6. Extraordinary Business**

There was no extraordinary business.

**A7. Notices of motion**

There were no notices of motion.

**B Decision Reports**

**B1. Ruamāhanga Strategy and Implementation Plan Report**

Ms Barthe with support from Mr Wilson discussed the Strategy and Action Plan development, community engagement, the carbon footprint of electric car manufacture and battery disposal, strengthening the Strategy references, noting that there was incomplete GWRC information, and the need for better public transportation and financial viability of alternative energy sources with members.

Members debated whether the draft strategy was in sufficiently final form to endorse recommendation two but felt that, as it was forwarded in draft form, its action points were amenable to variation by Council until a final strategy was adopted.

*PLANNING AND REGULATORY RESOLVED (PR2020/03):*

1. To receive the Ruamāhanga Strategy – Climate Change Strategy for Carterton and South Wairarapa District Councils.

*(Moved Cr West/Seconded Cr Hay)*

Carried

2. To recommend to Council the adoption of the draft Ruamāhanga Strategy and Implementation Plan.

*(Moved Cr Vickery/Seconded Mayor Beijen)*

Carried

**C. Information and Verbal Reports from Chief Executive and Staff**

**C1. Planning and Environment Group Report**

Mr O'Leary with support from Mr Wilson discussed the stormwater analysis work being conducted for the Martinborough South Growth Area and managing and planning for Martinborough growth as an outcome of the Spatial Planning project, the District Plan Review, the Greytown Development Area, the Featherston Brookside resource consent application, changes to the Building Code relating to liquefaction prone areas, and the expectation that a report on dog pound locations would be presented to the next meeting with members.

Mr Wilson advised that consultation on the Spatial Plan would be carried out in conjunction with the Annual Plan and Long Term Planning processes to ensure cohesion across SWDC and regional strategies and plans.

*PLANNING AND REGULATORY RESOLVED (PR2020/04)* to receive the Planning and Environment Group Report.

*(Moved Cr Colenso/Seconded Cr Plimmer)*

Carried

**C2. Action Items Reporting**

*PLANNING AND REGULATORY RESOLVED (PR2020/05)* to receive the Action Items Report.

*(Moved Cr West/Seconded Cr Plimmer)*

Carried

**Confirmed as a true and correct record**

.....(Chair)

.....(Date)

# PLANNING AND REGULATORY COMMITTEE

17 JUNE 2020

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## AGENDA ITEM B1

### PROPOSED COMBINED DOG POUND FACILITY

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#### **Purpose of Report**

To update the Planning and Regulatory Committee of the consultant's site recommendations and associated estimated costings for a combined dog pound facility proposed for South Wairarapa District Council (SWDC) and Carterton District Council (CDC).

#### **Recommendations**

Officers recommend that the Committee:

1. *Receive the Proposed Combined Dog Pound Facility Report.*
2. *Receive the Armstrong Dixon Limited April 2020 Report.*

#### **1. Executive Summary**

A territorial authority must establish, maintain and operate a dog pound that allows for the proper custody, care and exercise of impounded/seized dogs or dogs committed to the custody of the Council.

Council's current pound is no longer and has not been meeting the requirements for a period of time now including but not limited to that being of an appropriate size, in a good location, being easily cleaned and maintained and having adequate security provisions.

As such, Officers have aimed to have the new facility and location reflect a best practice approach so that the facility is one that all members of SWDC and CDC can be proud of.

Given the substantial nature of siting a new pound facility, officers recommend that this is a decision that is best made by Council as the potential impacts may affect a sizable portion of the community and Council operations. The accompanying consultant's report outlines a short list of proposed sites with a critical consideration in the site selection is ensuring the longevity of the facility.

#### **2. Background**

A new dog pound facility and location has been proposed since 2017. There have been various reports with locations and estimates previously tabled. The Committee in June 2019 recommended that Council Officers explore all operational aspects for the location of a new combined dog pound for South Wairarapa and Carterton Districts as recommended in the Giles report. Council engaged the services of Beca consulting who were tasked with completing an assessment of options for the establishment and associated costs of a combined SWDC & CDC dog pound. However, this report was not completed by the Beca consultant and Beca withdrew from property services work.

As a necessary follow on, recently Armstrong Dixon were engaged to review, complete and write up the recommendations and facility project costings (refer appendix 1).

Recently the topic of the combined pound and consultants report has been tabled and discussed at the Shared Services group meeting between South Wairarapa District and Carterton District Council representatives. Also arising from that meeting was the recent message from the Masterton District Mayor that there is potential for a future sharing of the Masterton District Council dog pound facility services, noting however that the MDC current pound is a permanently manned operation.

As part of explorative work, some financial costings were to be supplied to detail the likely impact costs of neighbouring councils using the existing Masterton District dog pound facility. Those financial costings for operating a Wairarapa dog pound for all three Councils within the region are expected to be supplied in the second week of June.

Accordingly Council has the opportunity to compare costing for either operating a combined pound based in Masterton (which would be a contract of service) or a new combined dog pound proposed to be based in Carterton which would serve both South Wairarapa District and Carterton District Councils.

### **3. Discussion**

#### **3.1 Discussion on Consultant Report**

The supplied consultant's report by Armstrong Dixon Limited April 2020 outlines the preferred location and associated estimated costs. The costings are an estimated establishment costs (final estimates should be undertaken when detailed plans and specifications have been confirmed). There are issues beyond the scope of the report which may impact the final result.

The summary findings of the consultant's recent report includes the following.

- For the combined pound facility Dalefield Road, Carterton is the preferred option and it would be a modern facility able to house up to 20 dogs.
- Johnston Street, Featherston is considered a more constrained site, being smaller and surrounded by new subdivision.
- The report has an estimate of costs for the new combined dog pound facility of \$553,932
- Despite the estimate figure there would be further need to line and insulate the buildings upper walls and ceiling, an approximate cost of \$25k
- The other issues beyond the recent report are assessment and costings for temperature control and noise mitigation.

#### **3.2 Legal Implications**

The legal implications in respect of this topic are the need for Council compliance with the Statutes, Regulations and Codes applicable to dog pounds. The relevant regulatory requirements are as follows, the Animal Welfare Act 1999 (Section 10), Animal welfare (Care and Procedures) Regulations 2018 (Section13 (2) and Code of Welfare: Dogs 2018. All of the above seek to ensure that suitable dog welfare is achieved and maintained.

There is also the related issue of reputational risk and potential adverse publicity associated with the non-provision of a modern dog pound facility that meets the foreseeable welfare needs of impounded dogs within our district, or that of the neighbouring territorial authority. All of the above signals the need to provide a modern facility for dogs.

### 3.3 Financial Considerations

The financial considerations include the current budget set aside for a modern pound facility for the Council's regulatory needs. There is now a budget figure of 250k for our Council's input to a combined pound facility, noting that the South Wairarapa District's contribution would be half of the total costings for the combined dog pound facility.

In terms of operational costs consideration of travel and time costs to the combined pound in Carterton for dog control staff, and dog owners of the district has been considered. The latest consultant report identified that for SWDC staff the travel distances from the main centres to Carterton would be neutral. As to Coastal owners who found themselves needing to pick up their animals we note the following:

	<b>JUNE 2018</b>	<b>JUNE 2019</b>	<b>JUNE 2020</b>
DOG OWNERS	1815	1863	1933
KNOWN DOGS	3050	3128	3262
<b>ZONES</b>			
FEATHERSTON	1131	1127	1149
GREYTOWN	770	813	826
MARTINBOROUGH	1134	1174	1275
COASTAL	15	14	12

(Please note in terms of the above statistics, the number of known dogs changes on a daily basis due to dog transfers in, transfers out, the death of dogs, etc). Numbers are a particular snapshot at a point in time.

The above figures illustrate that the known dogs that are registered classified as Coastal are a very small percentage of the total number of registered dogs within the South Wairarapa District. In the last 12 months we have picked up 1 dog from the coast. This was an abandoned dog.

Any increase in the Coastal zone for dog issues tends to come around the summer patrols when the Bylaw Officers undertake inspections and monitoring of the Campgrounds and Coastal areas. Issues can arise from visitors who have misplaced their dog or hunting dogs which have either gotten lost or have been abandoned. However, we traditionally find that the "local" dogs are returned to their owners pretty quick as the community is very proactive in looking after themselves.

Therefore from the above, the location of the proposed pound in Carterton would have an impact on a resident from the coast, however this impact is considered to be of an acceptable level due to such low number (0.004) of registered dogs within the region.

### 4. Recommendation

In summary, officers recommend that a new combined dog pound facility is required, that it should be built to a modern standard that caters not only for the latest animal welfare requirements but also for security, health and safety, public expectation, and for future growth and dog impounding needs for our developing district.



In order to achieve this, officers recommend that the Planning and Regulatory Committee receive the estimated costings for the combined dog pound facility as outlined in the accompanying Armstrong Dixon report dated April 2020.

## **5. Appendices**

Appendix 1 – Armstrong Dixon report – April 2020

Contact Officer: Rick Mead, Manager Environmental Services

Reviewed By: Russell O’Leary, Group Manager Planning and Environment

# **Appendix 1 – Armstrong Dixon report – April 2020**

**ASSESSMENT OF THE OPTIONS FOR THE  
ESTABLISHMENT OF A DOG POUND TO BE  
SHARED BY THE CARTERTON DISTRICT  
COUNCIL AND THE SOUTH WAIRARAPA  
DISTRICT COUNCIL**

Armstrong Dixon Limited

APRIL 2020

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• <b>Preliminary Criteria for the Facility.</b>	
• <b>Resource Consent Fee Estimate.</b>	
• <b>Estimate for Facility.</b>	

## 1. Executive Summary

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The intention of the Carterton District Council and South Wairarapa District Council to investigate the opportunity for a shared dog pound facility on Council owned land has involved numerous sites in the Councils' portfolios. A short list of three has been presented for evaluation in this assessment and the Tilsons Road property was eliminated at an early stage due to legal access issues. The evaluation has involved the existing pound sites at Johnston Street, Featherston and Dalefield Road, Carterton.

A critical consideration in the site selection is ensuring the longevity of the facility. In this regard it is essential that present and future activities in proximity are compatible with the requirements of the dog pound. The site selected at Dalefield Road is situated west of the Carterton Town Centre and adjoins the existing dog pound facility. It is within the Industrial/Rural Zones and has the Council's effluent treatment facility close by. One residence is in range of the facility and noise abatement will be a consideration. The Carterton District Council has also recently engaged in community consultation and it is evident that residential expansion east of the Town Centre is preferred. The Johnston Street site has complex issues to be resolved in view of the close location of residential property.

It is also evident that operational benefits need to be shared by both Councils. A critical operational requirement is the need for Dog Control Officers to visit the facility at least twice daily to ensure dog well-being. The joint facility provides the opportunity for each Council to share these visits and minimise the duplication of travel costs. A comparison of existing and possible future travel for both Councils has been included in this assessment refer to Item No 6. The Dalefield site offers a breakeven position for the SWDC whereas the Johnston Street site inflates travel obligations for CDC. The close proximity of the Dalefield Road site to Carterton is a significant advantage in providing opportunities to optimise operational benefits for both Councils.

The Dalefield Road site enables SWDC to breakeven on travel distances compared to its current commitment at Featherston with CDC undertaking 50% of the routine visits. CDC will have difficulty achieving a break even at the Johnston Street site with SWDC undertaking 50% of the routine visits which is self-evident when the existing CDC dog pound is only 4 kms from Carterton compared to 25 kms of travel to the Johnston Street site.

Security for Council Dog Control Officers at the facility is a serious consideration as confrontation with upset dog owners is not an infrequent occurrence. Regular vehicle movements in close proximity to the facility is a deterrent for this behaviour. Dalefield Road is busy and there are regular vehicle movements on the adjoining properties. Johnston street is also a busy location.

Dog wellbeing practices are well documented in Legislation as specified in Item No 5 and the provision of a joint facility provides opportunity to minimise the duplication of compliance costs and obtain the benefit resulting from economies of scale for the building and facilities. The costing provided has been obtained from industry sources and whilst reliable, provide Councils with a guide for planning purposes. Detailed plans, specifications and costings will be required for the build.

It will be necessary to obtain a resource consent for the Dalefield Site and the initial requirements have been outlined in an investigation which is included in the documents attached to this assessment. The resource consent is an early requirement in the implementation phase.

In the event that the Dalefield site is unable to be achieved a further review with the option to acquire a favourable site is recommended.

## 2. Introduction

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This high-level assessment is intended to clarify issues associated with establishing a shared dog pound for the Carterton District Council (CDC) and the South Wairarapa District Council (SWDC).

The existing dog pounds are located at Johnston Street Featherston servicing the SWDC and at Dalefield Road Carterton servicing the CDC and both are in need of urgent replacement.

Significant investigations have been undertaken of a selection of sites located on Council land and nominated by CDC and SWDC. Each site has been rated according to its suitability and it has highlighted three possible options. This assessment will summarise the information provided for the preferred sites.

The assessment will also provide a comparison of the likely impact on each Council's operation for each site. Both Councils have provided data on their annual dog control activities and it has been summarised in this report refer to item 6 Comparison of Operational Issues.

A concept plan with preliminary criteria for the facility, based on the Dalefield Road site, has been prepared specifically for this assessment. Totalspan Wairarapa has provided a quotation for the building and Landmatters have provided a quotation for the Resource Consent application.

Other costings have been obtained from industry sources and are presented for guidance purposes only. Detailed plans, specifications and firm costings will need to be prepared once a decision is made to proceed with a specific location.

### 3. Assessment of Potential Sites

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Animal facility location assessments were undertaken by Chris Giles for sites selected by the CDC in July 2018 and for sites selected by SWDC in May 2019.

All sites are on Council owned land.

The criteria used for rating sites was identical for both assessments.

Three sites were identified as follows:

- I) 31-41 Dalefield Road at Carterton.
- II) 48 -60 Johnston Street at Featherston.
- III) 86 Tilsons Road at Papawai.

#### **Brief comment on each site:**

##### **31-41 Dalefield Road**

Suitability Rating as per the Giles report is 81.

Location:

- 4 kms to Carterton central
- 27 kms to Martinborough
- 25 kms to existing Featherston Pound

Issues identified in Giles Report:

- Consent not likely to be a major issue, given location of existing facility.
- Occasional smell from waste water treatment plant may be an issue for site visitors.

Summary:

A desirable location, flat site with all services available.

##### **48 -60 Johnston Street**

Suitability Rating as per the Giles report is 71.

Location:

- 25 kms to Carterton
- 18 kms to Martinborough

Issues identified in Giles Report:

- Consent likely to be required, building will need noise mitigation as it adjoins future new subdivision.

Summary:

Since the Giles report the property located immediately next door has recently obtained consent for a residential subdivision. Opposition can be expected to the establishment of a dog pound with capacity to house up to 20 dogs on the adjoining property.

### **86 Tilsons Road (Adjoins the Gliding Club Facilities)**

Suitability Rating as per the Giles report is 57.

Location:

- 18kms to Martinborough
- 15 kms to Featherston
- 14 kms to Carterton

Issues identified in Giles Report:

- Lack of services connected to site. Additional costs involved.

Summary:

Legal access to the SWDC land is an issue. There are two strips of private land isolating the SWDC land from access to Tilsons Road. Further investigation is needed as the Greytown Soaring Centre located on the SWDC land is dependent on access from Tilsons Road.

**Summary:**

- **In terms of the suitability site assessment in the Giles report, 31 -41 Dalefield Road has the highest suitability ranking for all sites considered.**
- **The Johnson Street site has the second highest suitability ranking and it could be expected to reduce slightly in view of the events that have occurred since the Giles Report was undertaken.**
- **The land owned by SWDC adjoining Tilsons Road is isolated from legal and formed access and as a result, is excluded from further assessments in this report.**



## 4. Resource Consent Requirements

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The Wairarapa Combined District Plan lists Boarding Kennels as a discretionary activity (section 21.6(i) District Wide Land Use Rules). This is to give effect to the policies aimed at maintaining and enhancing the general amenity values of the Wairarapa. We expect that a proposed pound would be treated as a boarding kennel for the purpose of considering district plan compliance and consents.

The plan sets out that a boarding kennel is a discretionary activity to ensure compliance with the following district plan policies:

- 19.3.2(b) Control the levels of noise, based on existing ambient noise and accepted standards of noise generation and receipt.
- 19.3.2(c) Manage the interface of different environmental zones to protect sensitive zones from more noisy areas.

This demonstrates that noise is the main criteria/issue against which any proposal for a pound will be assessed. Section 22.2.5 of the District Plan outlines the assessment criteria for discretionary activities with regard to noise:

- (i) The ambient sound level and the impact of any cumulative increase.
- (ii) The contrasts between the predicted noise of the proposed activity and the existing environment in terms of level, character, duration and timing.
- (iii) The level by which noise standards will be exceeded, and its duration, particularly during the hours of darkness.
- (iv) The nature and location of nearby activities and the adverse effects of any increased noise upon them.
- (v) Whether the noise will detract from the amenity or general environmental quality of the surrounding zone.
- (vi) The site topography and any influence this may have on noise conveyance.
- (vii) Proposed methods for avoiding, remedying or mitigating potential adverse effects including insulation, shielding and barriers.
- (viii) Use of protocols, codes of practice and industry guidelines and any relevant New Zealand Standards for the assessment of noise.

Research indicates that a single dog bark can exceed 100dB. Given that the pound facility will have capacity for approximately 20 dogs the potential for it to generate high noise levels day and night is significant.

It is beyond the scope of this report to provide a detailed assessment of each site against the requirements of the District Plan. However, some general observations can be made.

### **31 to 41 Dalefield Road – Carterton**

Although this site is zoned rural and adjoins industrial zoned land it is relatively close (approximately 176 metres) to residential zoned land. On this basis a pound proposal at this location may need to include methods for avoiding, remedying or mitigating potential adverse effects of noise particularly at night.

**Testing the noise sensitive level is advisable at an early stage to ensure adequate provision is made for noise mitigation prior to construction of the facility.**

**48 – 60 Johnston Street – Featherston**

This site is zoned residential. Immediately adjoining land has a resource consent to subdivide for residential purposes. It is inevitable that a pound proposal is going to need to include methods for avoiding, remedying or mitigating potential adverse effects of noise particularly at night.

**Testing noise levels to establish the extent of insulation required for the pound facility is essential and it can be expected to add significant expense in achieving a meaningful noise reduction.**

Given that much of the residential land in this vicinity is currently undeveloped there is potential for future reverse sensitivity issues with this site.

**Summary**

**Both sites have issues with noise sensitivity and it is evident that both sites will need to be tested for noise sensitivity at an early stage to establish the extent of requirements for noise mitigation.**

## 5. Statutes, Regulations and Codes Applicable to Dog Pounds

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There are several regulatory requirements that are applicable to the operation of a dog pound. These are summarised below;

**Animal Welfare Act 1999** – Section 10 of this Act requires every person in charge of an animal must ensure that the physical, health and behavioural needs of the animal are met in a manner that is in accordance with both good practice and scientific knowledge.

**Animal Welfare (Care and Procedures) Regulations 2018** – Section 13(2) of the Regulations provides that;

The owner of, and every person in charge of, the dog must—

- (a) ensure that the dog has access at all times to an area (a lying area) that—
  - (i) is large enough to allow the dog to stand up, turn around, and lie down in a natural position; and
  - (ii) is fully shaded; and
  - (iii) is dry; and
  - (iv) is ventilated; and
  - (v) provides the dog with protection from extremes of heat and cold; and
- (b) ensure that the dog has access at all times to water; and
- (c) ensure that the dog has access at all times to an area in which to urinate and defecate away from its lying area; and
- (d) ensure that faeces or urine do not accumulate in any area in which the dog is kept.

**Code of Welfare: Dogs (2018)** contains in Part 4.2 information relating to the kennelling of dogs. This section of the code outlines the Recommended Best Practice for Kennels as follows;

- (a) Kennels should be constructed of solid, non-permeable materials, preferably raised above ground level, be stable, draught-free and of sufficient size to comfortably house each dog.
- (b) Dogs should not be required to sleep on concrete or metal surfaces. Where kennel and run areas are made of these materials dogs should be provided with a raised platform, shelf or other type of bed made of a softer material on which to sleep.
- (c) Housing should be sited to provide shelter from cold, wet and windy weather, and to provide shade on hot sunny days, with the ideal area providing both shade and sun. Shade is especially important during the hottest part of the summer when artificial shade should be provided where no natural shade exists.
- (d) Where a number of dogs are kept together, such as in a boarding kennels or pet shops, ventilation should be controlled to manage dampness and noxious odours and to minimise the airborne spread of infectious diseases such as kennel cough.
- (e) Dogs should only be housed communally if they are known to interact well together or are kept under observation to ensure that they do not fight.
- (f) Kennels and kennels with runs attached should be no smaller than the minimum kennel and run sizes given in the table below.

Size of Dog	Kennel only	Kennel plus run
Small (<7kg)	900mm x 700mm	500mm x 500mm plus 600mm x 1m
Medium (7-20kg)	1.2m x 800mm	600mm x 700mm plus 800mm x 1m
Large (21-40kg)	1m x 1.5m	800mm x 800mm plus 1m x 800mm
Extra large (>40kg)	1m x 2m	1.2m x 1.2m plus 1.2m x 2.4m

**Summary:**

**Any proposed new pound facility needs to comply with (or exceed) the above statutory and regulatory requirements and the code of welfare. It would be advisable for the administering authority to be consulted at the detailed plan preparation stage of the facility to ensure compliance.**

## 6. Comparison of Operational Issues.

This evaluation compares the distance that each Council would have to travel if the Dog pound was located at Johnston Street and Dalefield Road.

The table below illustrates dog control activities undertaken by each Council during 2018 – 2019.

	Carterton DC	South Wairarapa DC
<b>Dog population in district</b>		
<b>2018 - 2019</b>	2,634	3,125
<b>2017 - 2018</b>	2,573	3,040
<b>2016 - 2017</b>	2,715	2,974
<b>Annual number of dogs impounded</b>	86	95
<b>Locations they are collected from</b>	Carterton rural and urban	51 Featherston 22 Greytown 22 Martinborough
<b>Most dogs retained at anytime</b>	6	9
<b>Number of dogs at each collection</b>	1 occasionally 2	1 occasionally 2
<b>Usual number of days in pound</b>	2	Mostly 1 average 3.5 22.1% long stayers
<b>Longer stayers how long</b>	4 weeks, 7 months	7 plus days
<b>Number of trips to pound in an average week:</b>		
<b>To impound dogs</b>	2	2
<b>To release dogs to owners</b>	2	2
<b>To feed dogs etc</b>	14	14
<b>Number of days kennels are vacant</b>	171 or 47%	123 or 34%

Note the degree of similarity of most of the data between CDC and SWDC.

### A) Comparison of the distance travelled for each site per week for CDC

Distance from Carterton to

Dalefield Site	=	4 kilometres
Johnston Street Site	=	25 kilometres

	Dalefield (status Quo) kms	Johnston street (Shared Facility) kms
<b>Routine visits</b>		
2 return visits per day X 7 days X 53 % occupancy		
Is 7.42 visits per week @ 8 kms return	59	
@ 50 kms return		371
<b>Impoundments</b>		
86 per annum or 1.65 per week @ 8 kms return	13	
@ 50 kms return		83
<b>Releases</b>		
86 per annum or 1.65 per week @ 8 kms return	13	
@ 50 kms return		83
Adjustment SWDC to undertake 50% of CDC routine visits	nil	-185
<b>Total kilometres travelled per week</b>	<b>85</b>	<b>352</b>

**B) Comparison of the distance travelled for each site per week for SWDC**

Distance from Martinborough to		
Dalefield Site	=	27 kms
Johnston Street Site	=	18 kms
Greytown	=	19 kms
Distance from Greytown to		
Dalefield Site	=	12 kms
Johnston Street site	=	13 kms
Distance from Featherston to		
Dalefield	=	25 kms
	Johnston	Dalefield
	(status quo)	(Shared facility)
	kms	kms
<b>Routine visits:</b>		
2 return visits per day X 7 days X 66% occupancy		
is 9.2 visits per week @ 36 kms return	331	
@ 54 kms return		497
<b>Impoundments:</b>		
Featherston 1 per week @ 36 Kms return	36	
@ 70 kms return		70
Greytown 0.42 per week @ 50 kms return	21	
@ 58 kms return		24
Martinborough 0.42 per week @ 36 kms per return	15	
@ 54 kms per return		23
<b>Releases:</b>		
Featherston 1 per week @ 36 kms return	36	
@ 54 kms return		54
Greytown 0.42 per week @ 36 kms return	15	
@ 54 kms return		23
Martinborough 0.42 per week @ 36kms return	15	
@ 54 kms return		23
<b>Total kilometres travelled per week</b>		
per return visit	469	714
<b>Adjustment CDC to undertake 50% of SWDC</b>		
routine visits	nil	-248
<b>Net distance to travel per week is</b>	469	466

**Summary:**

It is evident that a critical aspect of a combined facility is the ability to share the operational obligations. The assessments above share the routine visits equally.

The outcome is :

a) CDC would incur an additional 267 kms per week if the facility was located at Featherston.

b) SWDC would travel a similar distance if the facility was located at Dalefield.

The close proximity of the Dalefield Road site to Carterton significantly increases the opportunity to minimise further travel from Martinborough.

## 7. Estimate of Establishment Costs

---

The estimate of costs need to be considered in conjunction with the Preliminary Criteria for the facility refer to attachments for detail.

The intention is that these estimates are for guidance only. It is anticipated that detailed plans and specifications will follow once the Councils have confirmed their intentions.

Further investigation is needed to ensure compliance with regulations particularly for dog well-being. Modest provision has been included for insulation and air flow. The need for regulated systems to manage air flow and temperature control needs to be investigated.

Noise mitigation is an issue that needs further investigation.

### ESTIMATE OF COSTS:

	<b>\$ (exc GST)</b>
<b>Prepare of site</b>	
Remove existing fences etc	4,000
<b>Security Fence and Gates</b>	
60 meters @ \$440 per lineal metre erected	26,400
4 gates 3m. x 1.8m @ \$640 installed	2,560
<b>Drive way and parking off Dalefield</b>	
90 cubic metres gravel @ \$60 per metre	5,400
<b>Building</b>	
As per quote attached from Total span dated 10 April	281,308
Electrical PC Sum	10,000
Plumbing etc	10,000
Drainage	10,000
Vinyl to floor of office and store room.	2,500
<b>Connection to services (Provisional sum)</b>	
Sewer, storm water, Water, Power etc	12,500
<b>Kennels (provisional sum)</b>	
18 medium size with run @ \$710 each	12,780
2 large size with run @ \$940 each	1,840
<b>Resource Consent</b>	
Preparation and lodgement (refer to attached for detailed estimate)	10,880
<b>Building Consent and inspections</b>	
Estimate	12,000
<b>Fire report and variations</b>	
Estimate	8,000
<b>Security systems (Provisional sum)</b>	
CCTV system	5,000
<b>Professional Services (Provisional sums)</b>	
Preparation of detailed plans and specifications	20,000
Project management	10,000
<b>Appliances</b>	
Refrigerators, Deep freeze and Kitchen needs	5,000
<b>Contingency</b>	
7% of the cost estimate	31,512
<b>Total estimate of cost</b>	<b>481,680</b>
<b>Plus GST</b>	<b>72,252</b>
<b>Total estimate of cost including GST</b>	<b>553,932</b>

### **Provisional for additional insulation**

Estimate to line and insulate upper portion of walls and ceiling \$25,000.

### **Issues beyond the scope of this report.**

a) Detailed plans and specifications.

The plans and specifications provided are not intended for construction purposes.

b) Noise Mitigation.

An assessment of requirements for noise mitigation will form part of the Resource Consent assessment. The provisional for additional insulation is expected to form part of any mitigation requirements.

c) Need to investigate temperature control.

Temperature control is a technical issue that requires further investigation from appropriate specialists. Additional costs may arise as a result of that investigation.

d) MPI assess compliance

It would be prudent to engage MPI the administering authority for the Animal Welfare Act 1999 and Animal Welfare Regulations 2018 to assess the plans and specifications for a compliance assessment, before any commitments are entered into.

E) Visit other recently established dog pound facilities.

Advice from Dog Control Officers who have had recent experience with a new facility is recommended.

### **Summary**

**The estimate of costs have been obtained from industry sources and are adequate for planning and budgetary purposes. Final estimates should be undertaken when detailed plans and specifications have been confirmed.**



## 8. Summary

---

The assessment has excluded the Tilsons Road property at Papawai due to legal access issues. The remaining sites at Johnston Street at Featherston and Dalefield Road at Carterton are assessed as follows.

### 1. Long term viability:

Is dependent on the compatibility of existing and long term prospects for land use in the immediate locality.

#### Dalefield Road:

The predominant activities in proximity are industrial and rural. The eastern sector of Carterton is the preferred location for future residential. A continuation of compatible activities seems highly probable.

#### Johnston Street:

A consent for a residential development on an adjoining property has recently been approved by SWDC. Compatibility issues exist and may prove problematical.

### 2. Operational benefits:

Comparisons are based on the impact of the distance travelled for each option.

#### Dalefield Road:

The travel commitment for SWDC equates to the status quo if CDC undertake 50% of the routine visits to the facility.

#### Johnston Street:

The travel commitment for CDC increases by 267kms per week if SWDC undertakes 50% of the routine visits to the facility.

### 3. Establishment costs:

The estimated costs in the assessment apply to both sites with the exception of the cost for noise mitigation.

A professional assessment to establish requirements is needed. It is anticipated that the requirements for the Johnston Street will be significant in view of the close proximity of residential properties.

It is evident that the Dalefield Road location offers potential benefits which will be difficult to achieve at the Johnston Street location.

## 9. Conclusion

---

1. The potential benefits from a shared facility are significant and are dependent on the selection of a site at a favourable location.
2. Dalefield Road, offers significant benefits and is the preferred option for a joint facility.
3. The assessment has highlighted issues with the Johnston Street site that are expected to be difficult to resolve. The operational benefits for the CDC are also marginal.
4. In the event that Dalefield Road is not achievable it is recommended that a further review of alternative sites be undertaken with the option to acquire a site at an optimum location.

## **9. Disclaimer Statement**

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The information in this report is for general information purposes only. Armstrong Dixon Limited assumes no responsibility for errors or omissions in the content of this report.

## **Attachments**

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Concept 1 - Site Plan

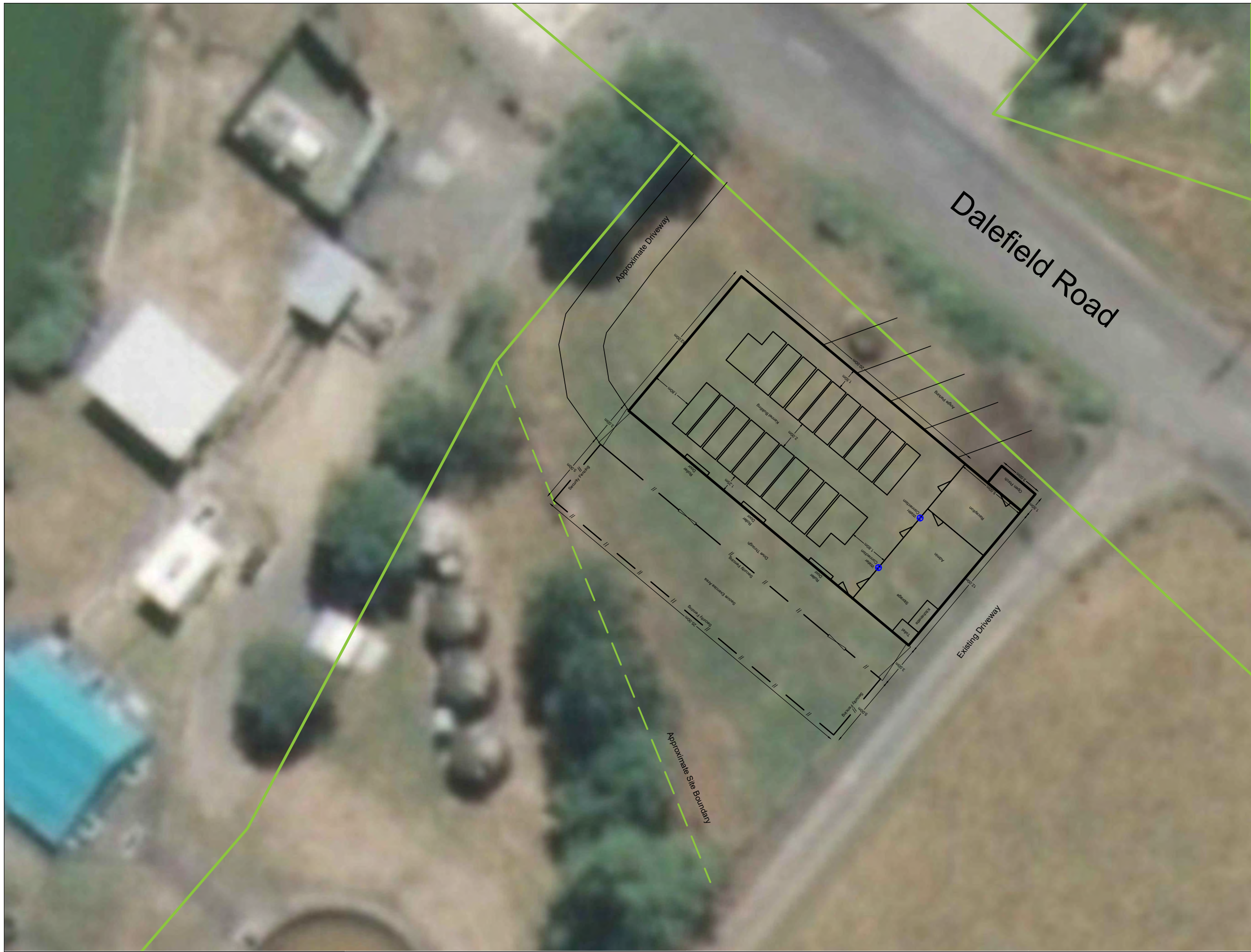
Concept 2 - Building Plan

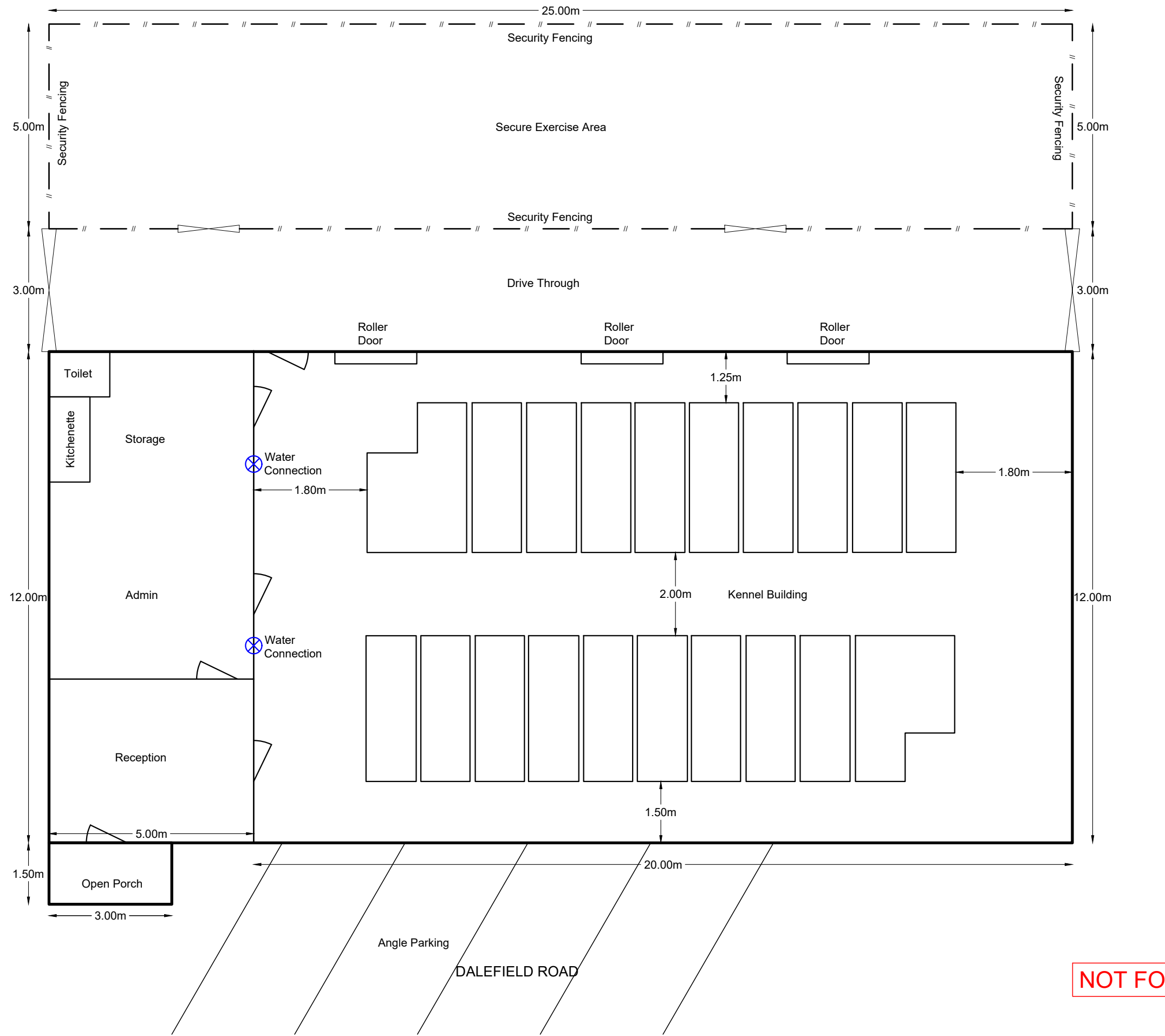
Preliminary Criteria for Facility

Resource Consent Fee Estimate

Totalspan Detailed floor plan and elevations

Totalspan Estimate of cost for building.





NOT FO

16 March 2020

Carterton District Council



## OFFER OF SERVICE: Resource consent application for a new dog pound at Dalefield Road, Carterton

Thank you for the opportunity to provide an estimate for our services and expertise for the works described below. This estimate is based on our understanding of the project and the information provided to date.

We understand resource consent is required (as a restricted discretionary activity due to non-compliances with the noise and building setback standards of the relevant permitted activity rule in the Carterton District Plan).

We propose preparing a concept plan to assist with consultation with neighbouring landowners (to be carried out by the client) and commissioning a noise assessment to provide details of the noise effects of the proposal.

We would then prepare the resource consent application incorporating the above matters.

### Scope of Works:

Task	Amount (\$)
<b>Preliminary Investigation and Research</b> Preliminary planning and investigation work	660
<b>Preparation of Application Concept Plan</b> Concept plan for consultation and consent	1,320
<b>Preparation of Consent Application (AEE)</b> Planning documents to be submitted with resource consent application	3,300
<b>Noise Assessment - INDICATIVE FEE</b> Indicative figure for a noise assessment to accompany the resource consent application	5,000
<b>Carterton District Council Resource Consent Fees</b> Fee for a non-notified restricted discretionary resource consent	2,826
<b>Subtotal</b>	<b>10,880</b>
<b>GST</b>	<b>1,632</b>
<b>Total</b>	<b>12,512</b>

### Exclusions

- **Consultation with affected parties** – We understand this will be undertaken by the client (we will prepare the concept plan to assist).
- **Post lodgement costs** – The above covers work up to lodgement of the consent application only. Post lodgement costs are charged at \$165/hour and based on work incurred only.

This estimate is based on the information provided to date and is valid to 13 April 2020.

Land Matters Limited are a highly skilled, multi-disciplined property consultancy and management business focused on resource planning and consenting, project and property management and surveying. We have a team of ten professional and experienced staff.

Land Matters' Head Office is in Ōtaki on the Kāpiti Coast, but we also have offices in Wellington and Tauranga to



service our client base. We have experience working throughout New Zealand including Northland, Bay of Plenty, Taupō, Coromandel Peninsula, Kāpiti Coast, Wairarapa, Marlborough, Nelson, Canterbury, Queenstown and Wellington.

## Summary

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Land Matters have the passion, experience and resources to successfully provide these services for your project. Our team of multi-disciplinary experts will show you the best path – and ensure you get the most from your property project.

We would be happy to review this proposal with you and provide any additional information or clarifications you may have.

Yours sincerely

**LAND MATTERS LIMITED**



Clark Construction Ltd  
Trading as:  
Totalspan Wairarapa  
235 Ngaumutawa Road, Solway,  
Masterton, Wairarapa, 5810,  
New Zealand  
Phone 06 377 5956  
Fax 06 377 3376  
Email wairarapa@totalspan.co.nz

10 April 2020

Mr Bob Austin  
Dalefield Road, Dalefield  
Carterton, New Zealand, 5719

Dear Bob,

**ESTIMATE FOR AN IL2 TOTALSPAN PORTAL BUILDING / NEW COUNCIL DOG POUND.**  
**25m x 12m x 3m with 3m x 1.5m Awning**

Thank you for your enquiry. We have pleasure in submitting the following Estimate to supply the above building.

As a commitment to the quality of our materials & professionalism of our trades' people, we provide a written 25 year structural guarantee.

Our experienced and dedicated team pride ourselves on our customer service; making the building process easy from start to finish.

**CONCRETE FLOOR & CONSTRUCTION:**

Includes excavation and minor sub base preparation up to 100mm.

25 Mpa reinforced concrete floor 100mm thick with reinforced ring foundation and polythene DPC.

Supply and installation of building paper and 10mm thermal break in the roof and walls.

**ESTIMATE INCLUSIONS:**

- Site survey
- Soil testing and report
- Fire Report
- Internal fit out (as per attached PDF)
- Drafting for internal walls and fit out

**Provisional Sum Inclusions:**

- PC Sum \$10,000.00 - Electrical
- PC Sum \$10,000.00 - Plumbing & Gas
- PC Sum \$10,000.00 - Drainage
- PC Sum \$2,500.00 - Vinyl Flooring (to office and store room only)

**ESTIMATE EXCLUSIONS:**

- Resource and Building Consent Fees
- PS4 Inspections
- Fire Report engineering and build costs if required (site specific)
- Mains Service connections

**COLORSTEEL**



**Why choose Totalspan for your investment building:**

- 1. We are the ultimate 'one stop shop' offering a complete, prompt and efficient service where we will take care of everything for you**
- 2. Unique patented framing system, our framing system makes it difficult for birds to nest, in our Totalspan buildings. Our framing fits closely in between the portals reducing areas where birds nest also making a very neat finish.**
- 3. Kitset option: We supply you with a simple set of building instructions, all components are labelled for easy identification. We are also only a phone call away to assist you. We do recommend some building knowledge is required.**
- 4. We are also happy to project manage your investment building from, marking out the building on your property, obtaining building permits, laying the concrete foundation and completing the assembly of your building where we will give your building a five year tradesman guarantee.**
- 5. Engineered design certified to New Zealand standards**
- 6. We have various cladding options to offer**
- 7. Our Research & Development Program leads the industry with innovative engineering and design offering a 25 year structural guarantee**

**We require a 10% deposit to proceed with your permit application with an additional 40% of the total cost upon order, 40% after the concrete slab has been laid and the balance on building completion within 7 days of invoice.**

**N.B. This quotation remains available for acceptance for 30 days and is subject to our standard terms and conditions.**

**Thank you for the opportunity to submit this Estimate. I am happy to meet you on site to discuss any queries you may have. Please do not hesitate to contact me if you have any questions or any changes you may want to make.**

Yours sincerely

Stew Clark  
Director  
Totalspan Wairarapa  
wairarapa@totalspan.co.nz  
027 542 8133

**COLORSTEEL**



**BUILDING SPECIFICATIONS (Project Reference: 2109267)**

Building Model: Portal Building Series 12 Erected  
 Building Size: 25m long x 12m wide, with 3m stud height  
 Zoned: T.C.2 Rural  
 Design Wind Speed: 37.31m/s  
 Bays: 4m, 4m, 4m, 4m, 4m, 2m, 3m  
 Foundation: Concrete Slab  
 Roof Details: 15 Degree Pitch, Corrugated Profile  
 Wall Sheeting: Corrugated Profile  
 Downpipes: PVC As Per Instructions of building

**COLOUR**

Roof:	TBC	Wall:	TBC
Partition:	TBC	Window:	TBC
Gutter:	TBC	Barge:	TBC
Roller Door Series 1:	TBC	PA Door:	TBC
Downpipe:	TBC		

**DOOR DETAILS**

Roller Door: 2 x Roller Door: S1-SG 2730h x 3000w ( Manual )  
 1 x Roller Door: S1-SG GDO-6 Auto Opener 2730h x 3000w ( Auto Opener )

**BUILDING INCLUSIONS**

65mm Downpipe: 7	Partition: 1
PA Door: 3 x PA Door Open In	Window: 1 x AW002 - 982h x 1952w RO 982h x 1952w BH1028
Door: 1 x RHFE975-ALUMINIUM RO 2084h x 959w	
1 x RHPAD975-DG RO 2084h x 959w	

Right Awning: 1 x 3.032m long x 1.5m wide [Start in Bay-1 End in Bay-1], with 15 Degree Pitch



**QUOTE OPTIONS**

**Building Consent:** Totalspan will prepare and lodge building consent application.  
 Building consent fees and any other council fees are not included in this contract.

**Site Works / Concrete Foundation:** Totalspan will provide producer statements to support the building consent application.  
 The concrete foundation has been priced for a flat, level site with a ground bearing capacity of 100 kpa. Any additional fill or concrete quantities will be charged for.  
 Supply and spreading of any rough fill to allow off road access to the building site is not included.  
 All excavated material will remain on site.  
 Use of a concrete pump is included in contract.  
 Polythene is included under the the slab to create a moisture barrier.

**Building Paper:** Building Paper Covertek 405 or equivalent will be installed in the roof of the closed portion of your building.  
 Building paper will be installed in the walls of the closed portion of the building

**Firewalls:** Firewall costs are not included.

**Electrical:** Electrical work is included.

**Plumbing:** Plumbing is included inside the building.

**Delivery:** Totalspan will arrange for the delivery of the kitset to site.

**Roller Doors:** Roller doors as drawn, are supplied and installed by a qualified Totalspan contractor.

**Drainage:** Drainage is included in your contract.

**Automatic Door Openers:** Automatic door opener fitted to one door only.

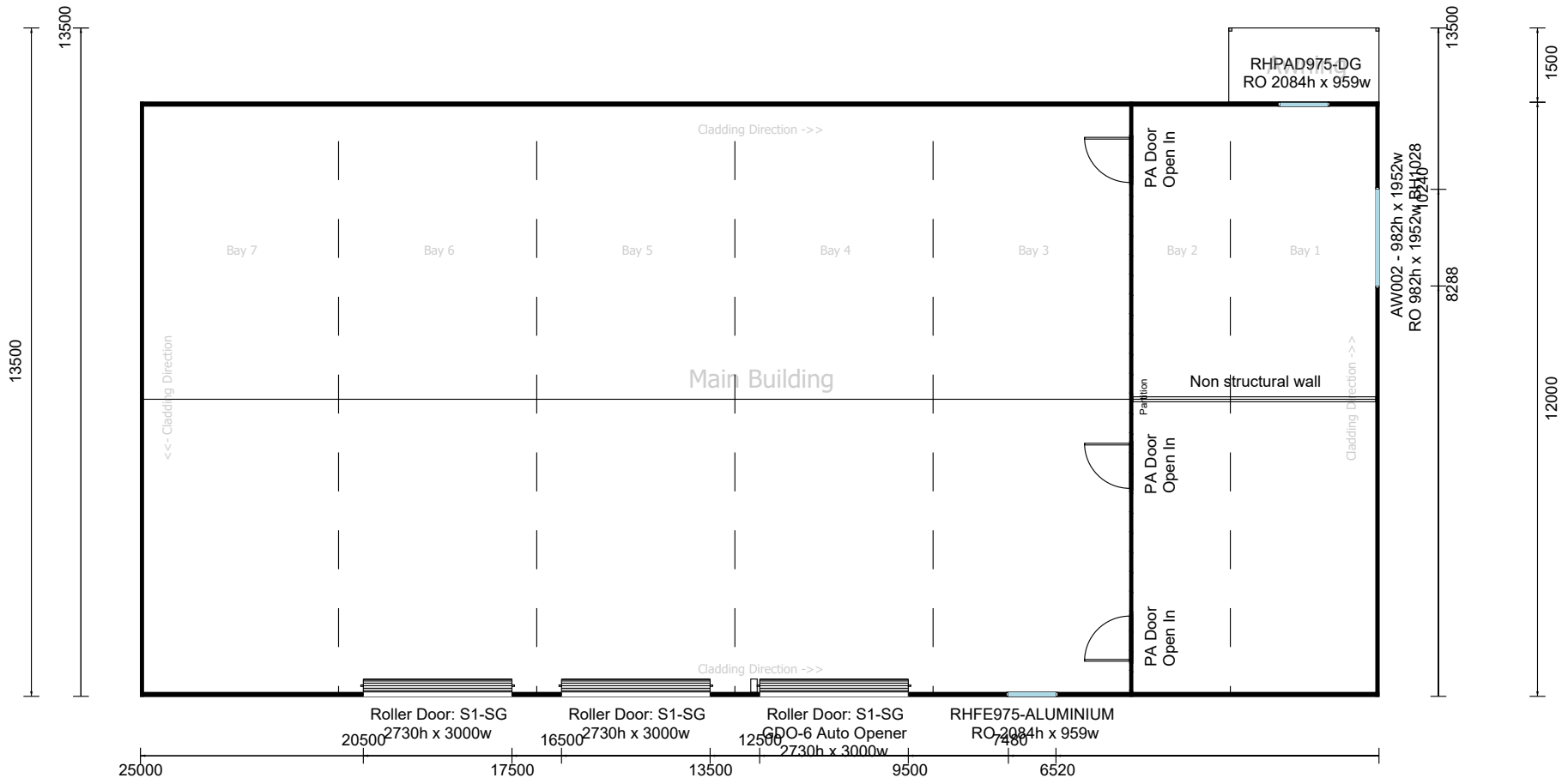
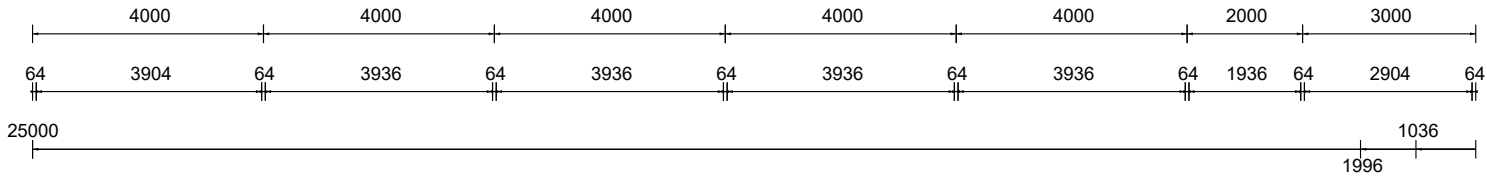
**Aluminium Joinery:** Windows are double gazed.

**Engineer:** Allowance for an Engineers fire report is included.  
 Soil strength - the council may require an engineers geotech report if an initial test shows that the soil strength is less than 75 kpa. the report and any resulting costs are additional to this contract.

**Corrugate Cladding:** Allowance for corrugate cladding to roof and walls.

**Sub Total: \$281,307.32**  
**G.S.T.(15%): \$42,196.10**  
**Total Investment: \$323,503.42**





QikDRAW  
 Rear Side  
 Left Side  Right Gable  
 Front Side

VIEWS  
 2  
 3 X 1  
 4

Project No.: 2109267

Totalspan Wairarapa  
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 wairarapa@totalspan.co.nz

For: Mr Bob Austin  
 Dalefield Road  
 Dalefield  
 Carterton  
 5719

Scale: 1:131

**ARCHITECTURAL DETAILS  
 FLOOR PLAN**



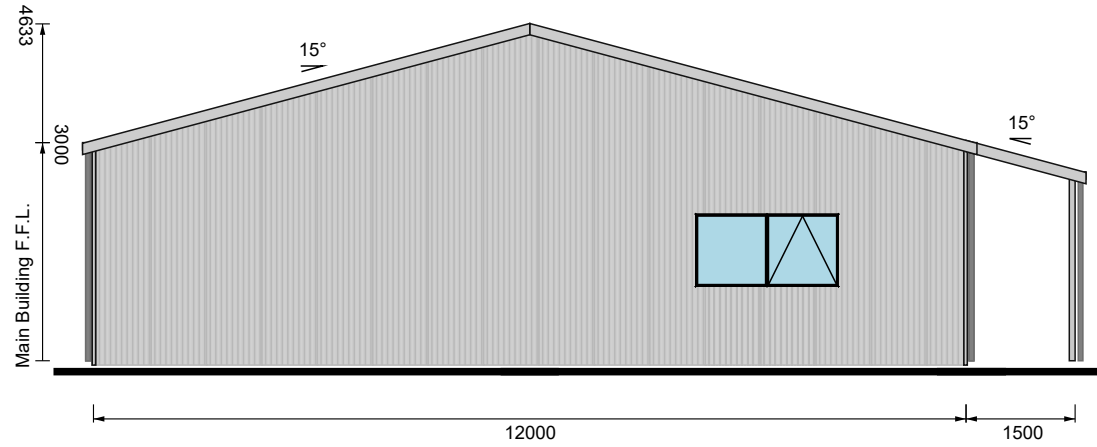
Design Approved by Client:

35

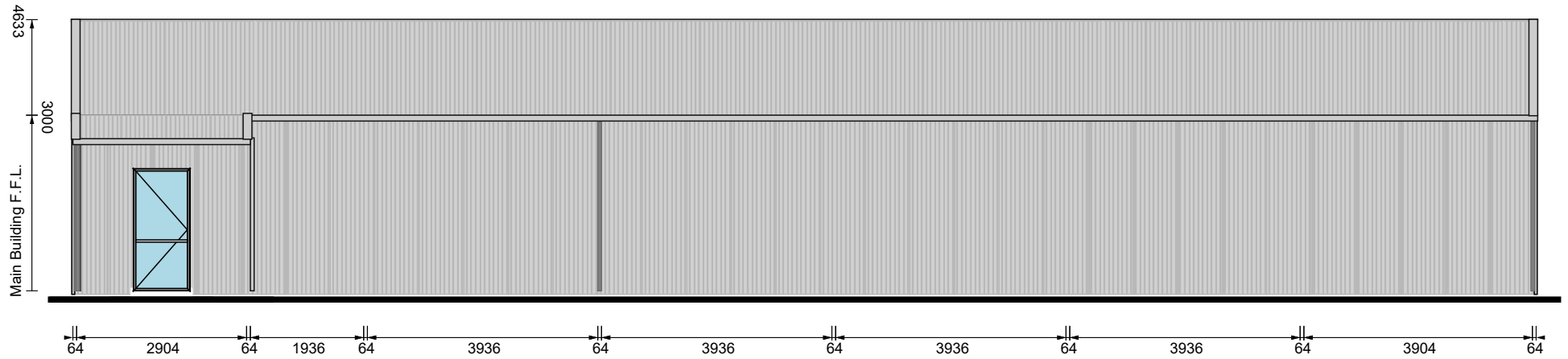
Date

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VIEW 1



VIEW 2



Project No.: 2109267



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 wairapa@totalspan.co.nz

For: Mr Bob Austin  
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 Carterton  
 5719

Scale: 1:104

**ARCHITECTURAL DETAILS  
 ELEVATIONS**

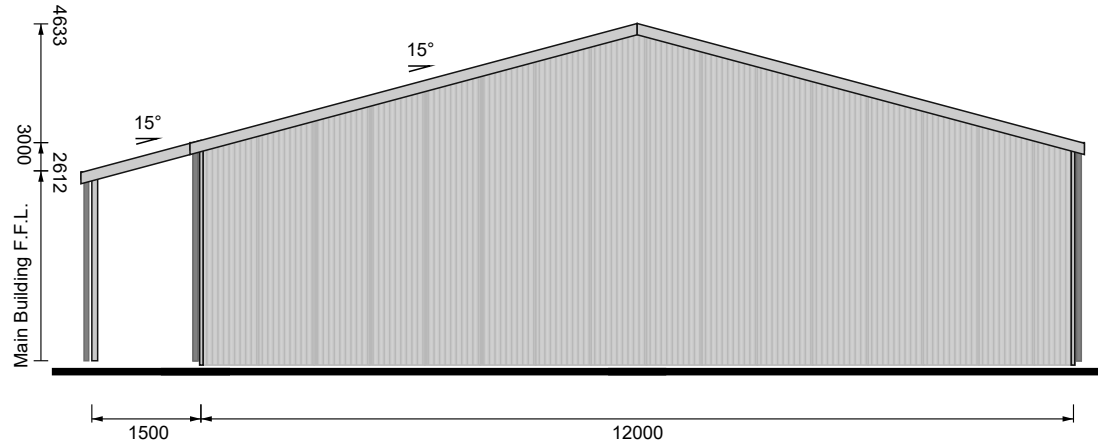
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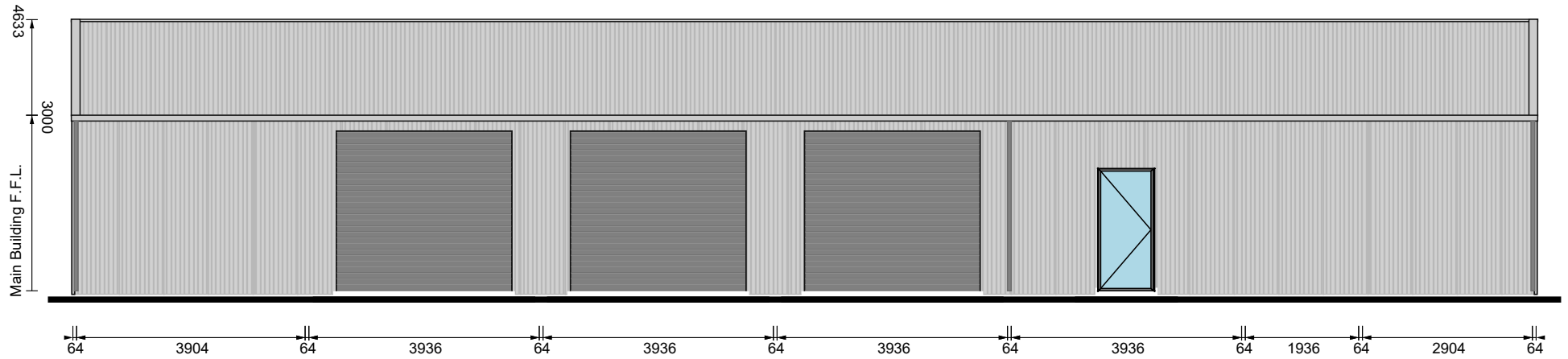
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VIEW 3



VIEW 4



Project No.: 2109267



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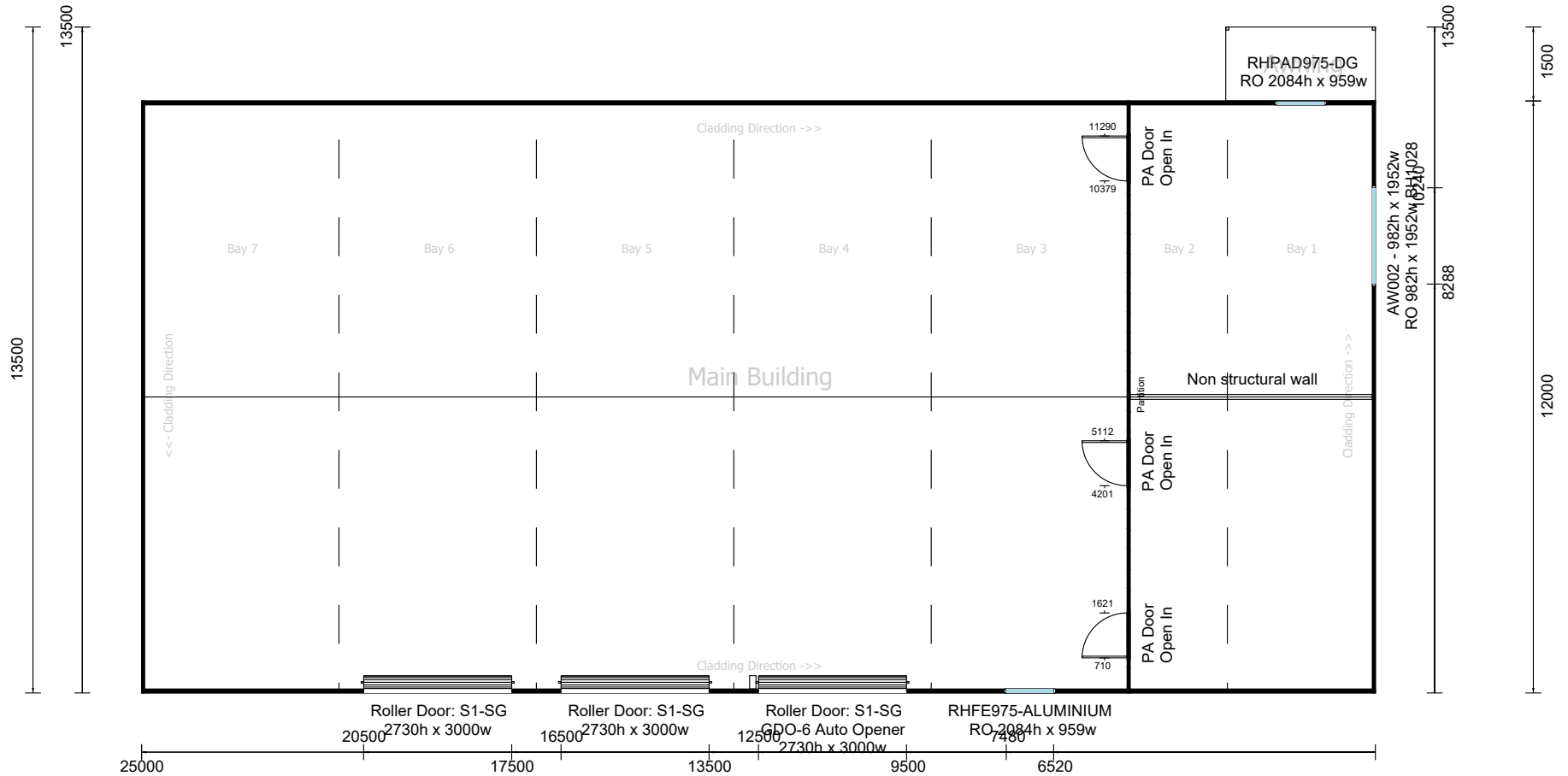
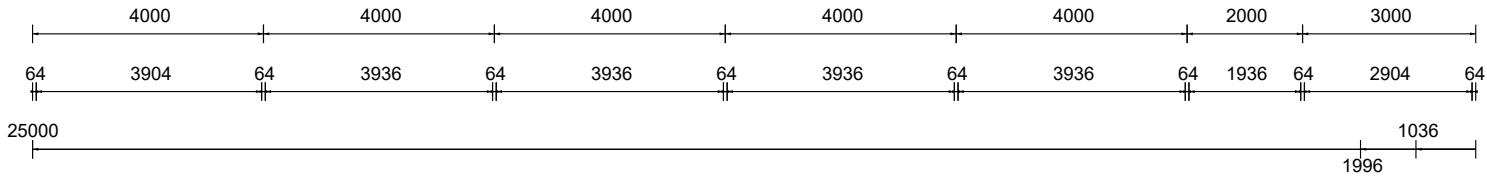
**ARCHITECTURAL DETAILS  
 ELEVATIONS**

Design Approved by Client:

37

Date

Page 7 of 7



QikDRAW  
 Rear Side  
 Left Side  Right Gable  
 Front Side

VIEWS  
 2  
 3 X 1  
 4

Project No.: 2109267

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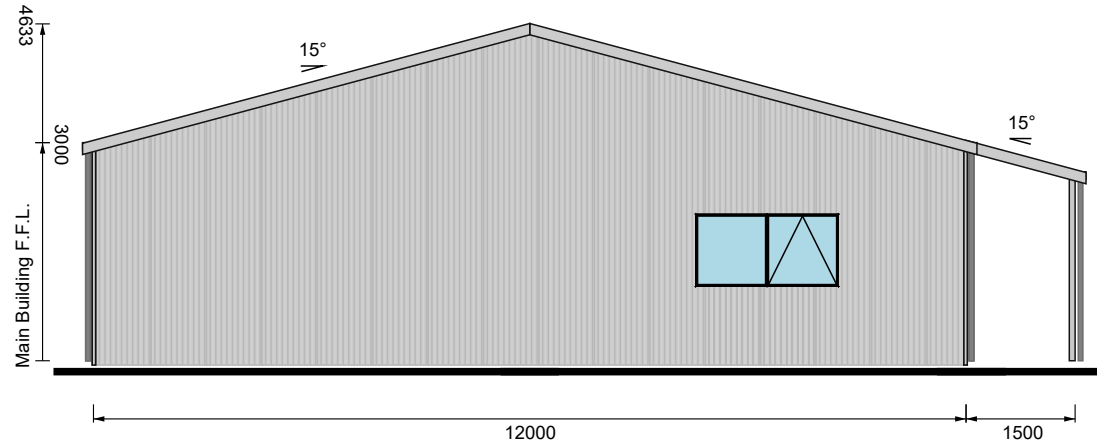


## ARCHITECTURAL DETAILS FLOOR PLAN

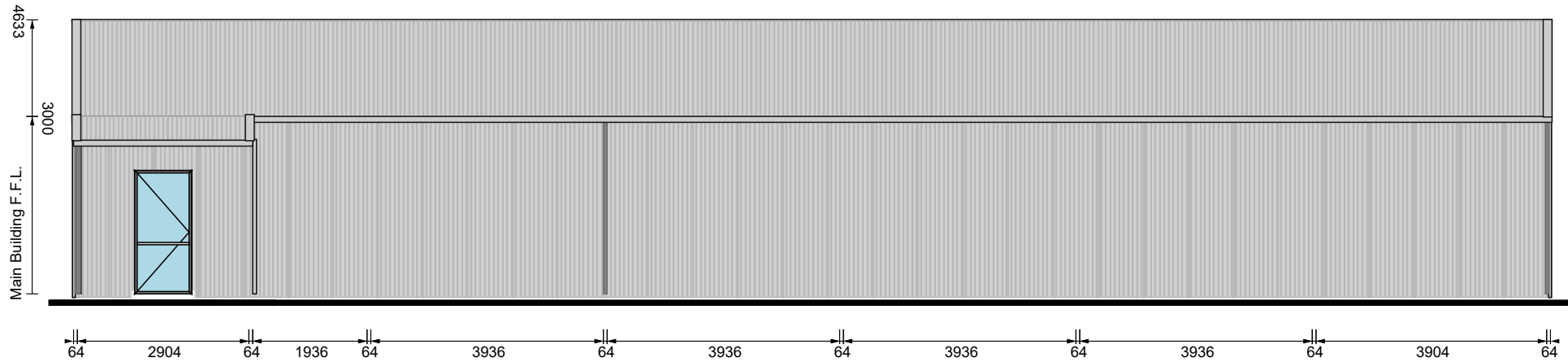
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 CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE AT TIME OF CONSTRUCTION



VIEW 1



VIEW 2



Project No.: 2109267



Totalspan Wairapa  
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wairapa@totalspan.co.nz

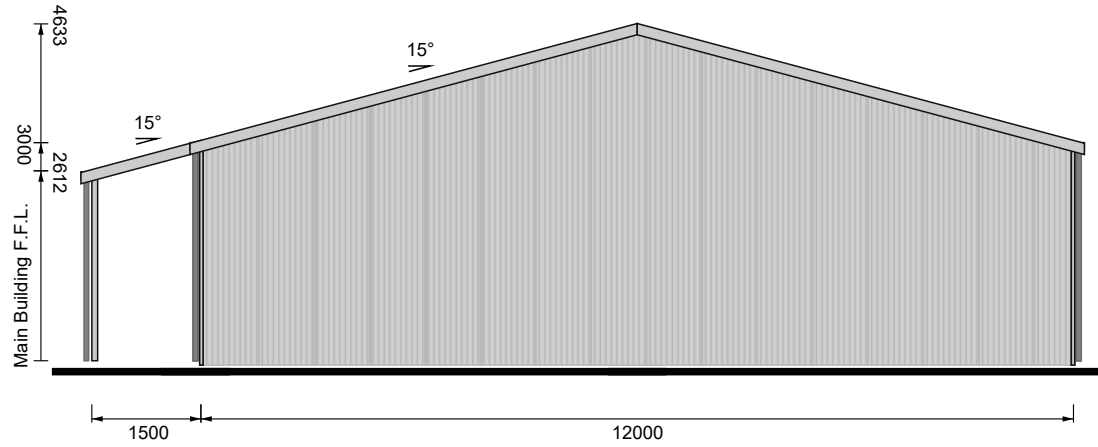
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5719

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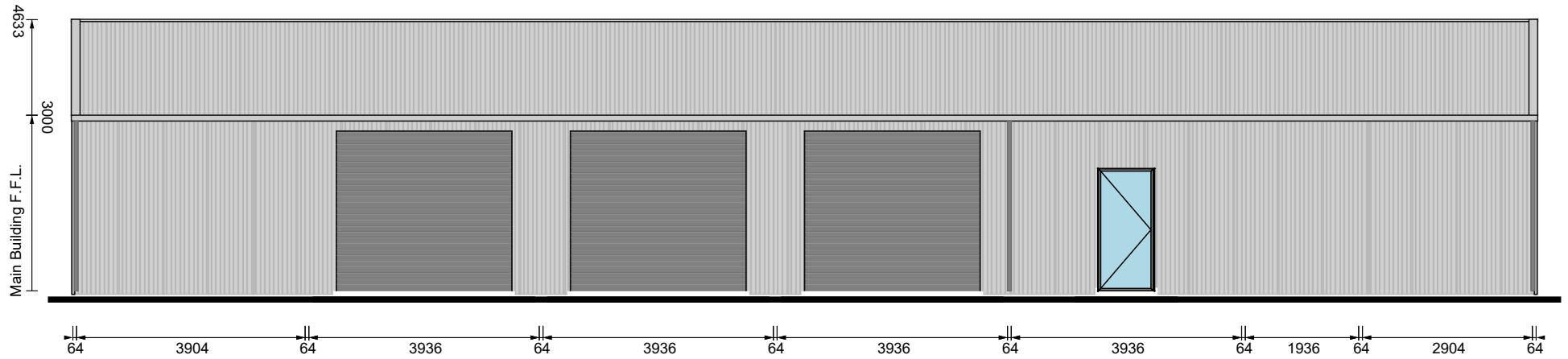
**ARCHITECTURAL DETAILS  
ELEVATIONS**

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VIEW 3



VIEW 4



Project No.: 2109267



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 5719

Scale: 1:104

**ARCHITECTURAL DETAILS  
 ELEVATIONS**

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 CONTRACTOR TO CONFIRM ALL DIMENSIONS ON SITE AT TIME OF CONSTRUCTION

# PLANNING AND REGULATORY COMMITTEE

17 JUNE 2020

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## AGENDA ITEM B2

### CLIMATE CHANGE

---

#### **Purpose of Report**

To inform Councillors of the final version of the Ruamāhanga Strategy and Implementation plan, the Corporate Greenhouse Gas emissions inventories and the Wellington Region Greenhouse Gas emissions inventory.

#### **Recommendations**

Officers recommend that the Council:

1. *Receive the Climate Change Report.*
2. *Receive the finalised version of the Ruamāhanga Strategy and Implementation plan.*
3. *Receive the Greenhouse Gas Inventory report for SWDC in 2018.*
4. *Receive the Wairarapa Combined District Greenhouse Gas Inventory.*

#### **1. Executive Summary**

The finalised version of the Ruamāhanga Strategy and Implementation Plan (Carbon Reduction Strategy) is presented to the committee for information as well as the Wellington Region and the SWDC greenhouse gas inventories.

#### **2. Discussion**

##### **2.1 Ruamāhanga Strategy**

The Ruamāhanga Strategy has been developed in order to reduce the carbon footprint of Carterton District Council and South Wairarapa District Council.

The draft Strategy was presented and adopted by the Planning and Regulatory Committee on the 26 February 2020:

*PLANNING AND REGULATORY RESOLVED (PR2020/03):*

1. To receive the Ruamāhanga Strategy – Climate Change Strategy for Carterton and South Wairarapa District Councils.  
(Moved Cr West/Seconded Cr Hay) Carried
2. To recommend to Council the adoption of the draft Ruamāhanga Strategy and Implementation Plan.  
(Moved Cr Vickery/Seconded Mayor Beijen) Carried

In May 2020, the results of the Wellington Region Greenhouse Gas Inventory have been included in the Ruamāhanga Strategy which is now presented in a finalised version.

## **2.2 Greenhouse Gas Inventory Report for SWDC**

The report for the SWDC’s Greenhouse Gas Inventory – 2018, has been finalised in accordance with the requirements of the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004)* and *ISO 14064-1:2006 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals*.

The results of this 2018 greenhouse gas inventory were already presented in the Ruamāhanga Strategy.

This greenhouse gas inventory is updated every year. The results for the 2019 inventory are not finalised yet. They will be presented later in the year.

## **2.3 Wellington Region Greenhouse Gas Inventory**

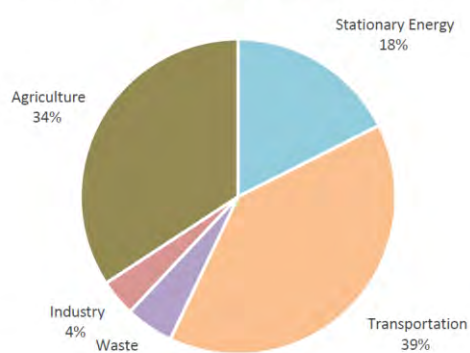
The results of the Wellington Region greenhouse gas inventories were released in May 2020.

### **2.3.1. 2018/19 inventory**

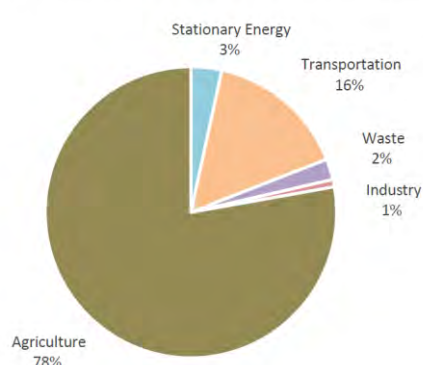
	<b>Wellington Region</b>	<b>Wairarapa Combined District</b>
Gross Emission 2018/19	4,190,050 tCO <sub>2</sub> e	1,734,320 tCO <sub>2</sub> e
Per capita gross emission 2018/19	4.0 tCO <sub>2</sub> e	36.4 tCO <sub>2</sub> e
Net emission 2018/19	2,552,727 tCO <sub>2</sub> e	353,460 tCO <sub>2</sub> e

**Table 1 - Summary of the 2018/19 Greenhouse gas inventory**

Wellington Region Sources of GHG Emissions



Wairarapa Combined Districts Sources of GHG Emissions

**Figure 1 - Sources of emissions in 2018/19**

The Table 1 and Figure 1 show the greenhouse gas emissions for the year 2018/19 for the Wellington Region and the Wairarapa Combined District (Carterton District Council, South Wairarapa District Council and Masterton District Council).

The Wairarapa emits 41% of the Wellington Region's emissions. This is mainly because the Wairarapa is a rural region with an agriculture sector well developed (78% of the Wairarapa's emissions are due to agriculture). However, because of the forestry (carbon sequestration) the Wairarapa account only for 14% of the net emissions of the Wellington Region.

### 2.3.2. Changes between 2001/02 and 2018/19

	Wellington Region	Wairarapa Combined District
Gross Emission 2018/19	4,190,050 tCO <sub>2</sub> e	1,734,320 tCO <sub>2</sub> e
Gross Emission 2001/02	4,427,849 tCO <sub>2</sub> e	1,871,095 tCO <sub>2</sub> e
Changes	-5%	-7%
<i>Agriculture</i>	-17%	-14%
<i>Transport</i>	+14%	+41%
<i>Waste</i>	-36%	-6%
<i>Stationary energy</i>	-18%	-4%
<i>Industry</i>	+405%	+411%
Net Emission 2018/19	2,552,727 tCO <sub>2</sub> e	353,460 tCO <sub>2</sub> e
Net Emission 2001/02	1,902,329 tCO <sub>2</sub> e	-91,460 tCO <sub>2</sub> e

**Table 2 - Summary of the changes in greenhouse gas emissions between 2001/02 and 2018/19**

The 2018/19 gross emissions decreased compare to 2001/02 by 5% for the Wellington Region and 7% for the Wairarapa Region. This is mainly due to agriculture, waste and stationary energy. However, transport's emissions increased (41% for the Wairarapa) as well as industry's emissions.

The 2018/19 net emissions increased compared to 2001/02. This means that there is less forest sequestration. Note that Wairarapa region was carbon negative in 2001/02 and is now carbon positive.

## **2.4 Consultation**

Consultation with some community groups has occurred during the development of the Ruamāhanga Strategy.

Tāngata Whenua have been consulted in the development of the Ruamāhanga Strategy and will continue to be included in the actions. Hurunui o Rangi Marae and the Māori Standing Committee have both contributed to this strategy.

## **2.5 Financial Considerations**

The first years' actions will not require an operational budget; however, the three year and long-term actions will need an operational budget. The two councils will need to determine, via the long-term plan what budget will be provided in order to undertake the actions.

Priorities will be determined by the council and then the plan adjusted, if necessary.

## **3. Conclusion**

It is recommended that the Planning and Regulatory Committee receives the finalised version of the Ruamāhanga Strategy and Implementation Plan as well as the Wellington Region and the SWDC greenhouse gas inventories.

## **4. Appendices**

Appendix 1 – Ruamāhanga Strategy

Appendix 2 – Greenhouse Gas Inventory Report for SWDC in 2018

Appendix 3 –Wairarapa Combined District Greenhouse Gas Inventory

Contact Officer: Melanie Barthe, Climate Change Advisor

Reviewed By: Karen Yates, Policy and Governance Manager

# **Appendix 1 – Ruamāhanga Strategy**

MAY 20

# RUAMĀHANGA STRATEGY

CLIMATE CHANGE STRATEGY





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## Document review

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A	16/01/2020	Draft strategy
B	05/02/2020	Draft strategy
C	29/05/2020	Final version

## Disclaimer

*The information in this strategy is true and complete to the best of our knowledge. All recommendations are made without guarantee on the part of the author or South Wairarapa District Council and Carterton District Council. The author and publisher disclaim any liability in connection with the use of this information.*

# 1 Introduction

**Climate Change is the biggest environmental challenge we are facing.**

As Wairarapa is already experiencing the effect of Climate Change, especially sea level rise and erosion, Carterton District Council (CDC) and South Wairarapa District Council (SWDC) are committed to doing their part in mitigating Climate Change (reducing the greenhouse gas emissions).

In 2015, the Mayors signed the New Zealand Local Government Leaders' Climate Change Declaration and committed to:

- Develop and implement ambitious action plans that reduce greenhouse gas emissions and support resilience within our own councils and for our local communities. These plans will:
  - promote walking, cycling, public transport and other low carbon transport options;
  - work to improve the resource efficiency and health of homes, businesses and infrastructure in our district;
  - support the use of renewable energy and uptake of electric vehicles.
- Work with our communities to understand, prepare for and respond to the physical impacts of climate change.
- Work with central government to deliver on national emission reduction targets and support resilience in our communities.

The Ruamāhanga Strategy has been developed to reduce the carbon footprint of Carterton District Council and South Wairarapa District Council.

This strategy:

- presents the districts (socio-economic, environmental and cultural contexts);
- explains what Climate Change is and what may be the impact for Wairarapa;
- presents the greenhouse gas inventory for the Wellington Region (lead by Greater Wellington)
- presents the inventories of greenhouse gas emissions from Wairarapa and from council's activities for each Councils;
- sets up targets;
- presents an action plan (short, medium and long term).

This strategy will be updated regularly.

## 2 Executive summary

### Climate Change is the biggest environmental challenge we are facing.

As Wairarapa is already experiencing the effect of Climate Change, especially sea level rise and erosion, Carterton District Council (CDC) and South Wairarapa District Council (SWDC) are committed to doing their part in mitigating Climate Change (reducing the greenhouse gas emissions).

The Ruamāhanga Strategy has been developed to reduce the carbon footprint of Carterton District Council and South Wairarapa District Council.

### Socio-economic context

With a population of 19,776 in 2018, South Wairarapa and Carterton Districts are attractive, and the population had a +23.7% growth between 2006 and 2018 (around +1.8% per year). South Wairarapa and Carterton Districts are rural districts with a density of 5.4 pers/km<sup>2</sup>.

Households in the districts own more motor vehicles than the average in Wellington Region. 54.4% of the households own two or more vehicles (42.5% for Wellington Region) and 41.9% own one or less motor vehicle (53.2% for Wellington Region).

In 2018, the main fuel type for the district's households was wood (74.7%), followed by electricity (59.9%). Bottled gas and coal respectively had a 43.6% and 73.2% decrease between 2013 and 2018.

In 2018, unemployment in South Wairarapa and Carterton Districts was lower than in Wellington region (4.4% compared to 6.2%). The main industries are agriculture, forestry and fishing (21.9% of the workforce) followed by manufacturing (10.7% of the workforce).

64% of the residents from South Wairarapa and Carterton Districts worked within the districts. 61.7% of the residents drove a car, truck or van to travel to work. Public transport (trains and buses) are used by 9.2% of the residents to go to work and 5.3% of the residents walked, jogged or biked.

Almost 90% of the workers in South Wairarapa and Carterton Districts live within the districts.

### Environmental context

Carterton and South Wairarapa Districts have dry and warm summers and wet and mild winters.

The districts are mainly covered by farmlands (55.7%, including 6.7% of planted forests), closely followed by natural areas (43.8%, including 35.7% of natural forests). The farmlands and the four settlements of Featherston, Greytown, Martinborough and Carterton are mainly located in the Wairarapa plains and the Eastern Wairarapa. The Tararua Range and the Aorangi Range are the main natural areas of the districts.

Carterton and South Wairarapa Districts have a 142-kilometre shoreline. The coast has the settlements of Ngawi, Tora and Flat Point, but is mainly rural or natural areas.

### Historical and cultural context

The Wairarapa has a strong mana whenua history with many important Māori heritage sites. The cultural landscape includes those places associated with ngā atua (deities), taniwha and kaitiaki (guardians and protectors of places), as well as places discovered, visited and or named by ancestors and explorers.

## What is Climate Change and its impact for Wairarapa

According to the UNFCCC<sup>1</sup>, Climate Change means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

Climate Change impacts are global and affect Wairarapa. These impacts for Wairarapa could be:

- increased risk to coastal roads and infrastructure from coastal erosion and inundation, increased storminess and sea-level rise,
- increased risk to surface flooding. River flooding may also become more frequent and more intense.
- more frequent droughts are likely to lead to water shortages, increased demand for irrigation and increased risk of wildfires.
- warmer temperatures, a longer growing season and fewer frosts could provide opportunities to grow new crops. Farmers might benefit from faster growth of pasture and better crop growing conditions. However, these benefits may be limited by negative effects of climate change such as prolonged drought, water shortages and greater frequency and intensity of storms.
- biodiversity is suffering from Climate Change due to the rate of change being very fast compared to historic change species have experienced.
- The ocean is becoming more acidic because it absorbs a huge quantity of CO<sub>2</sub> released in the atmosphere. This affects negatively all the marine species, especially seashells.

## Wairarapa Combined District greenhouse gas inventory

In 2018/19 reporting year, the Wairarapa Combined District emitted gross 1,734,320 tCO<sub>2</sub>e and net 353,460 tCO<sub>2</sub>e.

The biggest sector is agriculture (77.8%), followed by transport (15.7%). Stationary energy (3.4%), Waste (2.3%) and Industry (0.8%) are minor sources of emissions in the Wairarapa.

Total gross emissions fell by 7%, from 1,871,095 tCO<sub>2</sub>e in 2001 to 1,734,320 tCO<sub>2</sub>e in 2019. Reductions in emissions from stationary energy, waste and agriculture are responsible for the fall in total gross emissions. As the area's population has risen (by 22%, from 39,090 to 47,590), per capita gross emissions have reduced by 24% from 47.9 tCO<sub>2</sub>e in 2001 to 36.4 tCO<sub>2</sub>e in 2019.

Net forestry sequestration reduced by 30% between 2001 and 2019 causing net emissions to increase from net-negative total emissions (-91,460 tCO<sub>2</sub>e in 2001) to net-positive emissions (353,460 tCO<sub>2</sub>e in 2019).

<sup>1</sup> United Nation Framework Convention on Climate Change



## Carterton District Council and South Wairarapa District Council greenhouse gas inventories

Two greenhouse gas inventories have been completed, one for CDC and one for SWDC. The results are the following:

	t Co <sub>2</sub> e - CDC	t Co <sub>2</sub> e – SWDC
Corporate Services	14.22	34.29
Community Services	60.81	20.03
Operations	109.39	53.67
Water	517.28	613.10
Parks and Reserves	63.42	30.10
Regulatory	12.00	12.91
<b>GROSS EMISSIONS</b>	<b>777.12</b>	<b>764.10</b>

**Table 1: Emissions by business units in 2018**

	t Co <sub>2</sub> e - CDC	t Co <sub>2</sub> e – SWDC
Scope 1	149.13	60.99
Scope 2	137.14	79.34
Scope 3	490.85	623.77
<b>GROSS EMISSIONS</b>	<b>777.12</b>	<b>764.10</b>

**Table 2: Emissions by scopes in 2018**

	t Co <sub>2</sub> e - CDC	t Co <sub>2</sub> e – SWDC
Electricity	147.52	85.35
Transport	149.73	62.92
Wastewater	447.82	567.07
Water Supply	21.64	46.04
Waste	10.40	2.73
Refrigerant	0.00	0.00
<b>GROSS EMISSIONS</b>	<b>777.12</b>	<b>764.10</b>

**Table 3: Emissions by sources in 2018**

	t Co <sub>2</sub> e - CDC	t Co <sub>2</sub> e – SWDC
<b>GROSS EMISSIONS</b>	<b>777.12</b>	<b>764.10</b>
<i>Sequestration (forests)</i>	-7,249.34	-2,513.47
<i>Harvest emissions</i>	0	4,950.74
<b>TOTAL</b>	<b>-7,249.34</b>	<b>2,437.27</b>
<b>NET EMISSIONS</b>	<b>-6,472.22</b>	<b>3,201.37</b>

**Table 4: Forestry**

### Targets

Carbon targets have been set up. They are ambitious but also, achievable and realistic. Being small councils, we must be aware of our limits.

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

- Reduce their gross greenhouse gas emissions,
- Increase the reservoirs, therefore the amount of greenhouse gas sequestered every year,
- Reduce biogenic methane by 10% below 2017 levels.

### Action Plan

To achieve these targets, the councils set up an action plan. The actions are intended for:

- Councils: lead by example:
  - Council's activities
  - Optimise the fleet vehicles
  - Reduce energy consumption
  - Reduce the use of non-renewable energy
  - Reduce water consumption, therefore wastewater
  - Reduce solid waste
  - Increase the carbon reservoirs
  - Communicate and educate
- Community and businesses: support low carbon behaviours and circular economy:
  - Reduce the use of combustion engine vehicles
  - Promote healthy homes
  - Promote local food and locally made goods and services
  - Reduce solid waste
  - Increase the carbon reservoirs
  - Engage the community and businesses in the carbon footprint reduction

### 3 Socioeconomic context

#### 3.1 Carterton District (CD)

##### 3.1.1 Population

	2006	2013	2018	Change between 2006 - 2018	2043 (forecast)	Change between 2018 - 2043
<b>Population</b>	7,098	8,235	9,201	+29.6%	11,435	+24.3%

Source: *id community, 2019*

**Table 5: CD's population**

	Population 2018	Land area	Density (pers/km <sup>2</sup> )
<b>Population</b>	9,201	1,180 km <sup>2</sup>	7.80

Source: *id community, 2019*

**Table 6: CD's population density in 2018**

Between 2006 and 2018 Carterton District's population increased quickly (average: 2.2% per year) and passed from 7,098 in 2006 to 9,201 in 2018. The forecast shows that the population will keep increasing even though it is slower (average: 0.9% per year). The population in 2043 is estimated to be 11,435.

CD's density is low (7.80 persons per km<sup>2</sup>).

##### 3.1.2 Households

###### 3.1.2.1 Households and dwellings

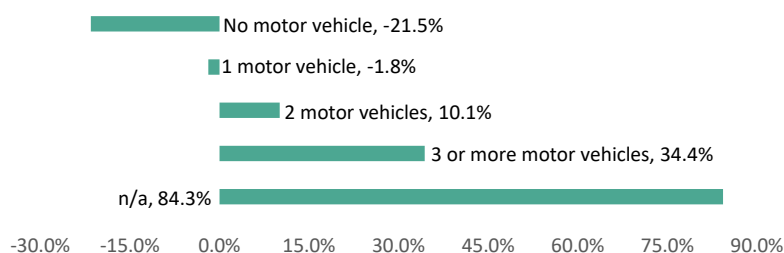
	2006	2013	2018	Change between 2013 – 2018
<b>Households</b>	2,751	3,294	3,657	+11.0%
<b>Dwellings</b>	3,195	3,738	4,131	+10.5%

Source: *id community, 2020*

**Table 7: CD's households and dwellings**

CD had a 11% increase in households and a 10.5% increase in dwellings between 2013 and 2018.

### 3.1.2.2 Car ownership

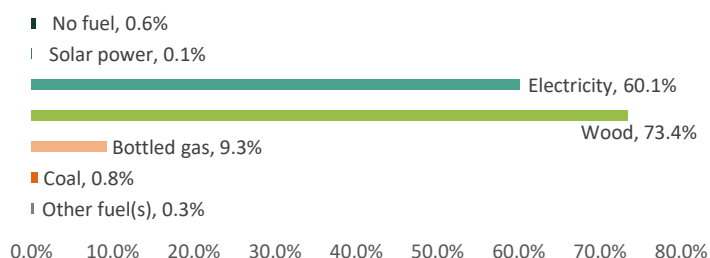


Source: id community, 2020

**Figure 1: CD's households car ownership change between 2013 and 2018**

Households with 2 motors vehicles or more increased by 44.5%. Households with 1 vehicle or less decreased by 23.3%. Because CD is a rural district and due to limited public transport, people rely on their own cars.

### 3.1.2.3 Household fuel type



Source: id community, 2020

**Figure 2: CD's households fuel type in 2018**

Wood (73.4% of the households) and electricity (60.1% of the households) are the two main fuels for the households in CD in 2018.

## 3.1.3 Employment

### 3.1.3.1 Employment status

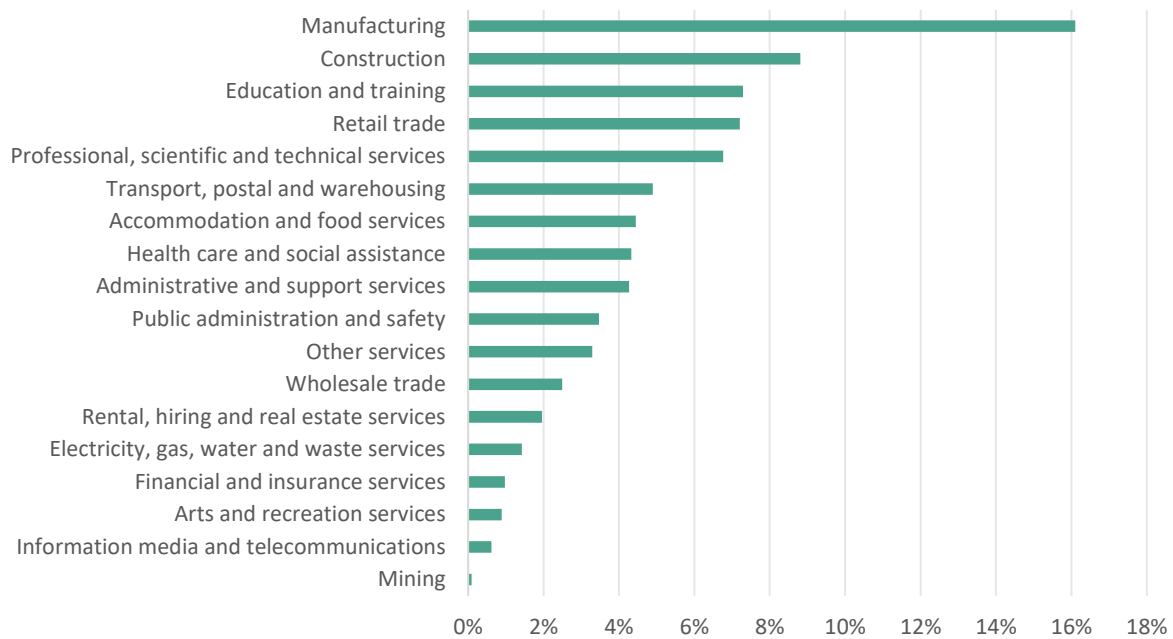
	2013		2018		Change between 2013 – 2018
	Number	%	Number	%	
<b>Employed</b>	4,062	94.4	4,734	93.8	+16.5%
<i>Employed full-time</i>	3,015	70.0	3,492	73.8	+15.8%
<i>Employed part-time</i>	1,047	24.3	1,242	20.0	+18.6%
<b>Unemployed</b>	243	5.6	240	6.2	-1.2%
<b>Total labour force</b>	<b>4,305</b>	<b>100.0</b>	<b>4,974</b>	<b>100.0</b>	<b>+15.5%</b>

Source: id community, 2019

**Table 8: CD's residents employment status**

The unemployment rate in 2018 for CD was above the national rate of 5.8%.

### 3.1.3.2 Workforce profiles

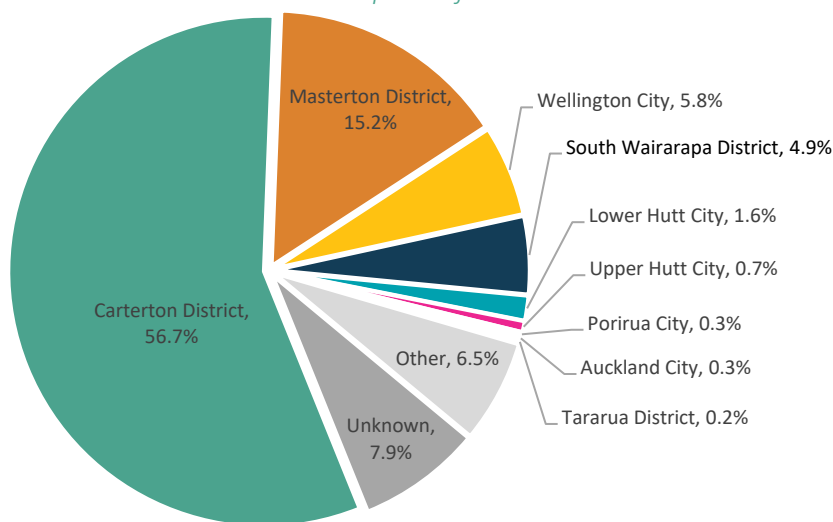


Source: id community, 2020

**Figure 3: CD’s workforce industry sector of employment in 2018**

Agriculture, forestry and fishing is the biggest sector and represents almost 18% of the workforce profile. Manufacturing is the second biggest sector with over 16% of the workforce.

### 3.1.3.3 Carterton’s residents place of work

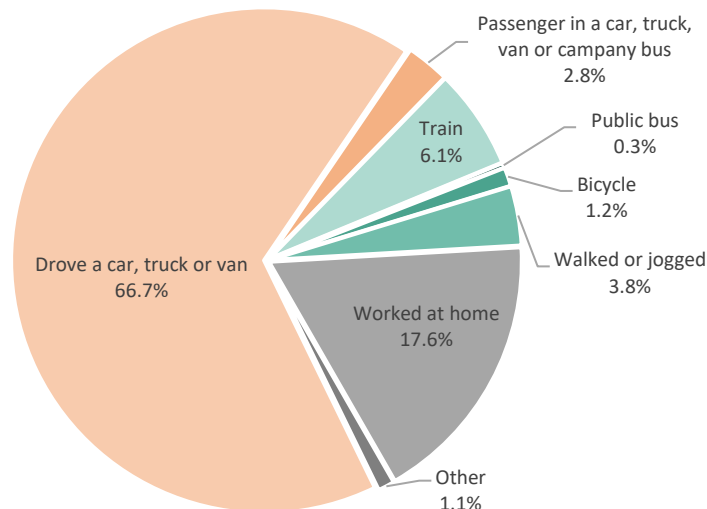


Source: id community, 2020

**Figure 4: CD’s residents place of work in 2018**

Over 75% of the CD's residents works in Wairarapa (57% in CD, 15% in Masterton District and 5% in South Wairarapa District). 6% of the CD residents work in Wellington City. A small number of residents works in Lower Hutt City, Upper Hutt City, Porirua City, Auckland City and Tararua District.

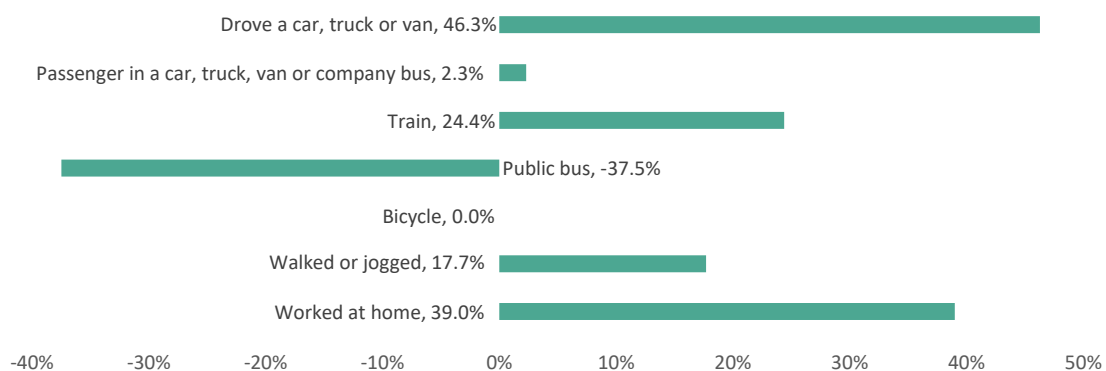
### 3.1.3.4 Method of travel to work



Source: id community, 2020

**Figure 5: CD's residents' method of travel to work in 2018**

Almost 70% of the CD's residents use a high carbon emission way of transport to work (drive a car, truck or van or be a passenger, drive a motorbike or power cycle). 11.4% of residents use a low carbon way of transport to go to work (train, walk or jogged, bicycle, public bus).

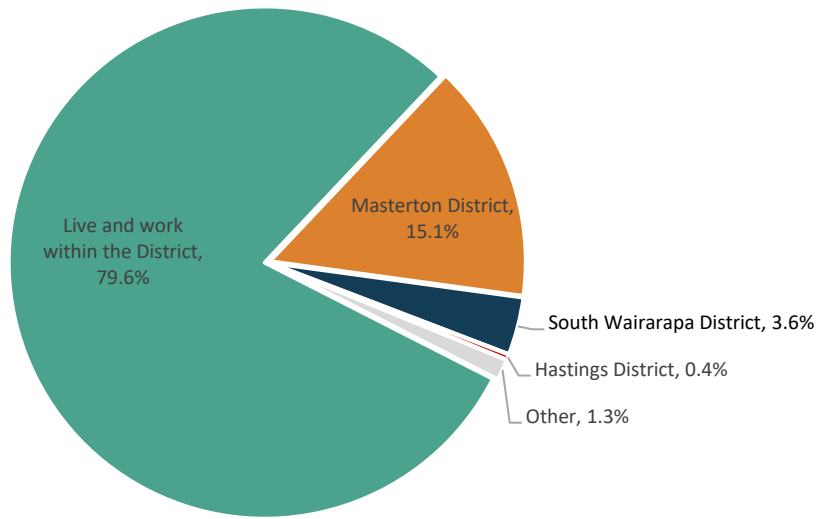


Source: id community, 2020

**Figure 6: CD's residents' method of travel to work change between 2013 and 2018**

The low carbon way of travel (train (+24.4%) and walked or jogged (+17.7%)) increased between 2013 and 2018. However, the bicycle users stayed stable and the public bus users decreased (-37.5%). Moreover, the high carbon emission way of travel increased (+46.3% for the car, truck or van users).

3.1.3.5 Carterton's workers place of residence



Source: id community, 2020

**Figure 7: CD's workers place of residence in 2018**

Over 98% of the Carterton's workers lives in Wairarapa (80% in CD, 15% in Masterton District and 4% in South Wairarapa District).

## 3.2 South Wairarapa District (SWD)

### 3.2.1 Population

	2006	2013	2018	Change between 2006 - 2018	2043 (forecast)
<b>Population</b>	8,892	9,525	10,575	+18.9%	12,733
<i>Featherston</i>	2,340	2,250	2,487	+6.3%	3,127
<i>Greytown</i>	2,067	2,202	2,466	+19.3%	3,581
<i>Martinborough</i>	1,323	1,470	1,767	+33.6%	2,325
<i>Rural areas</i>	3,159	3,606	3,852	+21.9%	3,700

Source: *id community*, 2020

**Table 9: SWD's population**

	Population 2018	Land area	Density (pers/km <sup>2</sup> )
<b>Population</b>	10,575	2,457 km <sup>2</sup>	4.3

Source: *id community*, 2019

**Table 10: SWD's population density in 2018**

Between 2006 and 2018 South Wairarapa District's population increased quickly (average: 1.5% per year) and passed from 8,892 in 2006 to 10,575 in 2018. The forecast shows that the population will keep increasing even though it is slower (average: 0.7% per year). The population in 2043 is estimated to be 12,733.

SWD's density is very low (4.3 persons per km<sup>2</sup>).



### 3.2.2 Households

#### 3.2.2.1 Households and dwellings

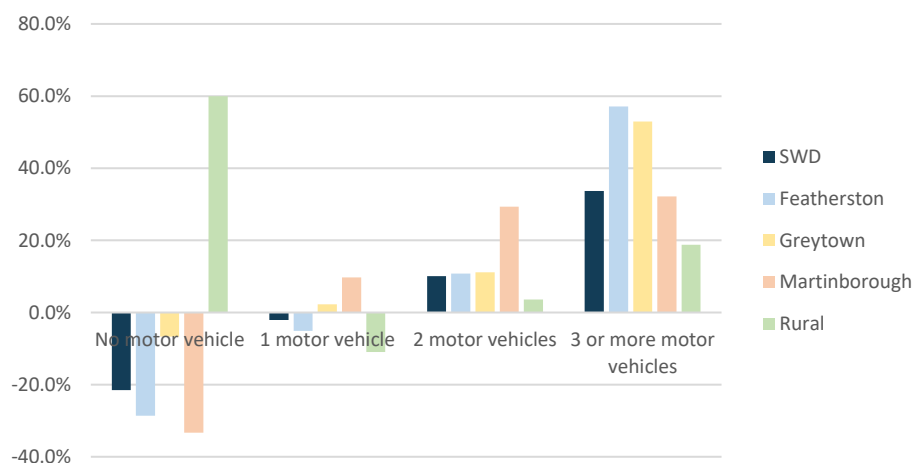
Number of persons usually resident	2006	2013	2018	Change between 2013 – 2018
<b>Households</b>	3,624	3,939	4,398	+11.7%
<b>Dwellings</b>	4,806	5,334	5,724	+7.3%
<i>Featherston</i>				
<b>Households</b>	963	990	1,035	+4.6%
<b>Dwellings</b>	1,077	1,149	1,170	+1.8%
<i>Greytown</i>				
<b>Households</b>	849	915	1,059	+15.7%
<b>Dwellings</b>	1,002	1,122	1,245	+11.0%
<i>Martinborough</i>				
<b>Households</b>	573	621	759	+22.2%
<b>Dwellings</b>	855	954	1,059	+11.0%
<i>Rural areas</i>				
<b>Households</b>	1,233	1,398	1,545	+10.5%
<b>Dwellings</b>	1,857	2,106	2,250	+6.8%

Source: id community, 2020

**Table 11: SWD’s households and dwellings**

SWD had an 11.7% increase in households’ number and an 7.3% increase in dwellings between 2013 and 2018. The biggest increase happened in Martinborough (+22% households and +11% dwellings), followed by Greytown (+15.7% households and +11% dwellings).

#### 3.2.2.2 Car ownership

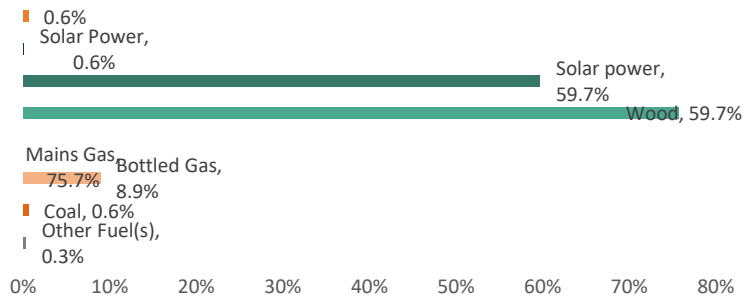


Source: id community, 2020

**Figure 8: Car ownership change between 2013 and 2018**

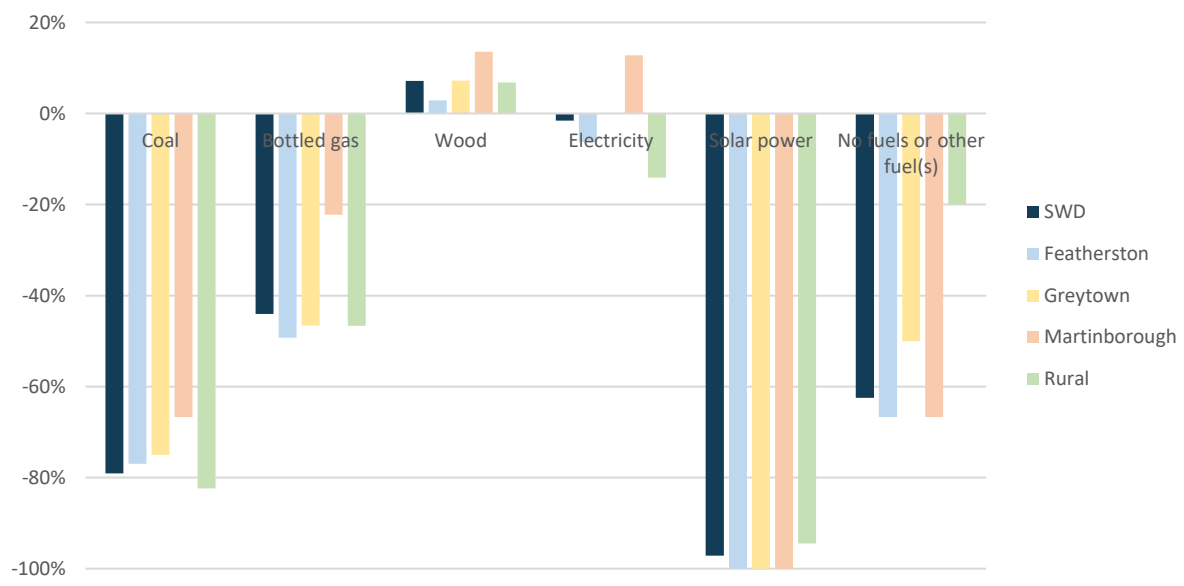
The percentage of households with 3 or more motor vehicles increased by almost 34% between 2013 and 2018 (mainly in Featherston and Greytown) and the number of households without a motor vehicle decreased by 21.5%. This increase of households with 3 or more motor vehicles can be explained by the fact that SWD is a rural district, people living there rely on their vehicles.

### 3.2.2.3 Household fuel type



Source: id community, 2020

Figure 9: SWD’s households fuel type in 2018



Source: id community, 2020

Figure 10: Households fuel type change between 2013 and 2018

The fuel type which are high greenhouse gas emitters such as coal and gas are decreasing. The use of wood increased everywhere in the district.

### 3.2.3 Employment

#### 3.2.3.1 Employment status

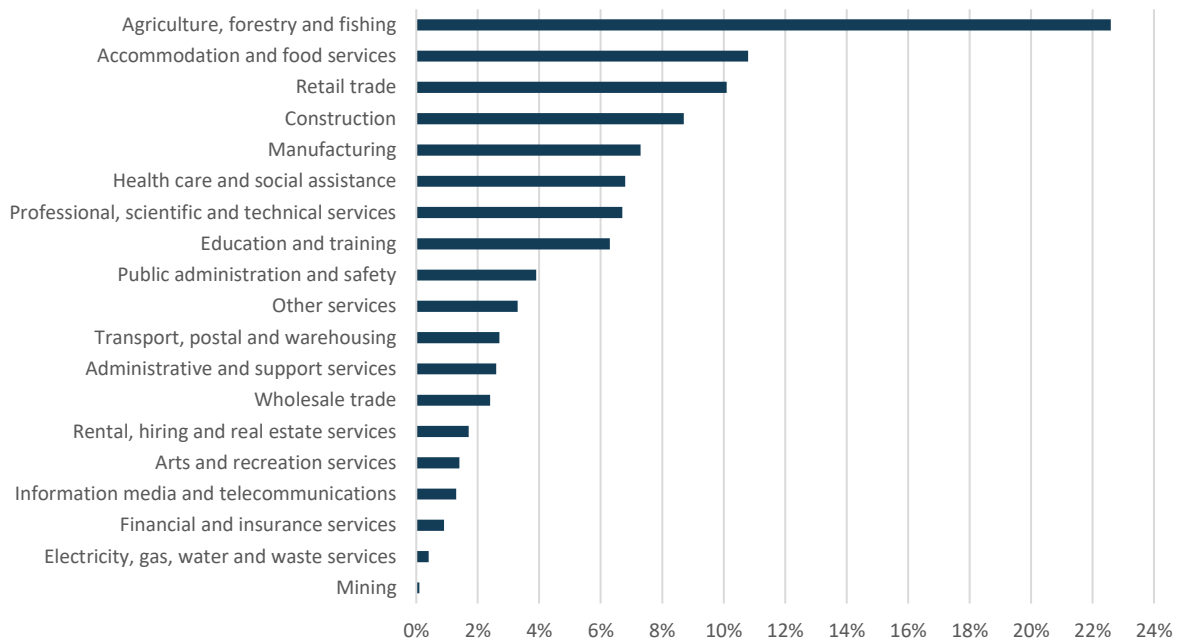
Employment status	2013		2018		Change between 2013 – 2018
	Number	%	Number	%	
<b>Employed</b>	4,788	94.8	5,685	96	+18.7%
<i>Employed full-time</i>	3,528	69.9	4,239	71.6	+20.2%
<i>Employed part-time</i>	1,260	25.0	1,446	24.4	+14.8%
<b>Unemployed</b>	261	5.2	237	4.0	-9.2%
<b>Total labour force</b>	<b>5,046</b>	<b>100.0</b>	<b>5,922</b>	<b>100.0</b>	<b>+17.4%</b>
<b>Featherston</b>					
<b>Employed</b>	1,002	89.5	1,191	91.7	+18.9%
<b>Unemployed</b>	117	10.5	108	8.3	-7.7%
<b>Greytown</b>					
<b>Employed</b>	1,044	95.1	1,251	96.8	+19.8%
<b>Unemployed</b>	54	3.2	42	4.9	-22.2%
<b>Martinborough</b>					
<b>Employed</b>	759	95.8	969	97	+27.7%
<b>Unemployed</b>	33	4.2	30	3.0	-9.1%
<b>Rural areas</b>					
<b>Employed</b>	1,986	97.2	2,274	97.6	+14.5%
<b>Unemployed</b>	57	2.8	57	2.4	0%

Source: id community, 2019

**Table 12: SWD's resident employment status**

The unemployment rate in SWD is below the national rate (5.8% in 2018). However, Featherston is above the national rate (8.3% unemployment) but this rate has decreased since 2013. The district's employment increased a lot since 2013 (+18.7%), especially in Martinborough (+27.7%).

### 3.2.3.2 Workforce profiles<sup>2</sup>

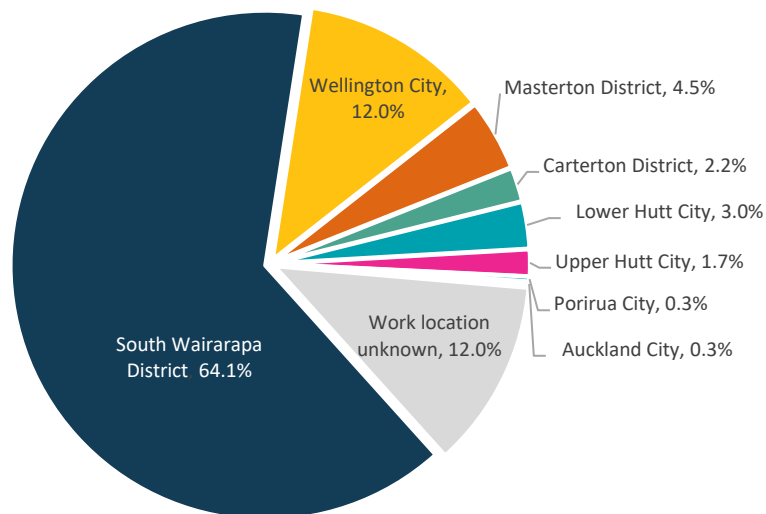


Source: id community, 2020

**Figure 11: SWD's workforce industry sector of employment in 2018**

Agriculture, forestry and fishing is the biggest sector and represents over 22% of the workforce profile. Accommodation and food services is the second biggest sector with 10.8% of the workforce, followed very closely by retail trade (10.1%).

### 3.2.3.3 South Wairarapa's residents place of work<sup>2</sup>



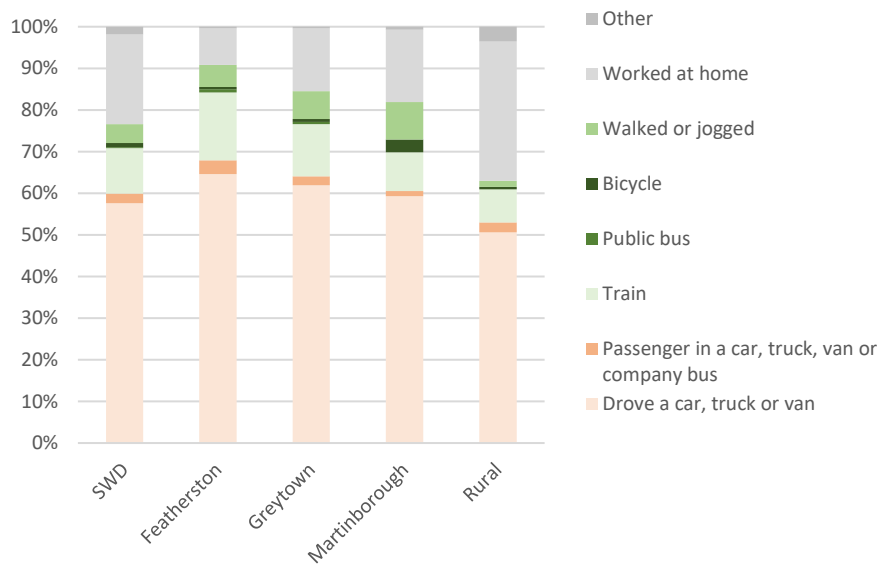
Source: id community, 2020

**Figure 12: SWD's residents place of work in 2018**

<sup>2</sup> No data available for each town

Over 70% of the SWD's residents works in Wairarapa (64% in SWD, 5% in Masterton District and 2% in Carterton District). 12% of the residents works in Wellington City. A small number of residents works in Lower Hutt City, Upper Hutt City, Porirua City and Auckland City.

### 3.2.3.4 Method of travel to work

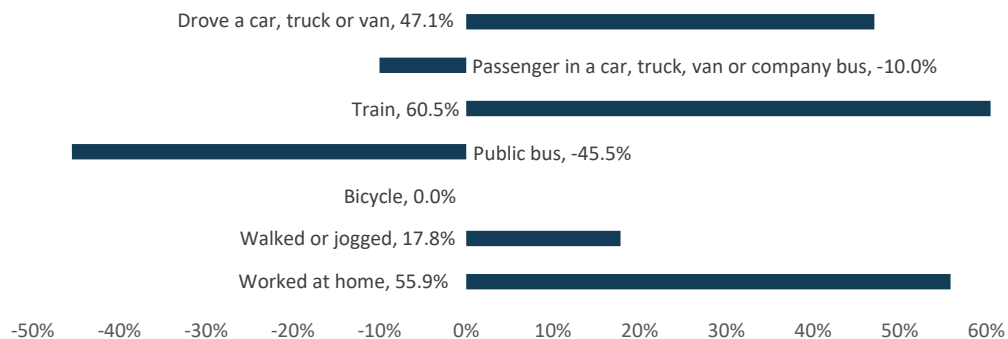


Source: id community, 2020

Figure 13: Residents' method of travel to work in 2018

Almost 60% of the SWD's residents use a high carbon emission way of transport to work (drive a car, truck or van or be a passenger, drive a motorbike or power cycle). 16.7% of the residents uses a low carbon way of transport to go to work (train, walk or jogged, bicycle, public bus).

These trends are about the same for the three towns. However, we note a higher use of the train in Featherston (due to the train station) and of the bicycle in Martinborough. The rural areas' residents mainly use motor vehicles to go to work or work from home.

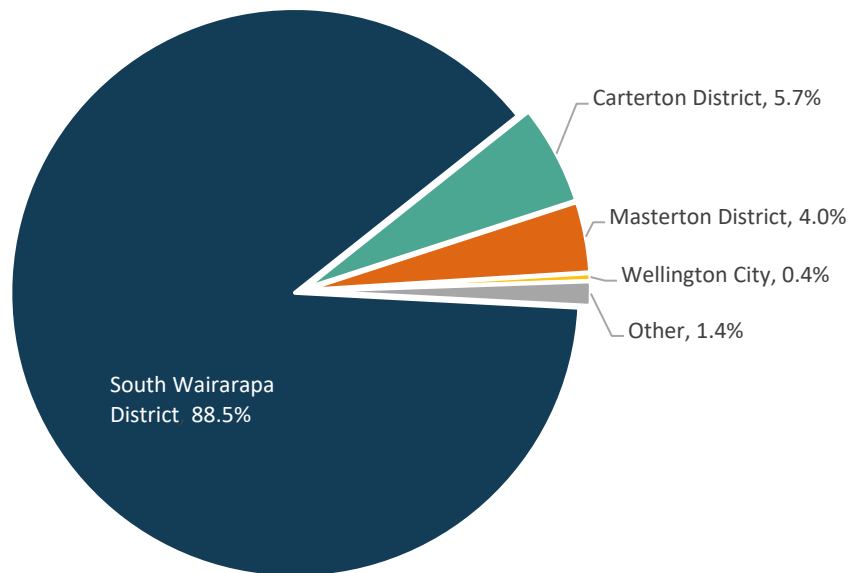


Source: id community, 2020

Figure 14: SWD's residents' method of travel to work evolution between 2013 and 2018

The train users (+60.5%) increased quicker than the car, truck or van users (+47.1%) between 2013 and 2018 and the walkers/joggers increased by 17.8%. However, the public bus users decreased by 45.5%.

### 3.2.3.5 South Wairarapa's workers place of residence<sup>2</sup>



Source: id community, 2020

**Figure 15: SWD's workers place of residence in 2019**

98% of the SWD's workers live in the Wairarapa (88% in SWD, 6% in CD, 4% in Masterton District).

## 4 Environmental context

### 4.1 Climate

The following data are provided by the NIWA<sup>3</sup>. They have been recorded between 1981 and 2010 in Masterton.

#### Temperature

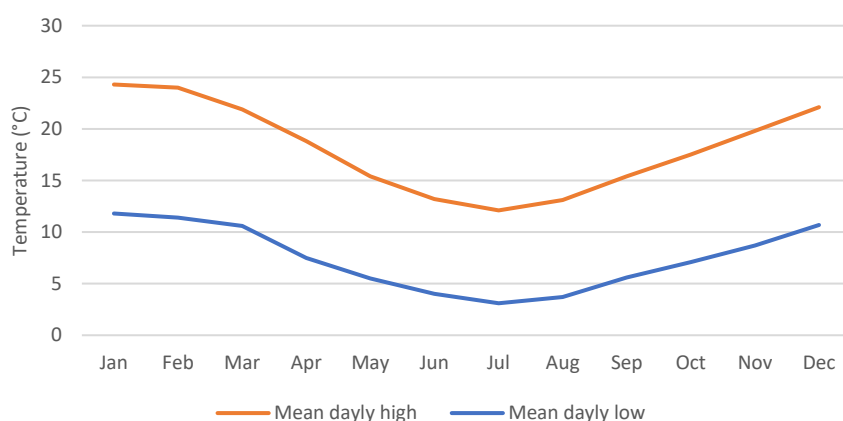
See Figure 21, page 27.

Wairarapa enjoys warm summers and mild winters even though frost may happen.

In summer maximum air temperatures range from 20°C to 28°C, but temperatures above 30°C have been recorded. High temperature may be accompanied by a strong dry foehn winds from the northwest.

Winter is mild in the north of the region and cooler in the south. Typical winter daytime maximum air temperatures range from 10°C to 16°C.

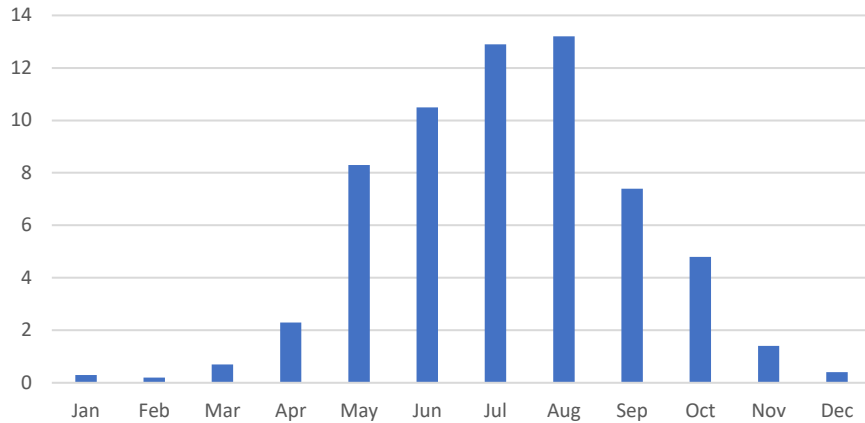
Frost occurs mainly in winter even though frosts can happen occasionally all year around. July and August are the months with the most frosts recorded (12.9 and 13.2 days respectively).



Source: NIWA 2012

**Figure 16: Mean temperature in Masterton for 1981 – 2010**

<sup>3</sup> National Institute of Water and Atmospheric Research



Source: NIWA 2012

**Figure 17: Mean monthly value in Masterton for 1981 – 2010, Numbers of days of ground frost**

### Pluviometry

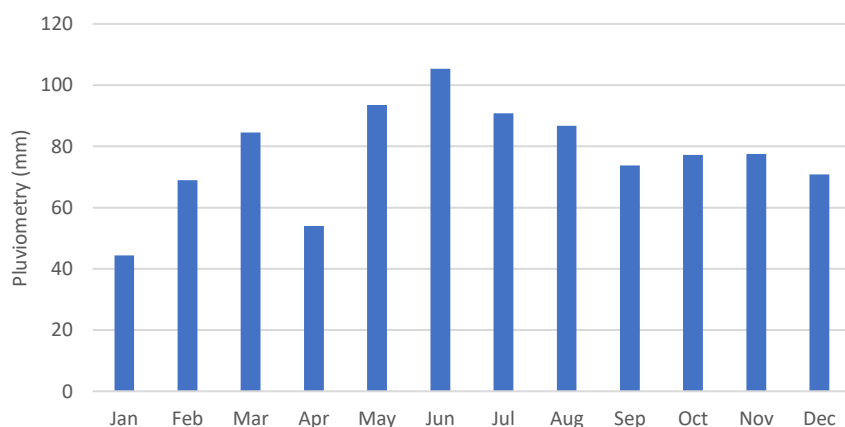
See Figure 22, page 28.

Rainfall is influenced to a large extent by the Tararua Range that lie across the west to east movement of the weather systems.

The ranges are wetter than the plains. Eastern Wairarapa is also slightly wetter than the plains:

- over 2,000 mm for the Tararua range and 1,800 mm of the Aorangi range,
- under 800 mm for Martinborough and the plains around,
- between 1,000 and 1,400 mm for the Easter Wairarapa.

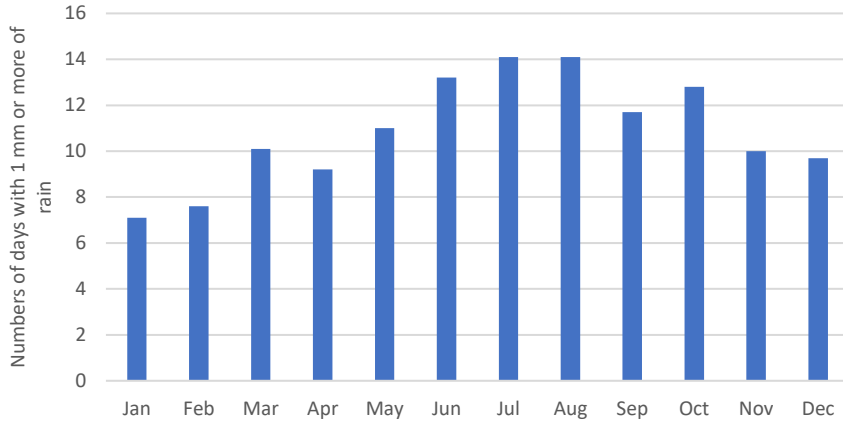
Masterton receives 927.6 mm of rain every year. January (44.4 mm and 7.1 wet days) and April (54 mm and 9.2 wet days) are the driest months. May (93.6 mm and 11 wet days), June (105.3 mm and 13.2 wet days) and July (90.9 mm and 14.1 wet days) are the wettest.



Source: NIWA 2012

**Figure 18: Mean monthly pluviometry in Masterton for 1981 – 2010**





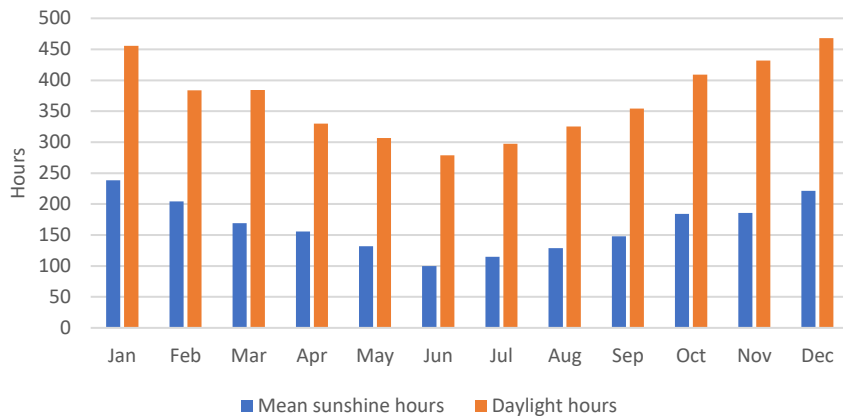
Source: NIWA 2012

**Figure 19: Mean monthly value in Masterton for 1981 – 2010, Numbers of days with 1 mm or more of rain**

### Sunshine

See Figure 23, page 29.

Summer is the sunniest time of the year (238.6 hours of sunshine in January and 221.3 hours of sunshine in December) when winter is the least sunny time of the year (99.9 hours of sunshine in June, 114.9 hours of sunshine in July).



Source: NIWA 2012

**Figure 20: Mean monthly hours of sunshine in Masterton for 1981 – 2010**

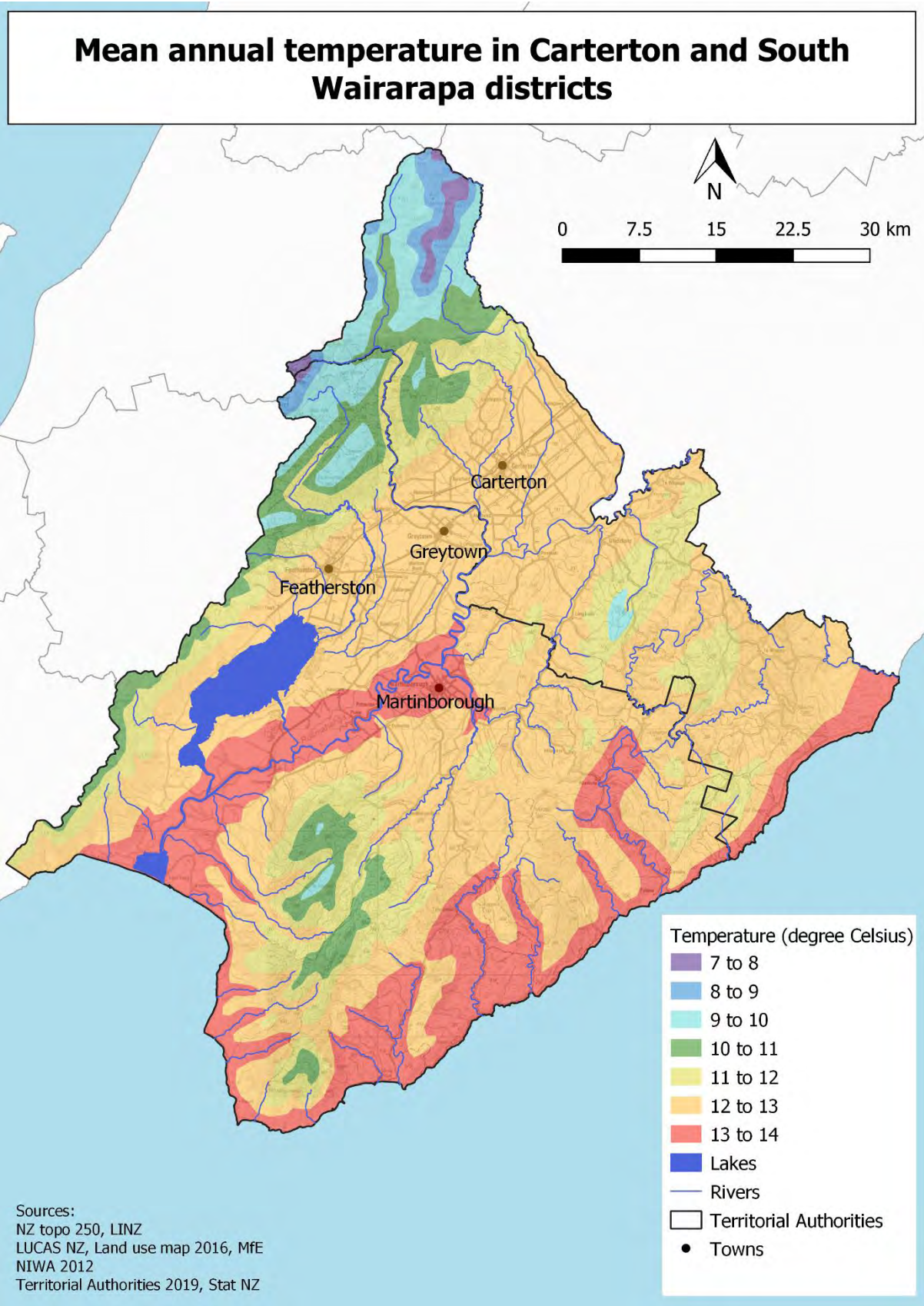
Masterton receives 1,982.1 hours of sunshine every year. The Tararua range is the least sunny part of the region (under 1,750 hours of sunshine yearly) when the coast is the sunniest part of the region (2,100 hours of sunshine every year).

## Wind

See Figure 24, page 30.

The strongest winds happen at the summit of the ranges (mean annual average between 8 and 9 m/s). The wind in the Wairarapa plains range between 2 and 3 m/s. The wind gets stronger and stronger as we move east and ranges from 5 m/s (west of Eastern Wairarapa) to 7 m/s (east of Eastern Wairarapa).

In summer the winds are mainly dry north-westerlies and in winter, they are moist south and south-easterlies.



**Figure 21: Mean annual average temperature for CD and SWD**

# Mean annual total rain in Carterton and South Wairarapa districts

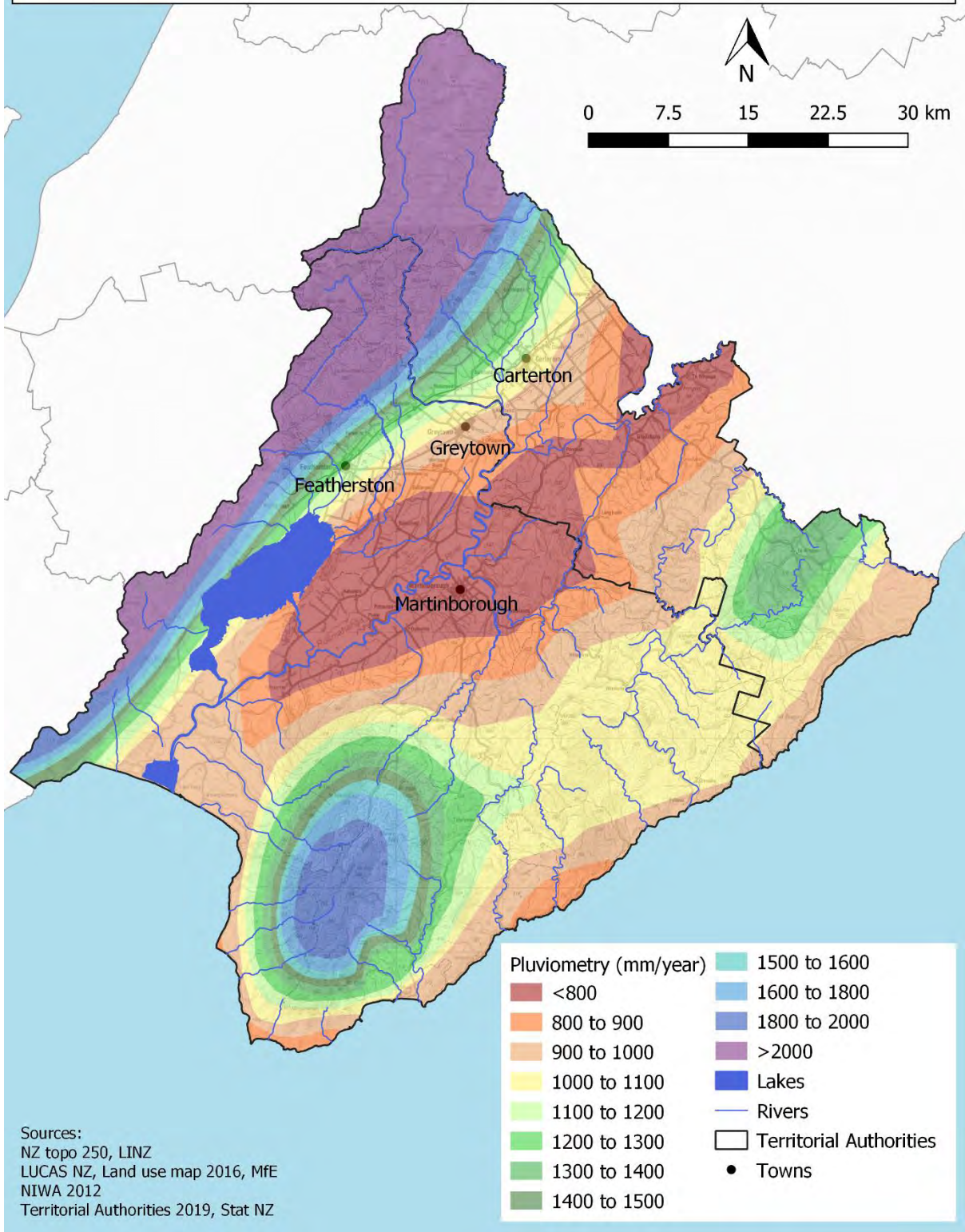


Figure 22: Mean annual total rainfall for CD and SWD

## Mean annual hours of sunshine total in Carterton and South Wairarapa districts

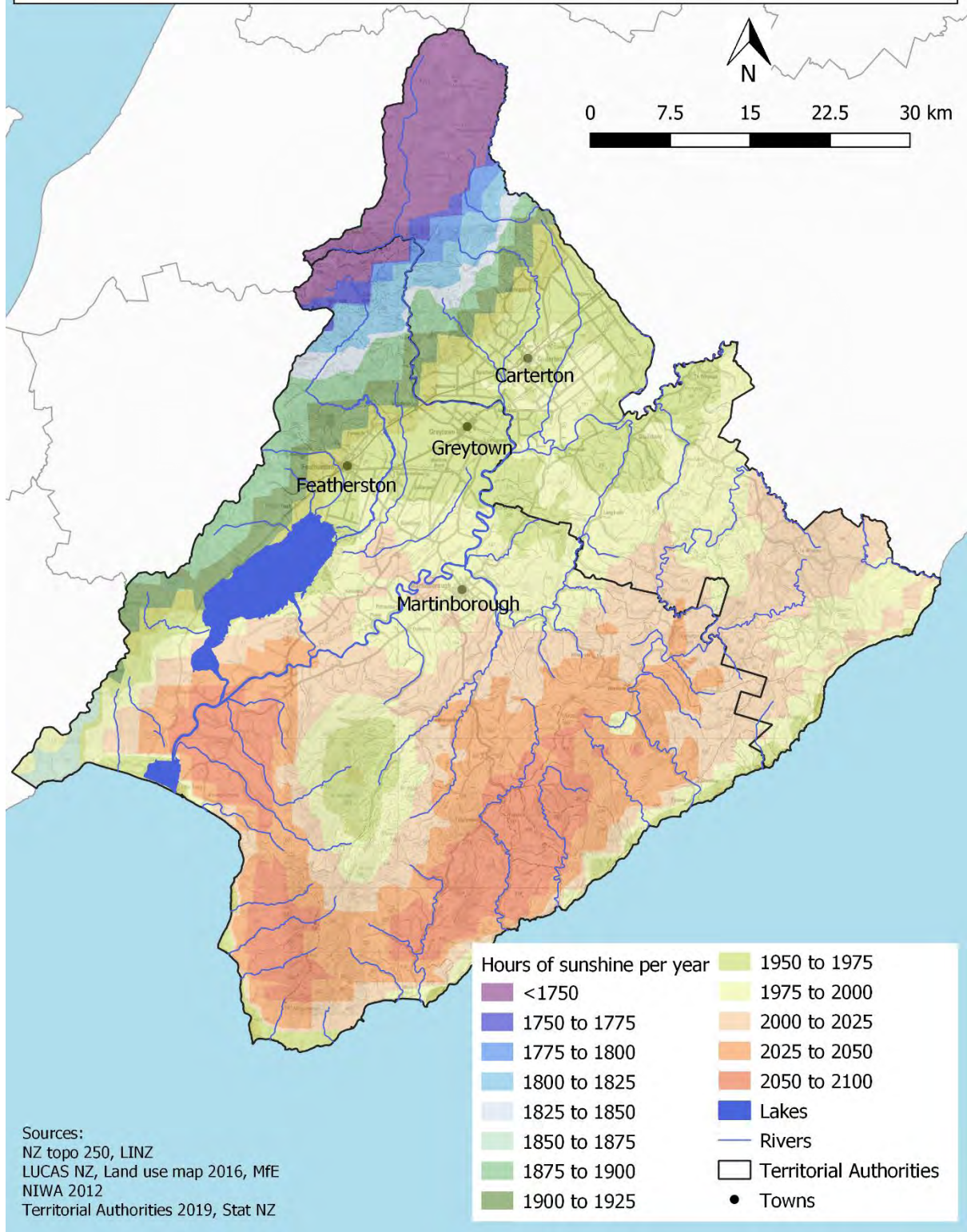


Figure 23: Mean annual sunshine hours total for CD and SWD

## Mean annual average wind in Carterton and South Wairarapa districts

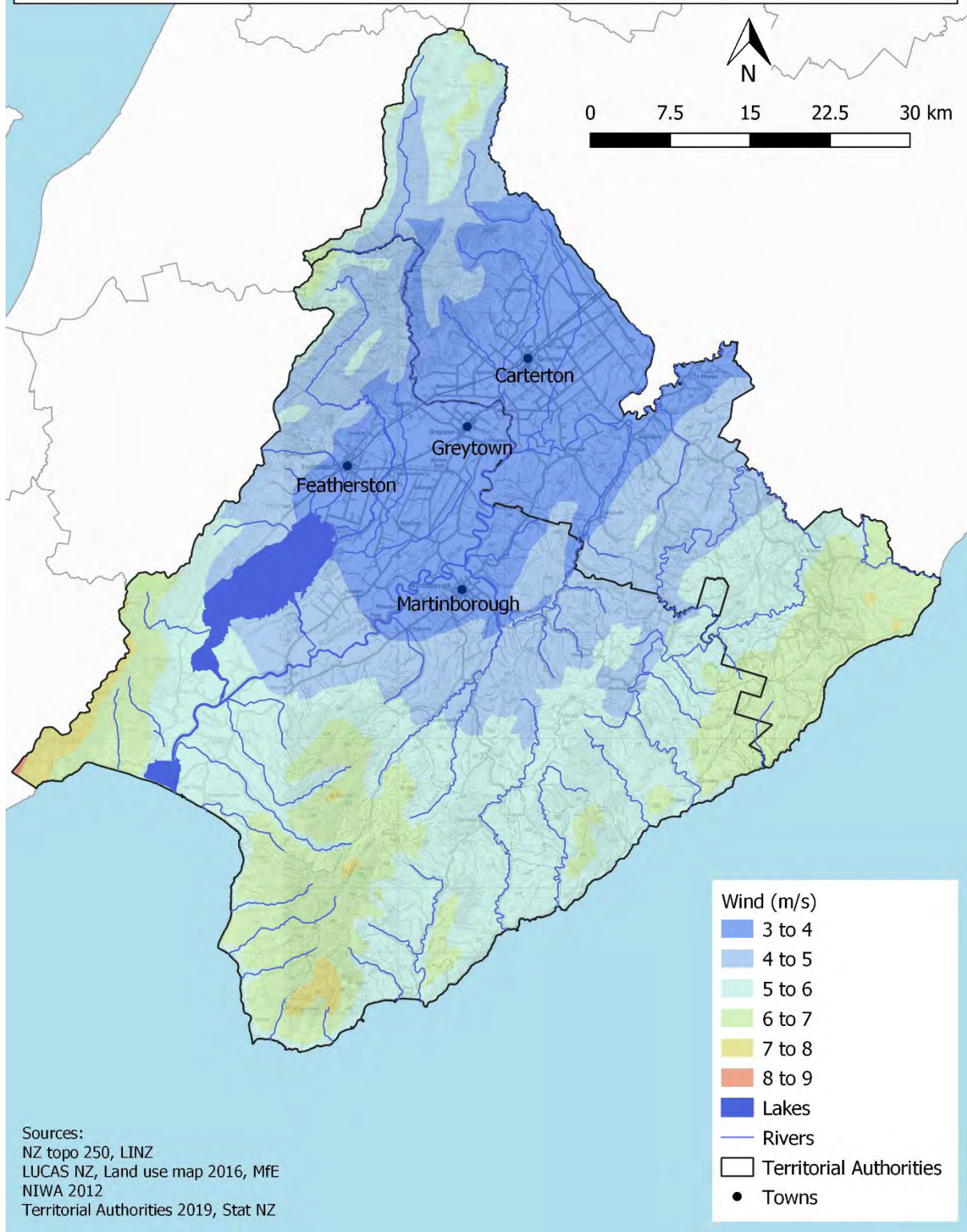


Figure 24: Mean annual average wind for CD and SWD

## 4.2 Landscape features

Carterton and South Wairarapa Districts are mainly rural districts. The main features in the landscape are:

- The Tararua range in the North-West: mainly native forest
- The Aorangi range in the South of SWD: mainly native forest
- The plains between the ranges: mainly high producing exotic grassland but also wetlands around Lake Wairarapa and Lake Onoke.
- East of Wairarapa: this part is more rugged. The lowest part are mainly low producing grassland and the highest part are mainly forest (planted and native).

As shown in the Figure 25, page 33 and Figure 26, page 34, the landscape and the landcover depends very much on the ground elevation.

## 4.3 Landcover

	Surface (km <sup>2</sup> )	Percentage (%)
<b>Agriculture and Forestry</b>	2025	55.7%
<i>Grassland - High producing</i>	1137	31.3%
<i>Grassland - Low producing</i>	595	16.4%
<i>Planted forest</i>	243	6.7%
<i>Cropland</i>	51	1.4%
<b>Natural areas</b>	1594	43.8%
<i>Forest - Natural</i>	1299	35.7%
<i>Grassland - With woody biomass</i>	176	4.8%
<i>Wetland</i>	120	3.3%
<b>Settlements</b>	12	0.3%
<b>Other</b>	5	0.1%
<b>TOTAL</b>	<b>3636</b>	<b>100%</b>

**Table 13: Landcover in 2016 for CD and SWD**

### 4.3.1 Rural areas

The majority of Wairarapa's environment has a rural character, in which the environmental quality is largely determined by prevailing natural elements, whether the land is used for primary productive purposes or for conservation purposes.

Rural land is a significant resource due to the economic value of primary production activities to Wairarapa, and the associated processing and service industries. The use of this resource is constantly changing, in response to economic demands and conditions. The continued prosperity of Wairarapa as a whole is largely dependent on the use of rural resources adapting to changing economic opportunities.

The rural environment is typically characterised by the following elements:

- Open space, natural landscapes, and vegetation predominate over the built environment;
- Working productive landscape, with a wide range of agricultural, horticultural and forestry purposes;
- Large areas of exotic and indigenous vegetation, including pasture, crops, forest and scrublands;
- Place where people live and work, with low population density;

Significant areas of the Rural Zone are held in public ownership and managed for conservation purposes, with the key assets being the Tararua and Aorangi Forest Parks and Lake Wairarapa. Aside from their intrinsic ecological values, Wairarapa's conservation management areas also have important cultural, economic and recreational values. These areas are perceived to be part of Wairarapa's rural environment, although they differ from the primary production areas in their land use, environmental character and amenity values.

#### *4.3.1.1 Agriculture and forestry*

See Figure 27, page 35.

In South Wairarapa and Carterton Districts, agriculture, forestry and fishing represents 20.4% of the workforce industry sector of employment (2018). The land used for agriculture and forestry represents 55.7% of Carterton and South Wairarapa districts combined.

Most of the high producing grassland is located in the Wairarapa Plain and the low producing grassland is located in the East of Wairarapa. The planted forests are mainly in the East of Carterton district. Areas of planted forest can be found around the Aorangi and the Tararua ranges.

#### *4.3.1.2 Natural areas*

See Figure 28, page 36.

The natural forest covers 35.7% of South Wairarapa and Carterton Districts. It is mainly located in the Tararua and the Aorangi Ranges and in the Eastern Wairarapa.

South Wairarapa District presents 120 km<sup>2</sup> of wetlands, mainly located around Lake Wairarapa and lake Onoke. These wetlands are very important for the biodiversity.

### *4.3.2 Human infrastructure*

See Figure 29, page 37.

Both districts contain a variety of residential areas, including those within the main urban communities of Carterton, Featherston, Martinborough and Greytown, as well as smaller coastal and rural settlements.

Most of the infrastructures is located in the Wairarapa plain.

Featherston, Greytown and Carterton are connected by the State Highway 2 (SH2) and Martinborough is connected to Featherston with the State Highway 53 (SH53). Bidwills Cutting road is the link between Martinborough and Greytown and Ponatahi road is the link between Martinborough and Carterton.

Featherston, Greytown and Carterton are linked with the railway. They both have a train station.

The settlements cover only 0.3% of the land of both districts.



# Main landscape features in Carterton and South Wairarapa districts

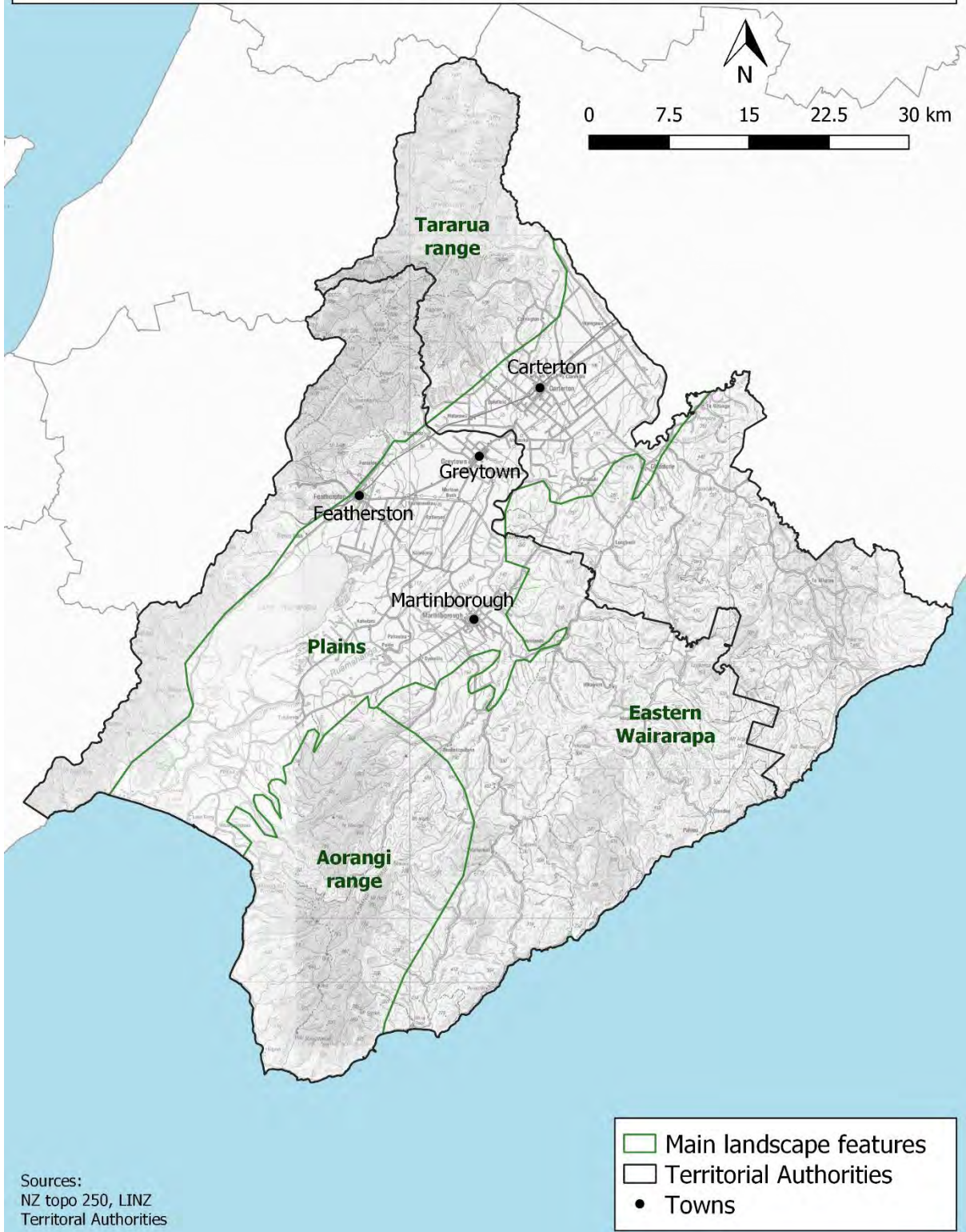


Figure 25: Main landscape features for CD and SWD

## Elevation in Carterton and South Wairarapa districts

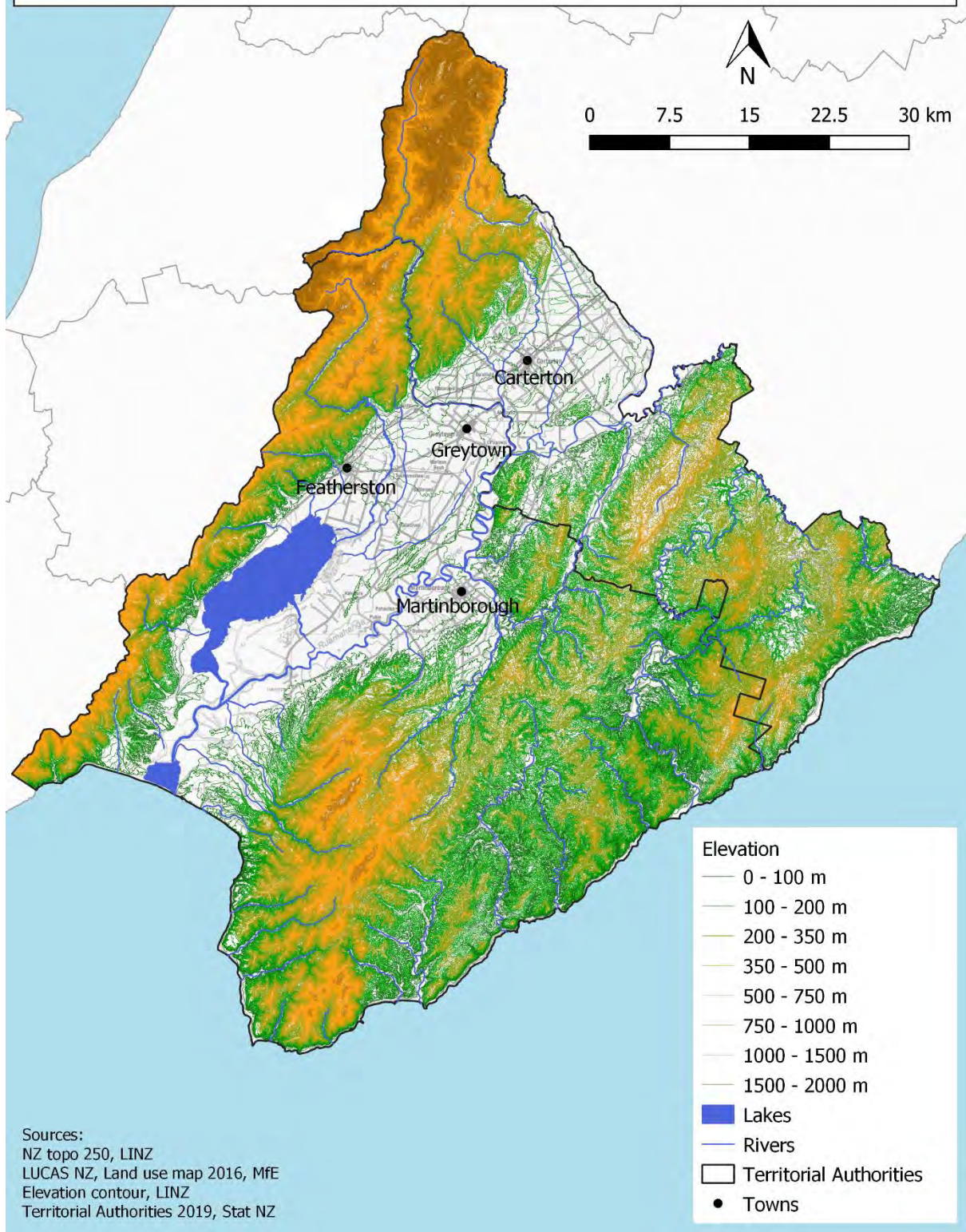
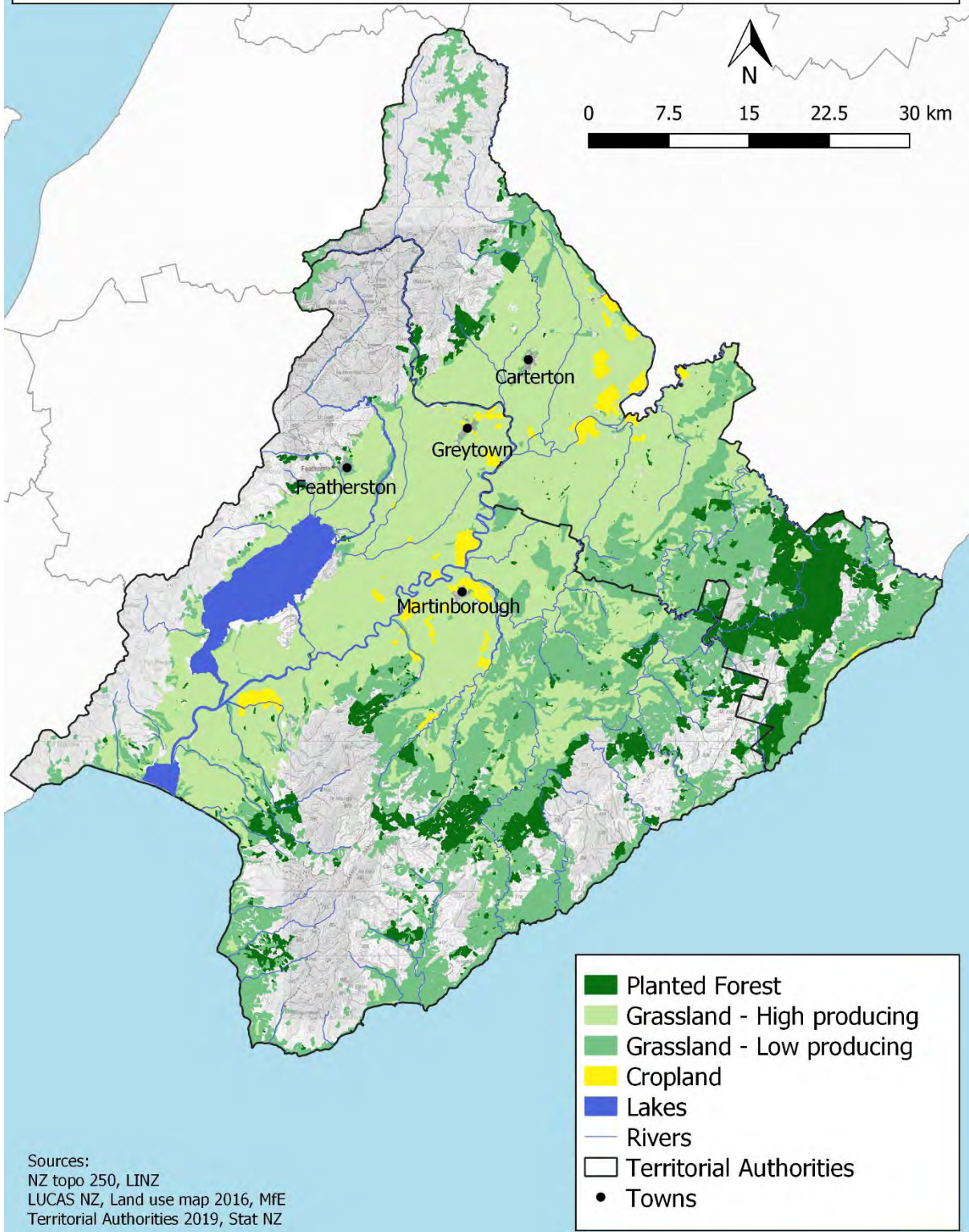


Figure 26: Elevation for CD and SWD

## Agriculture and forestry in Carterton and South Wairarapa districts



**Figure 27: Agriculture in CD and SWD**

## Natural areas in Carterton and South Wairarapa districts

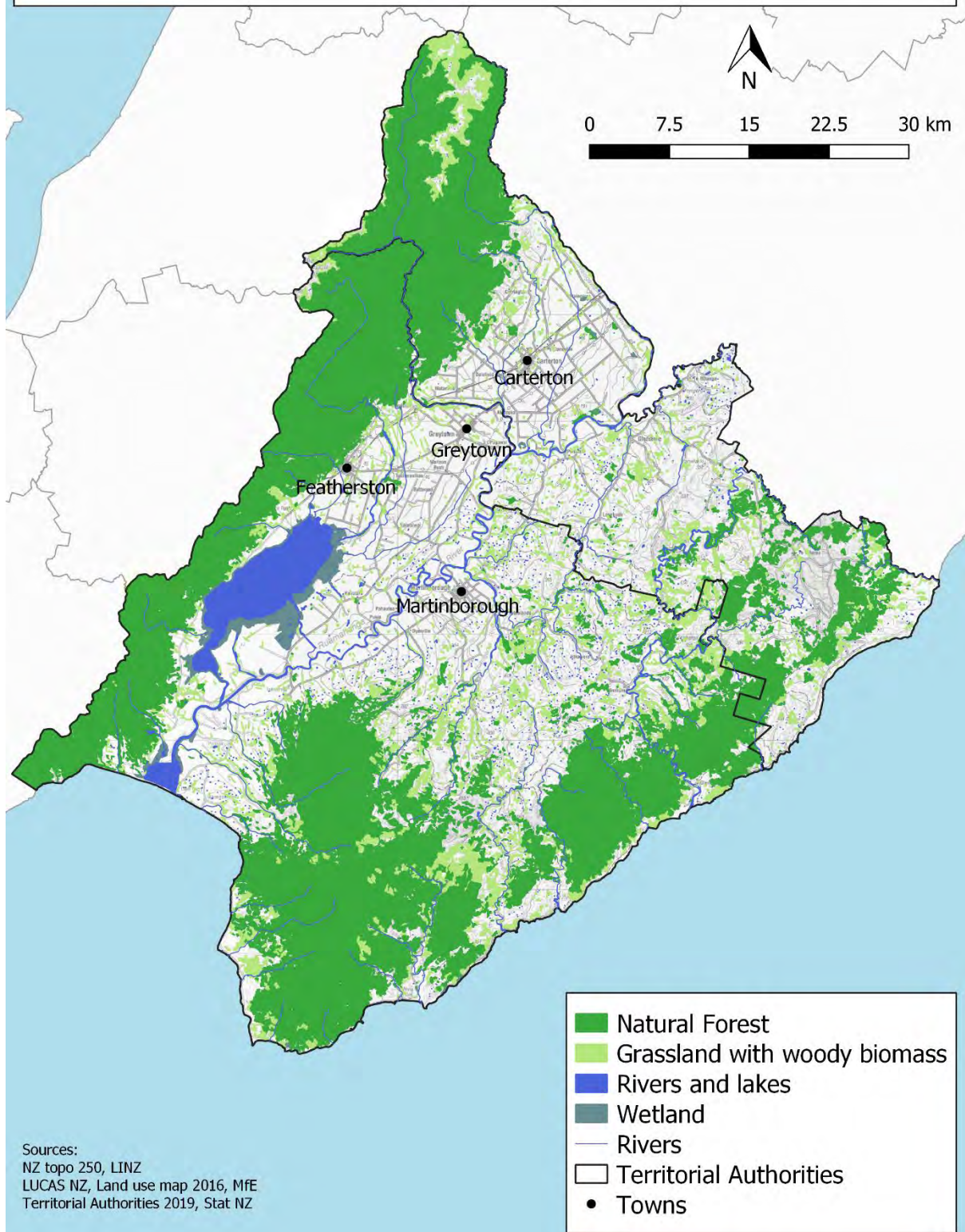


Figure 28: Natural areas in CD and SWD

# Human infrastructures in Carterton and South Wairarapa districts

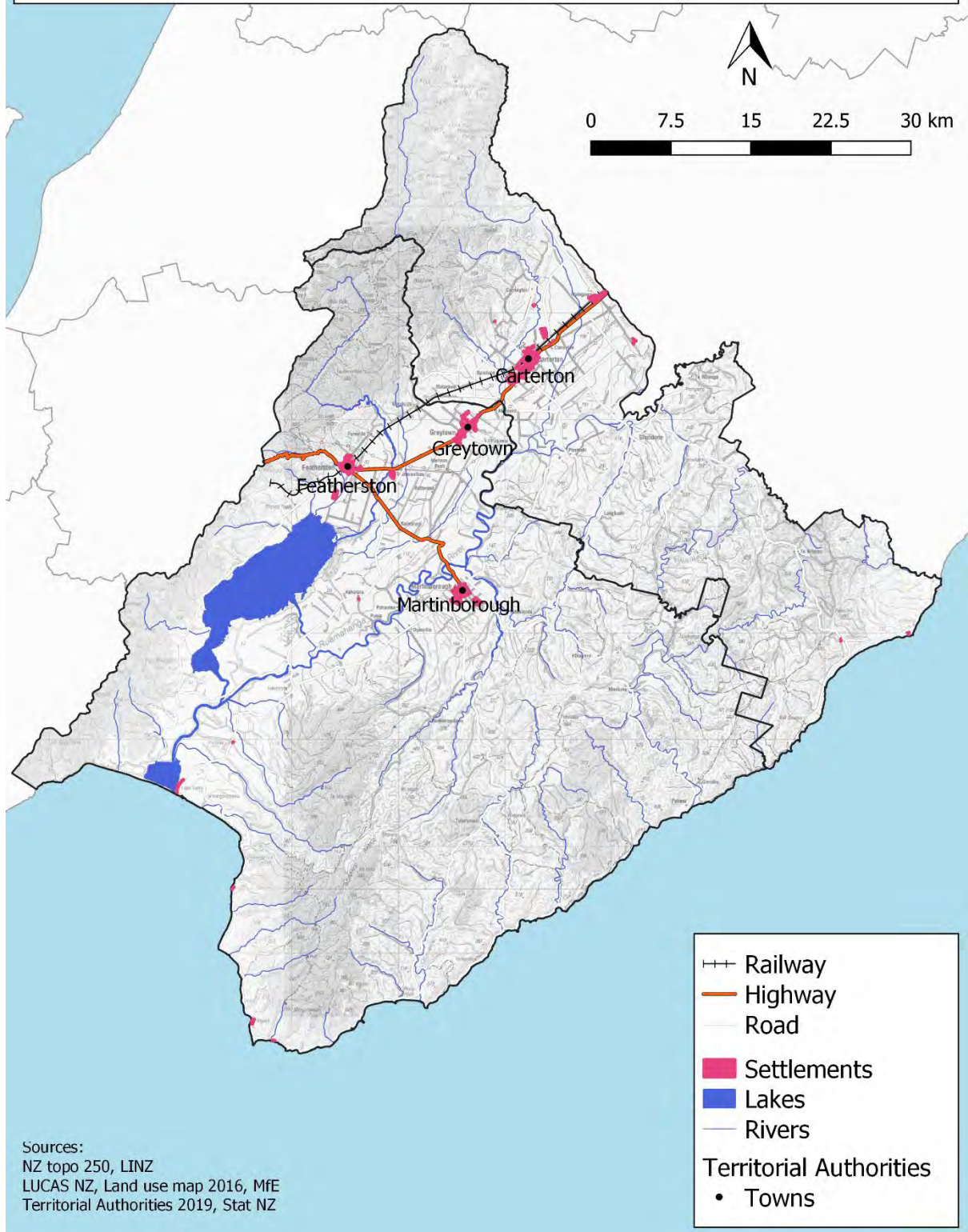


Figure 29: Human infrastructures in CD and SWD

## 5 Historical and cultural context

The Wairarapa has a strong mana whenua history with many important Māori heritage sites. The cultural landscape includes those places associated with ngā atua (deities), taniwha and kaitiaki (guardians and protectors of places), as well as places discovered, visited and or named by ancestors and explorers.

### 5.1 History

#### 5.1.1 Pre-European era

Well established Māori communities lived in the southern Wairarapa since the 14<sup>th</sup> century. They were descended from a place of origin in the Pacific known to them as Hawaiki.

They were communities of people who:

- hunted and gathered food from the rocky shoreline, the coastal environment and the lakes, primarily harvesting tuna (eels) but also other native species including kokopu (whitebait) and piharau (lamprey)
- ventured into the interior to hunt for forest birds and gather other wild produce from the inland valleys, wetlands and hills.
- developed areas of land for the cultivation of kumara and probably also taro and gourd.

For centuries the natural environment has provided both material and spiritual sustenance for Māori communities. Lake Wairarapa and the South Wairarapa coastline are of immense cultural, spiritual and historic significance to Māori.

Wairarapa Māori regarded the lakes and their surrounding lands as an important source of physical and spiritual well-being, seeing it as a taonga, handed to them by their ancestors to be cherished. The land, the waters and all their inhabitants, human and non-human alike, were part of a wider world governed by gods and were tapu or sacred.

#### 5.1.2 European colonisation

European settlers arrived on the margins of Wairarapa Moana in the early 1840s, bringing with them a completely different set of cultural values and a truly foreign way of looking at and assessing land.

For the early settlers, the land was a great opportunity to develop farming: *“The land is for the most part covered with fern and coarse grass, easily cleared and affording ample pasturage for cattle in its present state”* wrote the New Zealand Company’s surveyor Robert Stokes in 1841. In 1844, the surveyor Henry Tiffen wrote that the soil is very fertile and up to six feet deep in places. He also said that the land around the bottom lake was prone to be flooded but if the lake could be kept at a lower level, 4,000 acres of rich watered meadow land would be available for graziers.

In 1844, the first stations were established around the shore of the lake. The Wharekākā farm was the first extensive sheep station in New Zealand. Then started the disagreement between Māori and Pākehā over the control of the lake Onoke outlet. Māori wanted a high-water level for tuna (eel) fishing when Pākehā wanted a low-water level for grazing.

In the 1850s, the Māori started to sell their land to the Pākehā after leasing was made illegal by the Crown. Māori made it clear the sale did not include the bed of the lakes and that they were selling to the tahakupu, the highwater mark. The failure to properly survey the land, and the disagreement over exactly what had been sold and what had been retained by Māori was to lead to tension over ownership of the land uplifted in the 1855 earthquake, and the ability to control the outlet to the sea.

This disagreement ended in 1896 when tangata whenua gifted the lakes to the Government. The settlers were then free to:

- Stop bank the Ruamāhanga river, the Lake Wairarapa Lake and the Lake Onoke.
- Drain the rich swamp pasture.
- Control the Lake Onoke outlet.

What has been gifted was the Native Land Court title the Crown had forced on Māori, and with it control of the outlet at Onoke. What had not been gifted, were the waters and fisheries of Wairarapa Moana. Premier Richard Seddon, who can take much of the credit for the gifting of the lakes said, *“The waters are still yours and so are the fish”*. However, after a few years, these words were forgotten.

The last major wetland destruction around the lake happened in 1974 when the Te Hōpai Lagoon has been drained and turned into pasture.

## 5.2 Cultural context

### Kaitiakitanga

Kaitiakitanga encompasses guardianship, preservation, conservation and protection. In its simplest form kaitiakitanga is the responsibility to care for the physical, ecological and spiritual well-being of a place or resource to ensure harmony within the environment and protection against elements that cause permanent imbalances.

The primary kaitiaki or guardian were the Atua; Tāne is the kaitiaki of the forest and Tangaroa is the kaitiaki of the sea. A kaitiaki can be spiritual (such as a taniwha) or physical such as the tōtara log of Wairarapa Moana.

### Lake Wairarapa

Lake Wairarapa is of immense cultural and spiritual significance to Māori.

Traditional fishing (such as tuna/eel fishing) was a major activity on the lake. *“Throughout the ages, the mouth of Wairarapa Moana has paid homage to its eel migration by obligingly closing its mouth at the end of February or the beginning of March. Legend records that Rākai Uru, the taniwha who is the caretaker of the lake, is responsible for this seasonal closing. Rākai Uru takes the form of a large tōtara log. When the migration is about to take place he makes a journey out to sea, and the mouth of the lake closes behind him”*<sup>4</sup>. Māori exported as many as ten tons of tuna/eels annually as far away as the Bay of Plenty.

With the changes to the Lake Wairarapa wetlands over the past 150 years many traditional fishing sites and sources of plant materials such as flax, ti (cabbage tree) and pingao have been lost or greatly reduced. With appropriate management and plantings, some of these sites could be restored specifically for the sustainable harvest of cultural materials, which would have the additional benefit of increasing habitat diversity for wildlife.

Guidelines for the management of the Lake Wairarapa wetlands have been produced and adopted by interested parties.

<sup>4</sup> T.V. Saunders ‘The eels of Lake Wairarapa’, Te Ao Hou, June 1965.

Nowadays, projects are being led in order to restore wetlands (therefore the important role to local iwi for gathering kai moana) around Lake Wairarapa. For instance, the Pou Aruhe Saltmarsh Freshwater Initiative near Lake Onoke is an ambitious project with Greater Wellington Regional Council, mana whenua and local conservation groups. Ra Smith<sup>5</sup> said Māori bring important values to these projects which could connect the whole region.

### Ruamāhanga river and other rivers

Ra Smith says, "*We [Māori] think of rivers as a character, and the character of the river holds the mauri<sup>6</sup>, often called the life force*".

*"On the opposite side from where the two rivers meet is the whare kōhanga, a place like a maternity ward. When babies were born they would take the whenua [placenta] and be buried in the ground, and they would take the baby down into the river and make up a lullaby. It was no rockabye baby, it was eight verses of very intense lullaby about the blessing of the baby and its life expectancy."*

Ra Smith says the most important confluence was where the Ruamāhanga met Lake Wairarapa, a point that no longer exists.

<sup>5</sup> Ra Smith is part of the Ngāti Kahungunu ki Wairarapa iwi.

<sup>6</sup> According to the Māori Dictionary, Mauri is "life principle, life force, vital essence, special nature, a material symbol of a life principle, source of emotions - the essential quality and vitality of a being or entity. Also used for a physical object, individual, ecosystem or social group in which this essence is located".



## 6 Climate Change and impacts for Carterton and South Wairarapa Districts

### 6.1 What is Climate Change

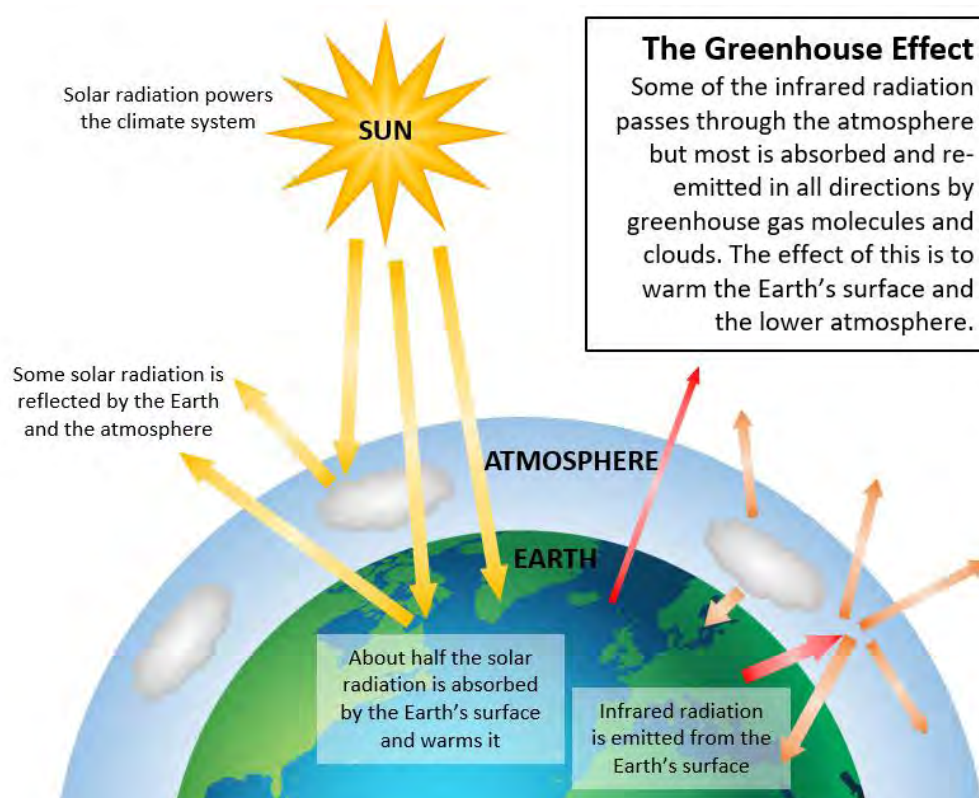
According to the UNFCCC<sup>7</sup>, Climate Change means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

#### 6.1.1 Atmosphere composition

Earth's atmosphere is made up of nitrogen (78%), oxygen (21%), and a small percentage of greenhouse gases, such as carbon dioxide and methane.

#### 6.1.2 Greenhouse effect

Greenhouse gases trap warmth from the sun and make life on Earth possible. Without the influence of the greenhouse effect on our planet, the average surface temperature would be  $-18^{\circ}\text{C}$  (average temperature on Earth with the greenhouse effect is  $15^{\circ}\text{C}$ ).



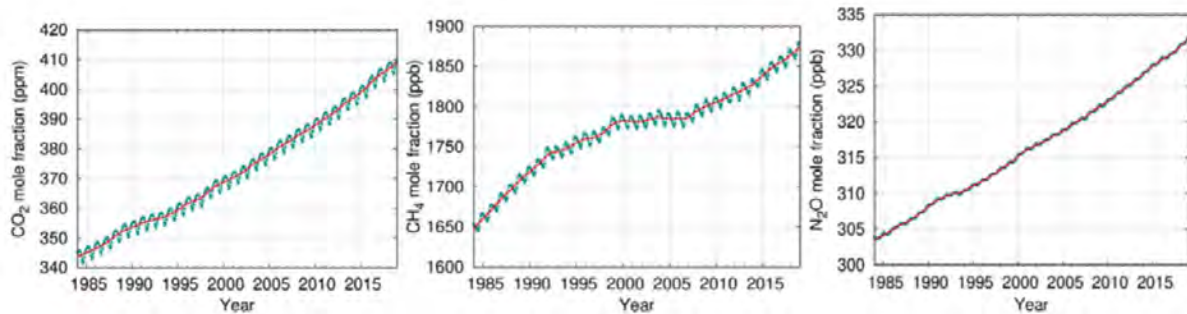
Source: NIWA, <https://www.niwa.co.nz/our-science/climate/information-and-resources/clivar/greenhouse>

Figure 30: The greenhouse effect

<sup>7</sup> United Nation Framework Convention on Climate Change

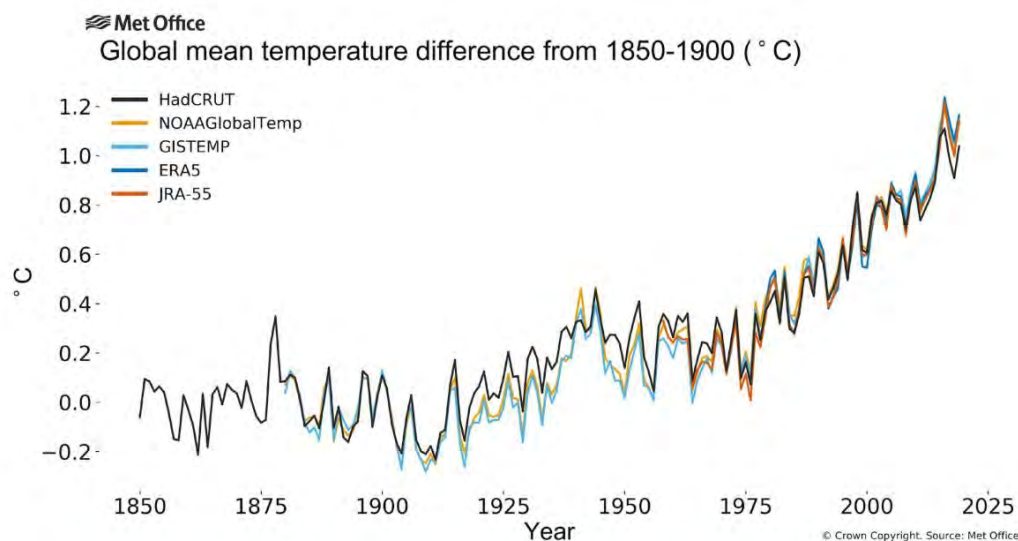
### 6.1.3 What causes Climate Change?

The greenhouse gas ( $\text{CO}_2$ ,  $\text{CH}_4$  and  $\text{N}_2\text{O}$ ) concentration in the atmosphere is raising quickly since the last 150 years (since the industrial revolution) because of fossil fuels burning, deforestation, etc. The temperature is correlated to the greenhouse gas concentration as shown in the graphs below.



Source: WMO Provisional Statement on the State of the Global Climate in 2019, World Meteorological Organization, 2019

**Figure 31: Concentration (ppm) in Carbon dioxide, Methane and Nitrous oxide from 1984 to 2018.**



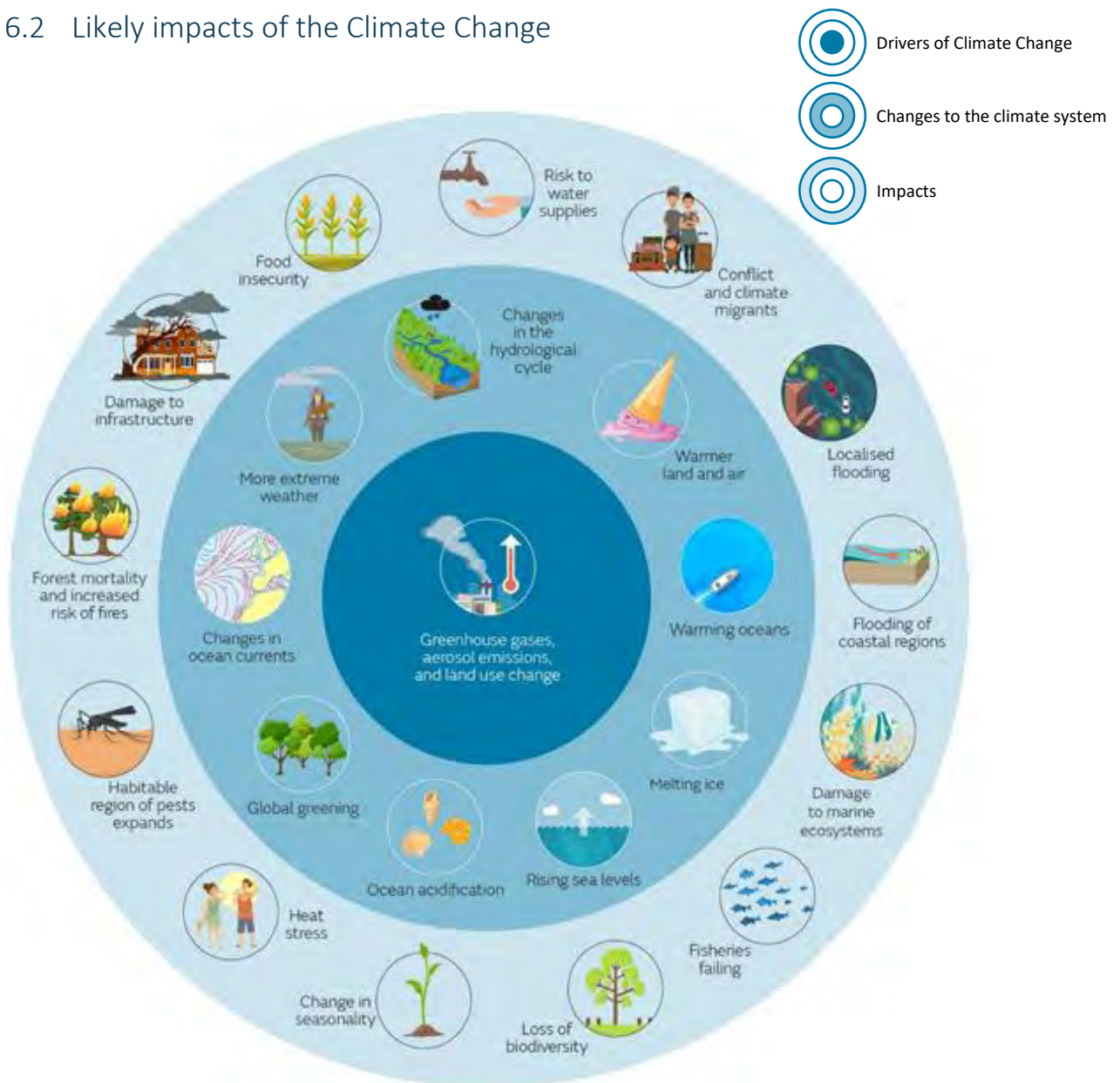
Source: WMO Provisional Statement on the State of the Global Climate in 2019, World Meteorological Organization, 2019

**Figure 32: Global annual mean temperature difference pre-industrial conditions (1850-1900, °C)**

Not only are temperatures rising but the whole climate is changing as seen by: increase in the extreme weather events (e.g. storm, drought), melt of the ice pack, sea level rise, ocean acidification, etc.

The next section will expose the likely impacts of the Climate Change, especially on Wairarapa.

## 6.2 Likely impacts of the Climate Change



Source: Metoffice, <https://www.metoffice.gov.uk/weather/learn-about/climate-and-climate-change/climate-change/effects-of-climate-change>

**Figure 33: Illustration of some of the drivers of Climate Change and impacts they could have on the climate system**

## 6.3 Likely Climate Change impacts for Wairarapa<sup>8</sup>

### 6.3.1 Projections

These figures below are projected changes relative to 1986 – 2005 levels. The values provided capture the range across all scenarios ranging from low to high greenhouse gases concentration (high efforts to reduce our emissions to low or no effort).

The values are based on scenario estimates and should not be taken as definitive.

#### Temperature in 2090

- Spring: +0.6°C to +2.7°C
- Summer: +0.7°C to +3.1°C
- Autumn: +0.7°C to +3.1°C
- Winter: +0.7°C to +3.2°C

#### Rainfall in 2090

- Spring: -3% to +2%
- Summer: -1% to +8%
- Autumn: 0 to +3%
- Winter: -7% to +1 %
- No significant change in the frequency of extreme rainy days

#### Wind in 2090

- +2% to +3% of extremely windy days

#### Storms

- Increase in storm intensity, local wind extremes and thunderstorms
- No increase of the frequency of storms

#### Sea-level rise

- +26 cm since early 20<sup>th</sup> Century (+2.23 mm/year)

<sup>8</sup> Source: Climate change projections for the Wellington and Wairarapa region, MfE

### 6.3.2 What does it mean?

#### Coastal hazards

Increased risk to coastal roads and infrastructure from coastal erosion and inundation, increased storminess and sea-level rise.

Local Government NZ estimates \$2.7 billion of council roading, water, and building infrastructure are at risk from 0.5 metres of sea level rise, and that increases to \$14.1 billion with 3 metres of sea level rise, and LGNZ says those are probably conservative estimates.

#### Heavy rain

Increased risk to surface flooding. River flooding may also become more frequent and more intense.

#### Erosion and landslides

Increased risk to erosion and landslides.

#### Droughts

More frequent droughts are likely to lead to water shortages, increased demand for irrigation and increased risk of wild fires.

#### Agriculture

Warmer temperatures, a longer growing season and fewer frosts could provide opportunities to grow new crops. Farmers might benefit from faster growth of pasture and better crop growing conditions. However, these benefits may be limited by negative effects of climate change such as prolonged drought, water shortages and greater frequency and intensity of storms.

#### Biosecurity

Climate change could lead to changes in pests and diseases over time. A likely increase in weed species and subtropical pests and diseases could require new pest management approaches. Biodiversity may be threatened by changing temperature and rainfall patterns, and sea level rise.

#### Biodiversity

Biodiversity is suffering from Climate Change due to the rate of change. It is very fast compared to historic change species have experienced.

#### Ocean acidification

Because the ocean absorbs a huge quantity of CO<sub>2</sub> released in the atmosphere, it becomes more and more acidic. This affects negatively all the marine species, especially seashells.

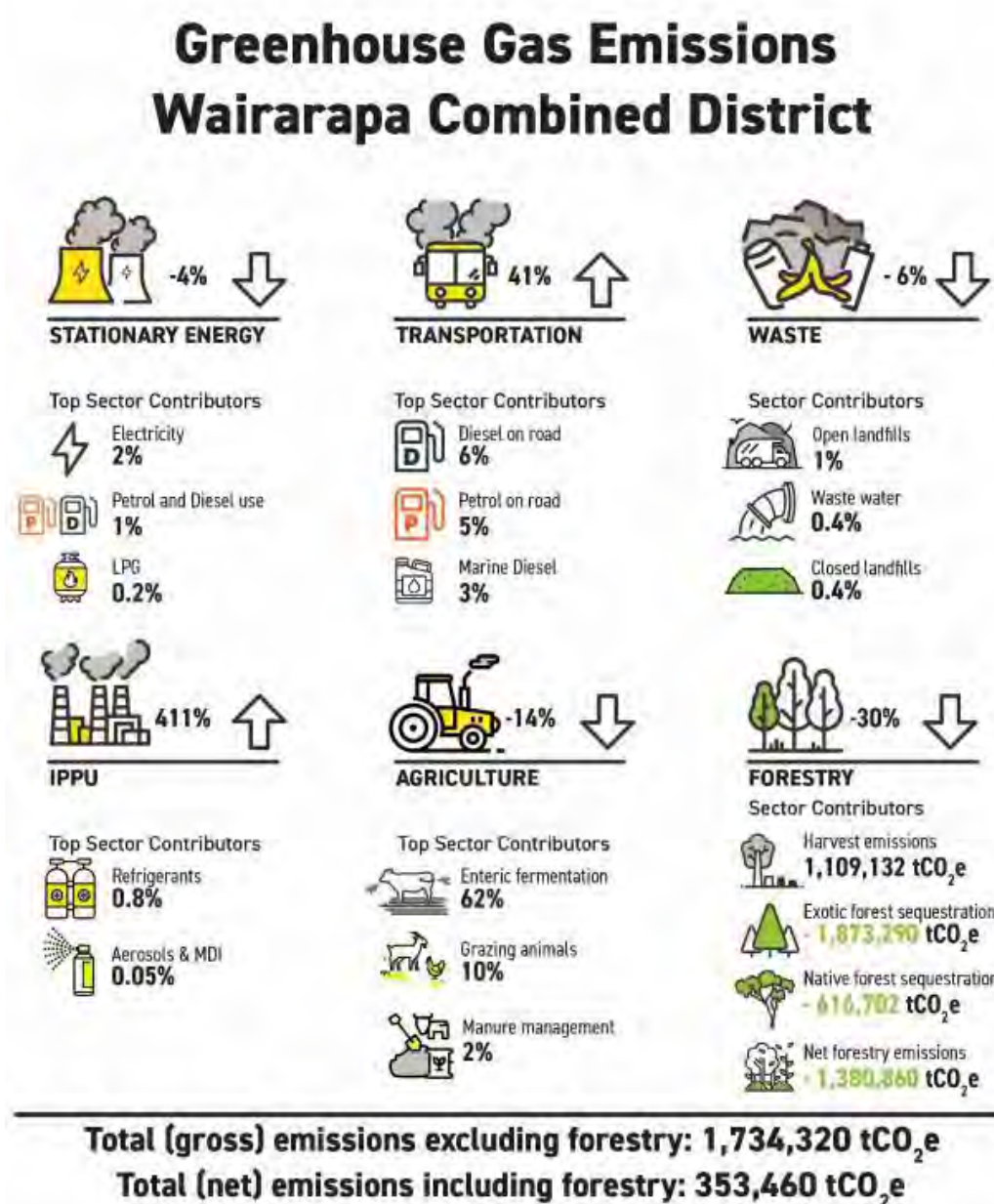
## 7 Greenhouse gas inventory

### 7.1 Wairarapa Combined District

Carbon emissions for the Wairarapa Combined districts 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 work has been done by AECOM, commissioned by Greater Wellington Regional Council.

#### 7.1.1 Summary

Figure 34 summarises the rate of change in emissions and top contributors to emissions for different sectors.



Source: Wairarapa Combined District Greenhouse Gas Inventory, AECOM, 2020

Figure 34: Summary of change in emissions from 2001 to 2019 including top contributors to total gross emissions from each sector in 2019

## 7.1.2 2018/19 Wairarapa Combined District inventory

Sector	tCO <sub>2</sub> e	% Gross	% Sector
<b>Stationary Energy</b>			
Electricity Consumption	31,928	1.8%	53.8%
Electricity T&D Loss	2,622	0.2%	4.4%
Natural Gas	-	0.0%	0.0%
Natural Gas T&D Loss	-	0.0%	0.0%
LPG	3,130	0.2%	5.3%
Stationary Petrol & Diesel Use	20,159	1.2%	34.0%
Coal	718	0.0%	1.2%
Biofuel / Wood	737	0.0%	1.2%
<b>Total:</b>	<b>59,293</b>	<b>3.4%</b>	<b>100%</b>
<b>Transportation</b>			
Petrol	91,514	5.3%	33.7%
Diesel	105,330	6.1%	38.8%
Rail Emissions	696	0.0%	0.3%
Bus (Electric)	9	0.0%	0.0%
Jet Kerosene	23,367	1.3%	8.6%
Av Gas	51	0.0%	0.0%
Marine Diesel	47,294	2.7%	17.4%
Light Fuel Oil	3,018	0.2%	1.1%
LPG	232	0.0%	0.1%
<b>Total:</b>	<b>271,511</b>	<b>15.7%</b>	<b>100%</b>
<b>Waste</b>			
Solid Waste Disposal	32,665	1.9%	81.8%
Wastewater	7,285	0.4%	18.2%
<b>Total</b>	<b>39,950</b>	<b>2.3%</b>	<b>100%</b>
<b>IPPU</b>			
Industrial Emissions	14,219	0.8%	100.0%
<b>Total</b>	<b>14,219</b>	<b>0.8%</b>	<b>100%</b>
<b>Agriculture</b>			
Agriculture	1,349,348	77.8%	100%
<b>Total</b>	<b>1,349,348</b>	<b>77.8%</b>	<b>100%</b>
<b>Forestry</b>			
Exotic Forest Sequestration	-1,873,290	N/A	N/A
Native Forest Sequestration	-616,702	N/A	N/A
Harvest Emissions	1,109,132	N/A	N/A
<b>Total</b>	<b>-1,380,860</b>	<b>N/A</b>	<b>100%</b>
<b>Total Emissions</b>		<b>tCO<sub>2</sub>e</b>	
<b>Total (net) incl. forestry</b>		<b>353,460</b>	
<b>Total (gross) excl. forestry</b>		<b>1,734,320</b>	

Source: Wairarapa Combined District Greenhouse Gas Inventory, AECOM, 2020

**Table 14: Summary of Wairarapa Combined District's gross emissions split by sector and associated sub-categories**

In 2018/19 reporting year, the Wairarapa Combined District emitted gross 1,734,320 tCO<sub>2</sub>e and net 353,460 tCO<sub>2</sub>e.

The biggest sector is agriculture (77.8%), followed by transport (15.7%). Stationary energy (3.4%), Waste (2.3%) and Industry (0.8%) are minor sources of emissions in Wairarapa.

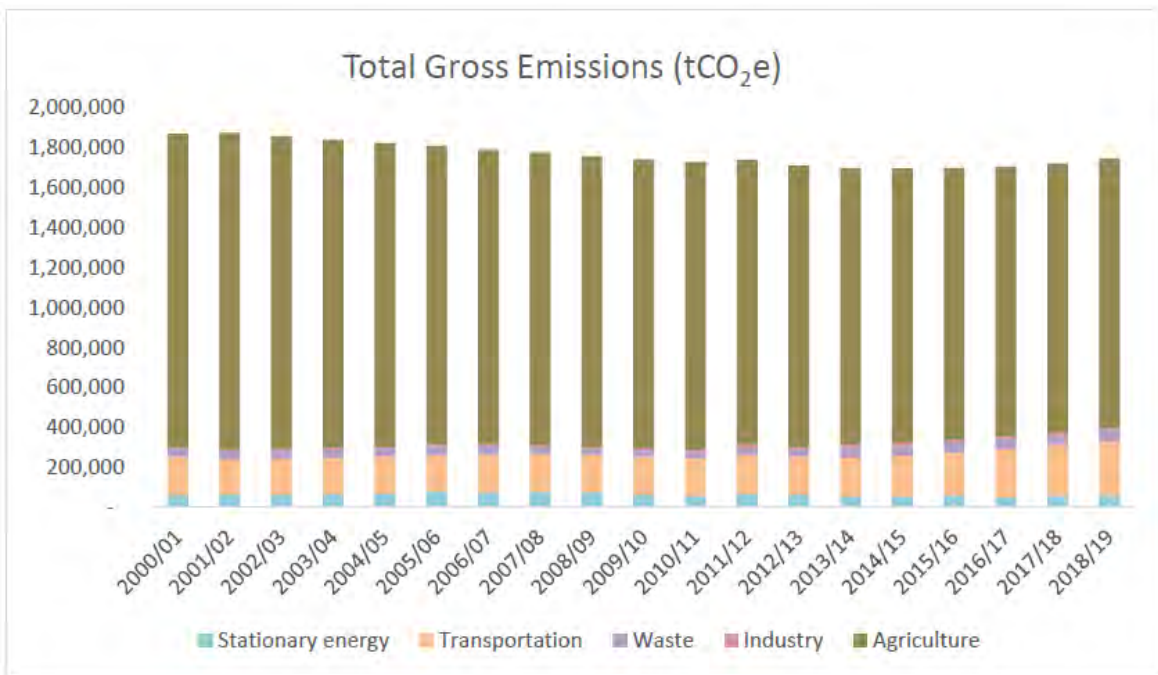
Biogenic Methane (Included in gross emissions)		
Biofuel	19	t CH <sub>4</sub>
Biodiesel	-	t CH <sub>4</sub>
Landfill Gas	961	t CH <sub>4</sub>
Wastewater Treatment	187	t CH <sub>4</sub>
Enteric fermentation	31,813	t CH <sub>4</sub>
Manure Management	992	t CH <sub>4</sub>
<b>Total biogenic CH<sub>4</sub></b>	<b>33,972</b>	<b>t CH<sub>4</sub></b>

Source: Wairarapa Combined District Greenhouse Gas Inventory, AECOM, 2020

**Table 15: Biogenic Methane emitted in 2018/19**

Table 15 state the biogenic methane emissions. The Wairarapa Combined District emitted 33,972 tons of Biogenic Methane in 2018/19. The importance of Biogenic Methane is highlighted in NZ's Climate Change Response (Zero Carbon) Amendment Act. The Act includes targets to reduce Biogenic CH<sub>4</sub> between 24 percent and 47 percent below 2017 levels by 2050, and 10 percent reduction below 2017 levels by 2030.

### 7.1.3 Changes in emissions inventory, 2001 to 2019

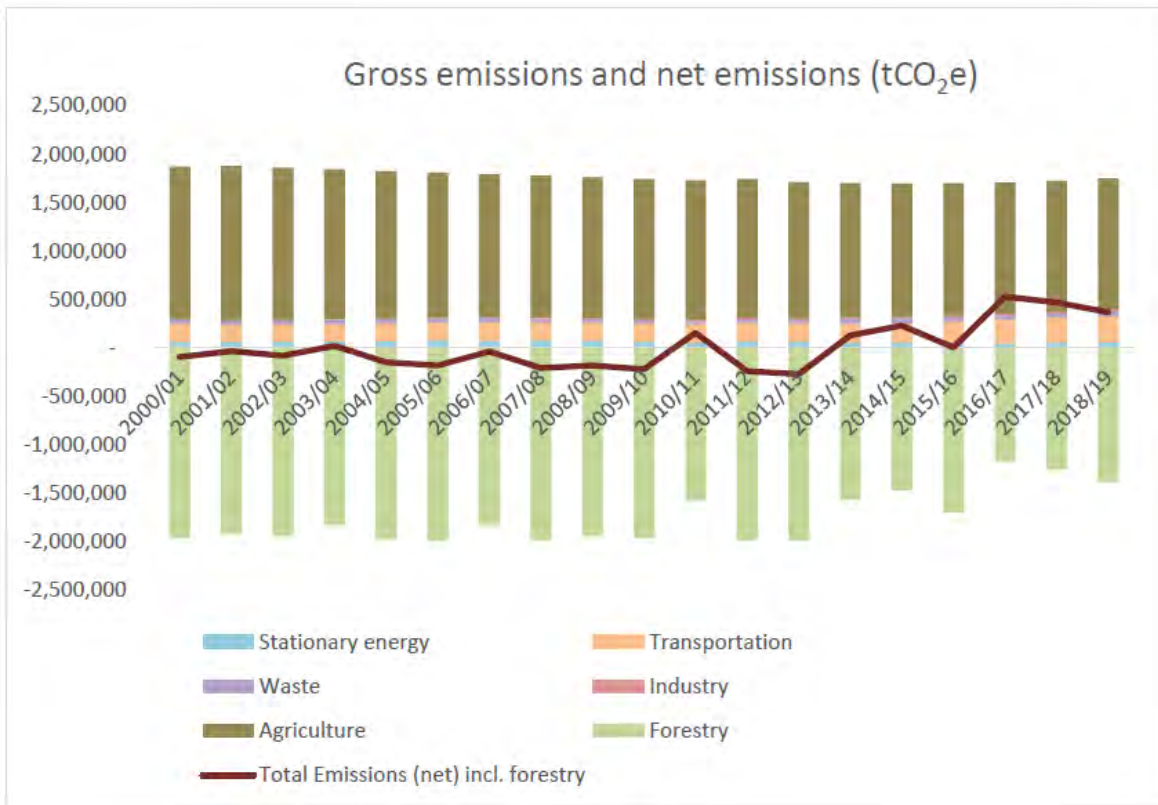


Source: Wairarapa Combined District Greenhouse Gas Inventory, AECOM, 2020

**Figure 35: Gross emissions per year (excluding forestry) from 2001 to 2019**

Total gross emissions fell by 7%, from 1,871,095 tCO<sub>2</sub>e in 2001 to 1,734,320 tCO<sub>2</sub>e in 2019. Reductions in emissions from stationary energy, waste and agriculture are responsible for the fall in total gross emissions. As the area's population has risen (by 22%, from 39,090 to 47,590) and per capita gross emissions have reduced by 24% from 47.9 tCO<sub>2</sub>e in 2001 to 36.4 tCO<sub>2</sub>e in 2019.



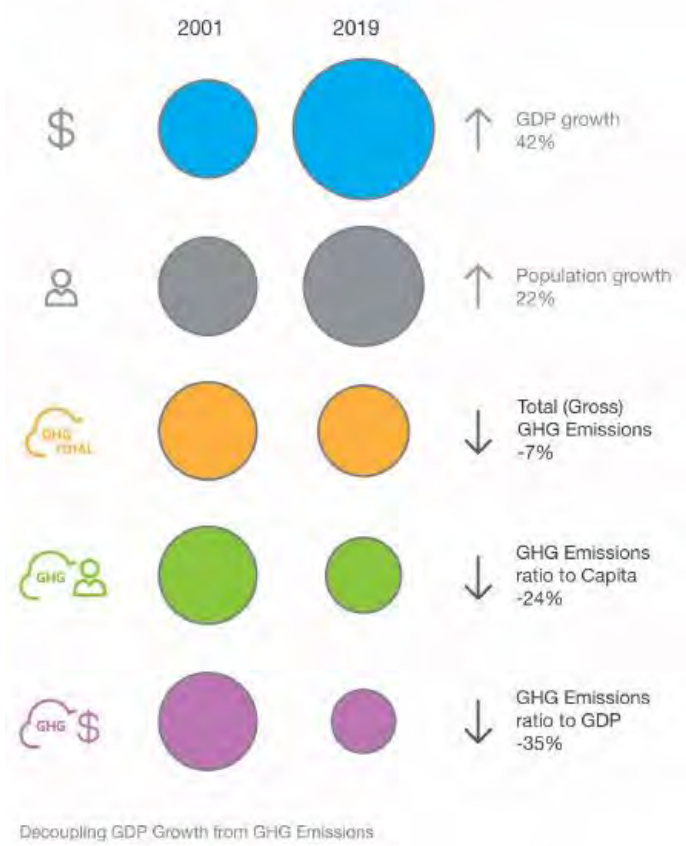


Source: Wairarapa Combined District Greenhouse Gas Inventory, AECOM, 2020

Figure 36: Annual emissions showing gross and net emissions (including forestry) from 2001 to 2019

Figure 36 shows the impact of sequestration in the forestry sector on reducing net emissions. Net forestry sequestration reduced by 30% between 2001 and 2019 causing net emissions to increase from net-negative total emissions (-91,460 tCO<sub>2</sub>e in 2001) to net-positive emissions (353,460 tCO<sub>2</sub>e in 2019).

Wairarapa  
Emissions change over time 2001 – 2019



Source: Wairarapa Combined District Greenhouse Gas Inventory, AECOM, 2020

**Figure 37: Change in total gross emissions compared to other metrics of interest**

Figure 37 shows the change in gross emissions when compared to changes in other metrics of interest between 2001 and 2019. Total gross emissions have reduced by 7%, against the backdrop of a 22% growth in population within the Wairarapa. Per capita emissions have fallen roughly in line with the rise in population observed (by 24%).

When emissions grow less rapidly than Gross Domestic Product (GDP) as a measure of income then this process is known as decoupling. The term decoupling is an expression of the desire to mitigate emissions without harming economic wellbeing. The changes in emissions and GDP illustrated in Figure 37 suggest at a high-level decoupling has occurred in the last two decades. GDP was 42% higher in 2019 than in 2001 while emissions per unit of GDP declined by 35%.

The exact drivers for the decoupling of emissions from GDP are difficult to pinpoint. New policies, for restructuring the way to meet demand for energy, food, transport and housing will all contribute. In this case, both direct local actions including reducing the emissions from landfill gas and indirect national trends e.g. reduction of emissions from electricity generation will have contributed to the trends noted.

## 7.2 Carterton District Council

The Table 16, Table 17, Table 18, Table 20 and Table 19 are the summary on the greenhouse gas inventory made for CDC in 2018. For further information, refer to the greenhouse gas inventory reports.

	Scope	t Co <sub>2</sub> e - 2018
<b>CORPORATE SERVICES</b>		<b>14.22</b>
<i>Electricity – Other</i>	Scope 2	2.99
<i>Transport and distribution losses</i>	Scope 3	0.23
<i>Transport – Diesel</i>	Scope 1	0
<i>Transport – Petrol</i>	Scope 1	7.5
<i>Transport – Flights</i>	Scope 3	0.6
<i>Waste</i>	Scope 3	2.9
<i>Refrigerant</i>	Scope 1	0
<b>COMMUNITY SERVICES</b>		<b>60.81</b>
<i>Electricity – Other</i>	Scope 2	56.53
<i>Transport and distribution losses</i>	Scope 3	4.28
<b>OPERATIONS</b>		<b>109.39</b>
<i>Electricity – Other</i>	Scope 2	2.93
<i>Electricity – Street lights</i>	Scope 2	62.52
<i>Transport and distribution losses</i>	Scope 3	4.96
<i>Transport – Diesel</i>	Scope 1	30.82
<i>Transport – Petrol</i>	Scope 1	8.16
<b>WATER</b>		<b>517.28</b>
<i>Transport – Diesel</i>	Scope 1	47.82
<i>Transport – Petrol</i>	Scope 1	0
<i>Water supply</i>	Scope 3	21.64
<i>Wastewater treatment</i>	Scope 3	447.82
<b>PARKS AND RESERVES</b>		<b>63.42</b>
<i>Electricity – Other</i>	Scope 2	12.17
<i>Transport and distribution losses</i>	Scope 3	0.92
<i>Transport – Diesel</i>	Scope 1	42.09
<i>Transport – Petrol</i>	Scope 1	0.74
<i>Green waste</i>	Scope 3	7.5
<b>REGULATORY</b>		<b>12.00</b>
<i>Transport – Diesel</i>	Scope 1	6.52
<i>Transport – Petrol</i>	Scope 1	5.48
<b>GROSS EMISSIONS</b>		<b>777.12</b>

Table 16: Emissions by business units

	t Co <sub>2</sub> e – 2018
Scope 1	149.13
Scope 2	137.14
Scope 3	490.85
<b>GROSS EMISSIONS</b>	<b>777.12</b>

Table 17: Emissions by scopes<sup>9</sup>

	t Co <sub>2</sub> e – 2018
<b>ELECTRICITY</b>	<b>147.52</b>
<i>Streetlights</i>	62.52
<i>Other</i>	74.62
<i>Transport and distribution losses</i>	10.39
<b>TRANSPORT</b>	<b>149.73</b>
<i>Petrol</i>	21.88
<i>Diesel</i>	127.25
<i>Flights</i>	0.6
<b>WASTEWATER</b>	<b>447.82</b>
<b>WATER SUPPLY</b>	<b>21.64</b>
<b>WASTE</b>	<b>10.40</b>
<b>REFRIGERANT</b>	<b>0.00</b>
<b>GROSS EMISSIONS</b>	<b>777.12</b>

Table 18: Emissions by sources

	t Co <sub>2</sub> e - 2018
<b>GROSS EMISSIONS</b>	<b>777.12</b>
Sequestration (forests)	-7,249.34
Harvest emissions	0
<b>TOTAL</b>	<b>-7,249.34</b>
<b>NET EMISSIONS</b>	<b>-6,472.22</b>

Table 19: Forestry

<sup>9</sup> Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions not included in scope 2

	2018
Gross emissions per FTE (t CO <sub>2</sub> e) 2018: 59.8 FTE	13.00
Gross emissions per capita (kg CO <sub>2</sub> e) 2018: 9,201	84.5

**Table 20: Emissions per FTE and per head of population**

### 7.3 South Wairarapa District Council

The Table 21, Table 22, Table 23, Table 25 and Table 24 are the summary on the greenhouse gas inventory made for SWDC in 2018. For further information, refer to the greenhouse gas inventory reports.

	Scope	t Co <sub>2</sub> e – 2018
<b>CORPORATE SERVICES</b>		<b>34.29</b>
<i>Electricity – Other</i>	Scope 2	5.32
<i>Transport and distribution losses</i>	Scope 3	0.40
<i>Transport – Diesel</i>	Scope 1	7.35
<i>Transport – Petrol</i>	Scope 1	16.56
<i>Transport – Flights</i>	Scope 3	1.93
<i>Waste</i>	Scope 3	2.73
<i>Refrigerant</i>	Scope 1	0
<b>COMMUNITY SERVICES</b>		<b>20.03</b>
<i>Electricity – Other</i>	Scope 2	18.62
<i>Transport and distribution losses</i>	Scope 3	1.41
<b>OPERATIONS</b>		<b>53.67</b>
<i>Electricity – Other</i>	Scope 2	0.32
<i>Electricity – Street lights</i>	Scope 2	29.59
<i>Transport and distribution losses</i>	Scope 3	2.27
<i>Transport – Diesel</i>	Scope 1	7.64
<i>Transport – Petrol</i>	Scope 1	13.86
<b>WATER</b>		<b>613.1</b>
<i>Water supply</i>	Scope 3	46.04
<i>Wastewater treatment</i>	Scope 3	567.07
<b>PARKS AND RESERVES</b>		<b>30.10</b>
<i>Electricity – Other</i>	Scope 2	25.49
<i>Transport and distribution losses</i>	Scope 3	1.93
<i>Transport – Diesel</i>	Scope 1	0
<i>Transport – Petrol</i>	Scope 1	2.67
<b>REGULATORY</b>		<b>12.91</b>
<i>Transport – Diesel</i>	Scope 1	11.48
<i>Transport – Petrol</i>	Scope 1	1.43
<b>GROSS EMISSIONS</b>		<b>764.10</b>

Table 21: Emissions by business units

	t Co <sub>2</sub> e – 2018
Scope 1	60.99
Scope 2	79.34
Scope 3	623.77
<b>GROSS EMISSIONS</b>	<b>764.10</b>

Table 22: Emissions by scopes<sup>9</sup>

	t Co <sub>2</sub> e – 2018
<b>ELECTRICITY</b>	85.35
<i>Streetlights</i>	29.59
<i>Other</i>	49.75
<i>Transport and distribution losses</i>	6.01
<b>TRANSPORT</b>	62.92
<i>Petrol</i>	34.52
<i>Diesel</i>	26.47
<i>Flights</i>	1.93
<b>WASTEWATER</b>	567.07
<b>WATER SUPPLY</b>	46.04
<b>WASTE</b>	2.73
<b>REFRIGERANT</b>	0.00
<b>GROSS EMISSIONS</b>	<b>764.10</b>

Table 23: Emissions by sources

	t Co <sub>2</sub> e – 2018
<b>GROSS EMISSIONS</b>	<b>764.10</b>
<i>Sequestration (forests)</i>	-2,513.47
<i>Harvest emissions</i>	4,950.74
<b>TOTAL</b>	<b>2,437.27</b>
<b>NET EMISSIONS</b>	<b>3,201.37</b>

Table 24: Forestry

	2018
Gross emissions per FTE (t CO <sub>2</sub> e) 2018: 41 FTE	18.64
Gross emission per capita (kg CO <sub>2</sub> e) 2018: 10,569	72.30

**Table 25: Emissions per FTE and per head of population**



## 8 Targets

### 8.1 International targets – Paris Agreement

The Paris Agreement was adopted by Parties under the United Nations Framework Convention on Climate Change (UNFCCC) on 12 December 2015. It commits all countries to take action on climate change. New Zealand ratified the Paris Agreement on 4 October 2016.

The purpose of the Paris Agreement is to:

- keep the global average temperature well below 2°C above pre-industrial levels, while pursuing efforts to limit the temperature increase to 1.5°C
- strengthen the ability of countries to deal with the impacts of climate change
- make sure that financial flows support the development of low-carbon and climate-resilient economies.

By ratifying the agreement New Zealand commits to having an emissions reduction target and regularly updating it. Ratification also commits us to:

- continue to regularly report on our emissions and how we're tracking towards meeting our target
- continue to provide financial support to assist developing countries' mitigation and adaptation efforts
- plan for adaptation.

### 8.2 National targets – Climate Change Response (Zero Carbon) Amendment Act

The Climate Change Response (Zero Carbon) Amendment Act sets a greenhouse gas reduction targets and require that:

- net accounting emissions of greenhouse gases in a calendar year, other than biogenic methane, are zero by the calendar year beginning on 1 January 2050 and for each subsequent calendar year; and
- emissions of biogenic methane<sup>10</sup> in a calendar year:
  - are 10% less than 2017 emissions<sup>11</sup> by the calendar year beginning on 1 January 2030; and
  - are 24% to 47% less than 2017 emissions by the calendar year beginning on 1 January 2050 and for each subsequent calendar year.

The 2050 target will be met if emissions reductions meet or exceed those required by the target.

<sup>10</sup> Methane produced from biological sources (plant and animal).

<sup>11</sup> 2017 emissions mean the emissions of biogenic methane for the calendar year beginning on 1 January 2017.

### 8.3 Councils' targets

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

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

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

- Reduce their gross greenhouse gas emissions,
- Increase the reservoirs, therefore the amount of greenhouse gas sequestered every year,
- Reduce biogenic methane<sup>12</sup> by 10% below 2017 levels.

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

- the councils,
- the community
- the businesses.

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

<sup>12</sup> Biogenic methane is produced from biological (plant and animal) sources.

## 9 Action plan

### 9.1 Summary

	<b>One-year</b> Raise awareness and start reducing the emissions	<b>Three-year</b> Strengthen the engagement towards Climate Change and keep reducing the emissions	<b>Ten-year</b> Achieve and go beyond our targets
<b>1. Councils: lead by example</b>			
1. Council's activities	1-1.1.1. Measure and report on council's emissions 1-1.1.2. Work with Greater Wellington Regional Council and other Territorial Authorities 1-1.1.3. Insert Climate Change and sustainability in the tenders 1-1.1.4. Implement a Carbon Reduction Policy 1-1.1.5. Input Climate Change in the new Spatial Plan	1-1.1.1. Ongoing 1-1.1.2. Ongoing 3-1.1.1. Update the Ruamāhanga Strategy 3-1.1.2. Review the contracts to insert Climate Change and sustainability 3-1.1.3. Implement a Low Carbon Events policy 3-1.1.4. Input Climate Change in the Risk Management Strategy	1-1.1.1. Ongoing 1-1.1.2. Ongoing 1-1.1.3. Ongoing 3-1.1.1. Ongoing 3-1.1.2. Ongoing
2. Optimise the fleet vehicles	1-1.2.1. Consider other options than combustion engine vehicle 1-1.2.2. Adopt fuel-efficient driving techniques 1-1.2.3. Lead a fleet review	1-1.2.1. Ongoing 1-1.2.2. Ongoing 3-1.2.1. Update the fleet according to the results of the fleet review	1-1.2.1. Ongoing 1-1.2.2. Ongoing 3-1.2.1. Ongoing 10-1.2.1. Lead a strong fleet vehicle transition to EV
3. Reduce energy consumption	1-1.3.1. Adopt an energy saving behaviour 1-1.3.2. Use LED technology (including streetlights) 1-1.3.3. Lead a building efficiency assessment	1-1.3.1. Ongoing 1-1.3.2. Ongoing 3-1.3.1. Liaise with the company in charge of the service for heat pump to reduce energy consumption	1-1.3.1. Ongoing 1-1.3.2. Ongoing 10-1.3.1. Renovate the buildings to reach a very low energy consumption (including the swimming pools)

	<b>One-year</b> Raise awareness and start reducing the emissions	<b>Three-year</b> Strengthen the engagement towards Climate Change and keep reducing the emissions	<b>Ten-year</b> Achieve and go beyond our targets
<b>1. Councils: lead by example</b>			
4. Reduce the use of non-renewable energy	1-1.4.1. Buy electricity from a company that uses 100% renewable energy	3-1.4.1. Develop photovoltaic	3-1.4.1. Ongoing
5. Reduce water consumption, therefore wastewater	1-1.5.1. Reduce reticulated water leaks 1-1.5.2. Use water saving technologies 1-1.5.3. Reduce storm water and ground water in the sewers	1-1.5.1. Ongoing 1-1.5.2. Ongoing 1-1.5.3. Ongoing 3-1.5.1. Increase the rainwater collection	1-1.5.1. Ongoing 1-1.5.2. Ongoing 1-1.5.3. Ongoing 3-1.5.1. Ongoing
6. Reduce solid waste	1-1.6.1. Compost 1-1.6.2. Recycle 1-1.6.3. Optimise the IT (especially paper prints)	1-1.6.1. Ongoing 1-1.6.2. Ongoing 1-1.6.3. Ongoing	1-1.6.1. Ongoing 1-1.6.2. Ongoing 1-1.6.3. Ongoing
7. Increase the carbon reservoirs	1-1.7.1. Preserve our forests 1-1.7.2. Lead a land assessment to increase tree planting and wetland restoration	1-1.7.1. 3-1.7.1. Increase afforestation according to the results of the land assessment 3-1.7.2. Restore wetlands according to the results of the land assessment	1-1.7.1. Ongoing 3-1.7.1. Ongoing 3-1.7.2. Ongoing
8. Communicate and educate	1-1.8.1. Engage the staff in the carbon footprint reduction 1-1.8.2. Keep the council's members and staff informed	1-1.8.1. Ongoing 1-1.8.2. Ongoing	1-1.8.1. Ongoing 1-1.8.2. Ongoing

	<b>One-year</b> Raise awareness and start reducing the emissions	<b>Three-year</b> Strengthen the engagement towards Climate Change and keep reducing the emissions	<b>Ten-year</b> Achieve and go beyond our targets
<b>2. Community and businesses: support low carbon behaviours and circular economy</b>			
1. Reduce the use of combustion engine vehicles	1-2.1.1. Promote alternatives to combustion engine vehicles (public transport, bicycle, carpooling) 1-2.1.2. Promote fuel-efficient driving techniques 1-2.1.3. Develop bike lanes by supporting the Five Towns Trail Trust 1-2.1.4. Promote EV and e-bikes with EECA Low Emissions Contestable Fund	1-2.1.1. Ongoing 1-2.1.2. Ongoing 1-2.1.3. Ongoing	1-2.1.1. Ongoing 1-2.1.2. Ongoing 1-2.1.3. Ongoing 10-2.1.1. Create a long-term bike hire between the five towns 10-2.1.2. Create carpool carparks
2. Promote healthy homes	1-2.2.1. Promote an energy saving behaviour	1-2.2.1. Ongoing 3-2.2.1. Promote healthy homes and buildings for ratepayers and businesses 3-2.2.2. Promote renewable energies for ratepayers and businesses 3-2.2.3. Review the building consent requirements in order to have healthier homes	1-2.2.1. Ongoing 10-2.2.1. Renovate the community flats
3. Promote local food and locally made goods and services	1-2.3.1. Promote locally produced food, goods and services	1-2.3.1. Ongoing	1-2.3.1. Ongoing
4. Reduce solid waste	Solid waste emits methane which is a strong greenhouse gas (1 ton of methane has the same effect on the climate as 28 tons of carbon dioxide). It is why reducing solid waste is very important (especially food waste). The solid waste reduction strategy is managed by the Regional Zero Waste Advisor; therefore, the actions are not developed in this strategy.		
5. Increase the carbon reservoirs	1-2.5.1. Promote forest preservation and afforestation	1-2.5.1. Ongoing	1-2.5.1. Ongoing

	<b>One-year</b> Raise awareness and start reducing the emissions	<b>Three-year</b> Strengthen the engagement towards Climate Change and keep reducing the emissions	<b>Ten-year</b> Achieve and go beyond our targets
<b>2. Community and businesses: support low carbon behaviours and circular economy</b>			
6. Engage the community and businesses in the carbon footprint reduction	1-2.6.1. Coordinate the Climate Change week / Conservation week 1-2.6.2. Hold a Climate Change stall at local events 1-2.6.3. Educate the children to Climate Change with Enviroschools and school holiday programmes 1-2.6.4. Watch for new scientific publications, laws, rules to keep the community informed	1-2.6.1. Ongoing 1-2.6.2. Ongoing 1-2.6.3. Ongoing 1-2.6.4. Ongoing 3-2.6.1. Organise the Climate Change biennial	1-2.6.1. Ongoing 1-2.6.2. Ongoing 1-2.6.3. Ongoing 1-2.6.4. Ongoing 3-2.6.1. Ongoing

**Table 26: Summary of the action plan**

## 9.2 One-year action plan – Raise awareness and start reducing the emissions

### 9.2.1 Councils: lead by example

#### Council's activities

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.1. Council's activities	
<b>1-1.1.1. Measure and report on council's emissions</b>	
Description	South Wairarapa District Council and Carterton District Council measure their own emission and report them yearly. This action aims to understand our emissions in order to reduce them.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2018 – ongoing
Key Performance Indicator	One inventory and report published each year.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.1. Council's activities	
<b>1-1.1.2. Work with Greater Wellington Regional Council and other Territorial Authorities</b>	
Description	The Climate Change Advisor works in relation: - with Greater Wellington Regional Council (Wellington Regional Climate Change Working Party, Wellington Regional Electric Vehicles Working Party) - with other TA through the Local Government Climate Change Group. This action aims to get the support, experience and feedback from others and be more efficient in our way to work and to reduce our emissions.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2019 – ongoing
Key Performance Indicator	Attendance to meetings and support to other TA

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.1. Council's activities	
<b>1-1.1.3. Insert Climate Change and sustainability in the tenders</b>	
Description	All the new tenders will have a Climate Change and sustainability clause. The way the applicants answer these clauses will help to choose the successful applicant (amongst other clauses). This action aims to reduce the council's footprint. The council wants to make sure its contractors try to reduce their emissions and are respectful of the environment.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2020 – ongoing
Key Performance Indicator	All the new tenders will have a Climate Change and sustainability clause.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.1. Council's activities	
<b>1-1.1.4. Implement a Carbon Reduction Policy</b>	
Description	An internal Carbon Reduction Policy will be implemented in 2020 to reduce the carbon footprint of all the employees in their everyday tasks. Also, all the other policies will be reviewed to add a Climate Change component when relevant. This action aims to include Climate Change in every project, decision (e.g. buying furniture) and report (e.g. Council meetings, committees).
Project management	Climate Change Advisor – Mélanie Barthe Policy Managers
Time frame	2020
Key Performance Indicator	The internal Carbon Reduction Policy is written and used by 2020. The other policies are reviewed and approved by 2020.



<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.1. Council's activities	
<b>1-1.1.5. Input Climate Change in the new Spatial Plan</b>	
Description	The Spatial Plan (South Wairarapa District Council) is currently under review. This plan helps to prepare for the growth of the district for the next 30 years. This action aims to take Climate Change into account in the district's development.
Project management	Climate Change Advisor – Mélanie Barthe Planning managers
Time frame	2020
Key Performance Indicator	Attendance to meetings with the planners and advices given by the Climate Change Advisor. Climate Change section in the future Spatial Plan.

### Optimise the fleet vehicles

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.2. Optimise the fleet vehicles	
<b>1-1.2.1. Consider other options than combustion engine vehicle</b>	
Description	The Climate Change Advisor will promote different alternatives to the car such as public transport, carpooling, bicycle or walking. The use of these options should come first, and the combustion engine vehicle shouldn't be used unless other alternatives available. This action aims to gather everyone's engagement in the councils to significantly reduce the transport's emissions.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2019 – ongoing
Key Performance Indicator	Council's employees are aware about the other options available to reduce the use of car. The transport's emissions decrease.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.2. Optimise the fleet vehicles	
<b>1-1.2.2. Adopt fuel-efficient driving techniques</b>	
Description	Fuel-efficient driving techniques will be promoted to the council's fleet vehicle users. Indeed, these techniques can decrease the fuel consumption, thus the greenhouse gas emissions. Adopting fuel-efficient driving techniques also increase road safety. This action aims to gather everyone's engagement in the councils to significantly reduce the transport's emissions.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2019 – ongoing
Key Performance Indicator	Council's employees are aware about fuel-efficient driving techniques and they use them. The transport's emissions decrease.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.2. Optimise the fleet vehicles	
<b>1-1.2.3. Lead a fleet review</b>	
Description	A fleet review will be held by the councils in order to have a better understanding of our transports. We want to make sure that our fleet (type of vehicles and numbers) is appropriate. This action aims to optimise our fleet in order to answer our needs in a better way.
Project management	Climate Change Advisor – Mélanie Barthe Fleet managers
Time frame	2020
Key Performance Indicator	Report on the results of the fleet review.

## Reduce energy consumption

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.3. Reduce energy consumption	
<b>1-1.3.1. Adopt an energy saving behaviour</b>	
Description	<p>Energy saving behaviour will be promoted to the council’s employees. Indeed, this behaviour can decrease the electricity consumption, thus the greenhouse gas emissions.</p> <p>This action aims to gather everyone’s engagement in the council’s to significantly reduce the stationary’s emissions.</p>
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2019 – ongoing
Key Performance Indicator	Council’s employees are aware about energy saving behaviour and they adopt it. The energy use decrease (in the offices).

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.3. Reduce energy consumption	
<b>1-1.3.2. Use LED technology (including streetlights)</b>	
Description	<p>In 2018 and 2019, the councils transitioned the streetlights from traditional to LED technology, which allowed to reduce the electricity use by over 20% in Carterton (2018 figures).</p> <p>The councils are currently transitioning the inside lighting to LED.</p> <p>This action aims to reduce our electricity consumption, thus our emissions.</p>
Project management	Climate Change Advisor – Mélanie Barthe Operation managers Amenity managers
Time frame	2018 – ongoing
Key Performance Indicator	The numbers of Led lights increase until 100% of the lights are LED and the emissions decrease.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.3. Reduce energy consumption	
<b>1-1.3.3. Lead a building efficiency assessment</b>	
Description	In order to know which buildings will need to be focused on, a building efficiency assessment needs to be done. This assessment will help us find out how our buildings might rate in terms of energy performance, and what it would take to enhance it.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2020
Key Performance Indicator	The assessment is done, and a report is written.

### Reduce the use of non-renewable energy

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.4. Reduce the use of non-renewable energy	
<b>1-1.4.1. Buy electricity from a company that uses 100% renewable energy</b>	
Description	In order to reduce the greenhouse gas emitted by the stationary energy consumed, the councils will switch from a power company that uses non renewable energies (such as gas, coal and petrol) to a company that uses 100% renewable energies (such as wind, solar, hydro and geothermal energies).
Project management	Finance teams
Time frame	2019
Key Performance Indicator	The power company supplying the councils uses 100% renewable energies.

## Reduce water consumption

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.5. Reduce water consumption, therefore wastewater	
<b>1-1.5.1. Reduce reticulated water leaks</b>	
Description	<p>Leaks on reticulated water can represent a huge percentage of the water produced. This means that water is being treated to drinkable standards and this water is lost before to go to consumer. Water and energy used to treat it are being used without purpose.</p> <p>Therefore, the councils lead leak detection campaign and fix the leaks found. Also, the councils communicate to ratepayers about leaks and how to find them (water meter reading) in order to fix them.</p> <p>This action aims to reduce water losses therefore, resources usage (energy and water).</p>
Project management	Operation managers
Time frame	Ongoing
Key Performance Indicator	The amount of water losses goes down.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.5. Reduce water consumption, therefore wastewater	
<b>1-1.5.2. Use water saving technologies</b>	
Description	<p>Each time the council need to replace a device using water (irrigation, toilets, shower, tap), the council will take the option of using water saving technology (if possible).</p> <p>This action aims to reduce the water usage therefore, the energy usage to treat water.</p>
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2020 - ongoing
Key Performance Indicator	The water consumption goes down and the water saving technologies are always an option in the choices for new devices.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.5. Reduce water consumption, therefore wastewater	
<b>1-1.5.3. Reduce storm water and ground water in the sewers</b>	
Description	Wastewater Treatment Plants use a huge amount of power. Also, wastewater produces a lot of greenhouse gas (biogenic methane). That is why reducing the amount of wastewater is a great way to reduce greenhouse gas emissions. The councils are working in reducing the amount of storm water and ground water in the sewers in order to reduce the amount of wastewater ending in the Wastewater Treatment Plants.
Project management	Operation managers
Time frame	Ongoing
Key Performance Indicator	Old and defective sewers are being replaced by new pipes.

## Reduce waste

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.6. Reduce solid waste	
<b>1-1.6.1. Compost</b>	
Description	Kitchen caddies are available in the kitchens in order to reduce the organic waste going to landfill and then the methane emissions. We communicate to the staff about compost and engage them in using the kitchen caddies provided.
Project management	Climate Change Advisor – Mélanie Barthe Regional Zero Waste advisor – Jo Dean
Time frame	2019 – ongoing
Key Performance Indicator	Every kitchen has a caddy that is emptied in a compost bin.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.6. Reduce solid waste	
<b>1-1.6.2. Recycle</b>	
Description	Recycling stations are implemented in the offices in order to reduce the waste going to landfill and then the methane emissions. We communicate to the staff about recycling and engage them in using the stations provided.
Project management	Climate Change Advisor – Mélanie Barthe Regional Zero Waste advisor – Jo Dean
Time frame	2019 – ongoing
Key Performance Indicator	Staff knows about recycling and uses the recycling stations.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.6. Reduce solid waste	
<b>1-1.6.3. Optimise the IT (especially paper prints)</b>	
Description	The Climate Change Advisor in collaboration with the IT Managers will track the prints. The figures will be published regularly in order to empower employees in paper use reduction. This action aims to reduce the prints, therefore the emissions related to them.
Project management	Climate Change Advisor – Mélanie Barthe IT Managers
Time frame	2019 – ongoing
Key Performance Indicator	The prints number goes down.

### Increase the carbon reservoirs

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.7. Increase the carbon reservoirs	
<b>1-1.7.1. Preserve our forests</b>	
Description	The councils will preserve all the forests they own and won't deforest unless there is no other choice. The forests are a great asset allowing the council to stock the greenhouse gas emitted.
Project management	Climate Change Advisor – Mélanie Barthe Parks and Reserves managers
Time frame	2019 – ongoing
Key Performance Indicator	The surface of forest owned is stable and if deforestation a report is done to prove the purpose of it.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.7. Increase the carbon reservoirs	
<b>1-1.7.2. Lead a land assessment to increase tree planting and wetland restoration</b>	
Description	A land assessment will be done in order to identify where the councils could plant trees or restore wetlands. Forests and wetlands are great carbon reservoirs and can help the councils in absorbing/sequestering their emissions.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2020
Key Performance Indicator	The land assessment is done.

## Communicate and educate

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.8. Communicate and educate	
<b>1-1.8.1. Engage the staff in the carbon footprint reduction</b>	
Description	The Climate Change Advisor leads communication campaign to engage all the staff from the Councils in the carbon footprint reduction. The Climate Change Advisor can use tools like Climate Change Week, emails, competitions in order to keep a constant but not boring communication.
Project management	Climate Change Advisor – Mélanie Barthe Communication managers
Time frame	2019 – ongoing
Key Performance Indicator	The staff is engaged in the carbon footprint reduction and act to reduce their emissions.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-1. Councils: lead by example	
1-1.8. Communicate and educate	
<b>1-1.8.2. Keep the Council's members and staff informed</b>	
Description	The Climate Change Advisor will make sure the Councils' members and staff are aware of the results of her work (especially the results of the greenhouse gas inventory and the Ruamāhanga Strategy). The Climate Change Advisor will enquire about the Councils' member opinion before to validate and finalise reports (especially for the targets and action plan).  Also, Climate Change will be set as a separate component of the Annual Plans and Long-Term Plans. Each paper that goes to council meetings will have a Climate Change component.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2019 – ongoing
Key Performance Indicator	The Councils' members and staff are well informed about the actions of the Climate Change Advisor.



## 9.2.2 Community and businesses: support low carbon behaviours and circular economy

### Reduce the use of combustion engine vehicles

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.1. Reduce the use of combustion engine vehicles	
<b>1-2.1.1. Promote alternatives to combustion engine vehicles (public transport, bicycle, carpooling)</b>	
Description	The council promote alternatives to combustion engine vehicles (public transport, bicycle, carpooling) in order to engage the community in the car usage reduction therefore, the fuel usage and greenhouse emissions from the community.
Project management	Climate Change Advisor – Mélanie Barthe Communication managers
Time frame	2019 – ongoing
Key Performance Indicator	The community and businesses use alternatives to combustion engine vehicles more and more.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.1. Reduce the use of combustion engine vehicles	
<b>1-2.1.2. Promote fuel-efficient driving techniques</b>	
Description	Fuel-efficient driving techniques will be promoted to the community. Indeed, these techniques can decrease the fuel consumption, thus the greenhouse gas emissions. Adopting fuel-efficient driving techniques also increase road safety. This action aims to gather the community's engagement and reduce the transport's emissions.
Project management	Climate Change Advisor – Mélanie Barthe Communication managers
Time frame	2019 – ongoing
Key Performance Indicator	The community is aware of the fuel-efficient driving techniques.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.1. Reduce the use of combustion engine vehicles	
<b>1-2.1.3. Develop bike lanes by supporting the Five Towns Trail Trust</b>	
Description	The Climate Change Advisor support the Five Towns Trails Trust in order to create a bicycle link between the towns in Wairarapa (Featherston, Martinborough, Greytown, Carterton and Masterton).
Project management	Climate Change Advisor – Mélanie Barthe Regional Trails and Cycling Coordinator
Time frame	2019 – ongoing
Key Performance Indicator	The Climate Change Advisor is in contact with the Five Towns Trails Trust and supports it until the success of the project.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.1. Reduce the use of combustion engine vehicles	
<b>1-2.1.4. Promote EV and e-bikes with EECA Low Emissions Contestable Fund</b>	
Description	The councils apply for the EECA Low Emissions Contestable Fund in order to install electric vehicles fast chargers and support more people to switch from internal combustion engine vehicle to e-bikes. This action aims to support promote EV and e-bike rather than combustion engine vehicles.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2020
Key Performance Indicator	An application is done in February 2020 (approvals provided late July 2020).

### Promote healthy homes

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.2. Promote healthy homes	
<b>1-2.2.1. Promote an energy saving behaviour</b>	
Description	Energy saving behaviour will be promoted to the community. Indeed, this behaviour can decrease the electricity consumption, thus the greenhouse gas emissions. This action aims to gather the community's engagement and reduce the stationary's emissions.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2019 – ongoing
Key Performance Indicator	The community is aware of the energy saving behaviour.

## Promote local food and locally made goods and services

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.3. Promote local food and locally made goods and services	
<b>1-2.3.1. Promote locally produced food, goods and services</b>	
Description	The councils promote locally produced food, goods and services in order to reduce the emissions made by transport. The councils will also promote home grown fruits and vegetables.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2019 – ongoing
Key Performance Indicator	The community and businesses are aware of alternatives such as farmers market and choose to consume wisely.

## Increase the carbon reservoirs

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.5. Increase the carbon reservoirs	
<b>1-2.5.1. Promote forest preservation and afforestation</b>	
Description	Council will explain to the community and businesses the importance of preserving the forests and planting trees. We will promote government funding such as One Billion Trees Programme.
Project management	Climate Change Advisor – Mélanie Barthe Communication managers
Time frame	2019 – ongoing
Key Performance Indicator	The community is aware of the benefice of the forests, protect them and plant trees.

## Engage the community and businesses in the carbon footprint reduction

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.6. Engage the community and businesses in the carbon footprint reduction	
<b>1-2.6.1. Coordinate the Climate Change week / Conservation week</b>	
Description	Once a year a Climate Change week and Conservation week is held. The councils will use this opportunity to intensively communicate about Climate Change. Eventually, the councils will be able to organise an event during this week.
Project management	Climate Change Advisor – Mélanie Barthe Communication managers
Time frame	2019 – ongoing
Key Performance Indicator	Communication campaigns are held once a year during Climate Change week or Conservation week.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.6. Engage the community and businesses in the carbon footprint reduction	
<b>1-2.6.2. Hold a Climate Change stall at local events</b>	
Description	Climate Change Advisor will hold a Climate Change stall at suitable local events. This action aims to increase the awareness of the community towards Climate Change and how to mitigate it.
Project management	Climate Change Advisor – Mélanie Barthe Communication managers
Time frame	2020 – ongoing
Key Performance Indicator	The community's awareness towards climate change increases as well as its engagement.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.6. Engage the community and businesses in the carbon footprint reduction	
<b>1-2.6.3. Educate the children to Climate Change with Enviroschools and school holiday programmes</b>	
Description	The councils are engaged with Enviroschools and hold actions with the children. The Climate Change Advisor also uses the opportunity of school holiday programmes to educate the children to Climate Change. This action aims to raise awareness from a young age. Also, it has been proven that the children are great messengers when they come back home and speak to their families and friends.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2020 – ongoing
Key Performance Indicator	The councils are engaged with Enviroschools and actions / programmes are being held with the children.

<b>1- One-year action plan – Raise awareness and start reducing the emissions</b>	
1-2. Community and businesses: support low carbon behaviours and circular economy	
1-2.6. Engage the community and businesses in the carbon footprint reduction	
<b>1-2.6.4. Watch for new scientific publications, laws, rules to keep the community informed</b>	
Description	The Climate Change Advisor stays in tune with Climate Change publications in order to popularise them and communicate them to the community and businesses. This action aims to keep the community well informed with the latest data available.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2019 – ongoing
Key Performance Indicator	The community is well informed about Climate Change and everyone is able to understand it.

## 9.3 Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions

### 9.3.1 Councils: lead by example

#### Council's activities

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-1. Councils: lead by example	
3-1.1. Council's activities	
<b>3-1.1.1. Update the Ruamāhanga Strategy</b>	
Description	The Ruamāhanga Strategy will be updated every three years in order to follow up in the actions already done and set up another set of actions. This action also aims to keep the context and greenhouse gas inventories up to date.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	Every 3 years (starting 2023)
Key Performance Indicator	The Ruamāhanga Strategy is kept updated.

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-1. Councils: lead by example	
3-1.1. Council's activities	
<b>3-1.1.2. Review the contracts to insert Climate Change and sustainability</b>	
Description	All the contracts will be reviewed in order to take Climate Change into account. Sustainability clauses will be inserted. These clauses will be monitored to make sure the contractors are respecting them. This action aims to reduce the council's footprint. The council wants to make sure its contractors try to reduce their emissions and are respectful of the environment.
Project management	Climate Change Advisor – Mélanie Barthe Contracts managers
Time frame	2021 – ongoing
Key Performance Indicator	Sustainability clauses are inserted in the current contracts.

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-1. Councils: lead by example	
3-1.1. Council’s activities	
<b>3-1.1.3. Implement a Low Carbon Events policy</b>	
Description	In order to reduce the carbon footprint of the events organised by the councils, a policy will be implemented. This policy will be developed with the events managers of the councils to make sure that is suitable and that the managers will be able to use it in an appropriate way.
Project management	Climate Change Advisor – Mélanie Barthe Event managers
Time frame	2021
Key Performance Indicator	The Policy will be written and used by 2021

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-1. Councils: lead by example	
3-1.1. Council’s activities	
<b>3-1.1.4. Input Climate Change in the Risk Management Strategy</b>	
Description	The Risk Management strategy will be updated in order to mention the risks generated by Climate Change and the risks that may increase the greenhouse gas emissions (e.g. fires).
Project management	Climate Change Advisor – Mélanie Barthe Operations managers
Time frame	2021
Key Performance Indicator	The Risk Management strategy is updated by 2021.

### Optimise the fleet vehicles

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-1. Councils: lead by example	
3-1.2. Optimise the fleet vehicles	
<b>3-1.2.1. Update the fleet according to the results of the fleet review</b>	
Description	The fleet vehicle will be update according to the results of the fleet review. Where possible, low carbon vehicle will be preferred (EVs, e-bike, etc). This action aims to significantly reduce the emissions coming from transport.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2021 – ongoing
Key Performance Indicator	The fleet vehicle is being updated. The emissions coming from transport are decreasing.

## Reduce energy consumption

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-1. Councils: lead by example	
3-1.3. Reduce energy consumption	
<b>3-1.3.1. Liaise with the company in charge of the service for heat pump to reduce energy consumption</b>	
Description	The Climate Change Advisor will liaise with the company in charge of the heat pumps to see how the councils can reduce their energy consumption. The councils will implement these results in order to reduce their stationary emissions.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2021
Key Performance Indicator	Climate Change liaise with the refrigeration company and implement the results of this liaison.

## Reduce the use of non-renewable energy

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-1. Councils: lead by example	
3-1.4. Reduce the use of non-renewable energy	
<b>3-1.4.1. Develop photovoltaic</b>	
Description	The Climate Change Advisor will study the feasibility of photovoltaic on the councils' buildings and other assets (streetlights). When possible, the councils will transition from grid power to photovoltaic. This action aims to reduce the stationary emissions.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2021 – ongoing
Key Performance Indicator	The Climate Change Advisor identifies sites to install photovoltaic and panels are being installed when possible.

## Reduce water consumption

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-1. Councils: lead by example	
3-1.5. Reduce water consumption, therefore wastewater	
<b>3-1.5.1. Increase the rainwater collection</b>	
Description	Water treatment is a large part of the greenhouse gas emissions. In order to reduce the water consumption, the councils will install water tank to collect rainwater on their premises where possible. This water can be used in the toilets for instance.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2021 – ongoing
Key Performance Indicator	Water tanks are being installed where possible.

## Increase the carbon reservoirs

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-1. Councils: lead by example	
3-1.7. Increase the carbon reservoirs	
<b>3-1.7.1. Increase afforestation according to the results of the land assessment</b>	
Description	According to the results of the land assessment, trees will be planted on suitable location in order to increase carbon reservoirs. The planting could be a community or school project.
Project management	Climate Change Advisor – Mélanie Barthe Parks and Reserves managers
Time frame	2021 – ongoing
Key Performance Indicator	The surface of the forests increases as well as the carbon sequestration.

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-1. Councils: lead by example	
3-1.7. Increase the carbon reservoirs	
<b>3-1.7.2. Restore wetlands according to the results of the land assessment</b>	
Description	According to the results of the land assessment, suitable wetlands will be restored in order to increase carbon reservoirs. The restoration could be a community or school project.
Project management	Climate Change Advisor – Mélanie Barthe Parks and Reserves managers
Time frame	2021 – ongoing
Key Performance Indicator	Wetlands are being restored and carbon sequestration increases.



### 9.3.2 Community and businesses: support low carbon behaviours and circular economy

#### Promote healthy homes

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-2. Community and businesses: support low carbon behaviours and circular economy	
3-2.2. Promote healthy homes	
<b>3-2.2.1. Promote healthy homes and buildings for ratepayers and businesses</b>	
Description	Climate Change Advisor in collaboration with appropriate stakeholders will develop two flyers to promote healthy homes and buildings. The first flyer will be intended to ratepayers and the second to businesses. This action aims to engage the community and businesses into reducing their emissions through healthy homes and buildings.
Project management	Climate Change Advisor – Mélanie Barthe Communication managers
Time frame	2021
Key Performance Indicator	The flyers are done and widely known by the community and businesses.

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-2. Community and businesses: support low carbon behaviours and circular economy	
3-2.2. Promote healthy homes	
<b>3-2.2.2. Promote renewable energies for ratepayers and businesses</b>	
Description	Climate Change Advisor in collaboration with appropriate stakeholders will develop two flyers to promote renewable energies. The first flyer will be intended to ratepayers and the second to businesses. This action aims to engage the community and businesses into reducing their emissions by preferring renewable energies.
Project management	Climate Change Advisor – Mélanie Barthe Communication managers
Time frame	2021
Key Performance Indicator	The flyers are done and widely known by the community and businesses.

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-2. Community and businesses: support low carbon behaviours and circular economy	
3-2.2. Promote healthy homes	
<b>3-2.2.3. Review the building consent requirements in order to have healthier homes</b>	
Description	If possible, healthy home requirements (such as good insulation, double glazing, etc) will be implemented in the building consents. This action aims to develop healthy homes in the districts.
Project management	Climate Change Advisor – Mélanie Barthe Building managers
Time frame	2022
Key Performance Indicator	The building consent requirements have been reviewed.

### Engage the community and businesses in the carbon footprint reduction

<b>3- Three-year action plan – Strengthen the engagement towards Climate Change and keep reducing the emissions</b>	
3-2. Community and businesses: support low carbon behaviours and circular economy	
3-2.6. Engage the community and businesses in the carbon footprint reduction	
<b>3-2.6.1. Organise the Climate Change biennial</b>	
Description	The Climate Change Advisor will organise the Climate Change biennial in collaboration with appropriate stakeholders. This event aims to increase the awareness, understanding and engagement of Climate Change by the community.
Project management	Climate Change Advisor – Mélanie Barthe Communication managers
Time frame	2021 – ongoing
Key Performance Indicator	The first biennial is held in 2021.

## 9.4 Ten-year action plan – Achieve and go beyond our targets

### 9.4.1 Councils: lead by example

#### Optimise the fleet vehicles

<b>10- Ten-year action plan – Achieve and go beyond our targets</b>	
10-1. Councils: lead by example	
10-1.2. Optimise the fleet vehicles	
<b>10-1.2.1. Lead a strong fleet vehicle transition to electric vehicles</b>	
Description	Following the action 3-1.2.1. <i>Update the fleet according to the results of the fleet review</i> , the councils may lead a stronger transition to EVs in order to significantly reduce their emissions.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2030

#### Reduce energy consumption

<b>10- Ten-year action plan – Achieve and go beyond our targets</b>	
10-1. Councils: lead by example	
10-1.3. Reduce energy consumption	
<b>10-1.3.1. Renovate the buildings to reach a very low energy consumption (including swimming pools)</b>	
Description	Following the action 1-1.3.3. <i>Lead a building efficiency assessment</i> , the councils may lead a strong building renovation campaign in order to reach a very low energy consumption.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2030

### 9.4.2 Community and businesses: support low carbon behaviours and circular economy

#### Reduce the use of combustion engine vehicles

<b>10- Ten-year action plan – Achieve and go beyond our targets</b>	
10-2. Community and businesses: support low carbon behaviours and circular economy	
10-2.1. Reduce the use of combustion engine vehicles	
<b>10-2.1.1. Create a long-term bike hire between the five towns</b>	
Description	Alongside with the action 1-2.1.3. <i>Develop bike lanes by supporting the Five Towns Trail Trust</i> , the councils may create a long-term bike hire facility in order to support the usage of the bike lanes between the five towns therefore, to reduce the emissions.
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2030

<b>10- Ten-year action plan – Achieve and go beyond our targets</b>	
10-2. Community and businesses: support low carbon behaviours and circular economy	
10-2.1. Reduce the use of combustion engine vehicles	
<b>10-2.1.2. Create carpool carparks</b>	
Description	The councils may create carparks dedicated to car-poolers (especially in Featherston where people commute to Wellington).
Project management	Climate Change Advisor – Mélanie Barthe
Time frame	2030

### Promote healthy homes

<b>10- Ten-year action plan – Achieve and go beyond our targets</b>	
10-2. Community and businesses: support low carbon behaviours and circular economy	
10-2.2. Promote healthy homes	
<b>10-2.2.1. Renovate the community flats</b>	
Description	The council may lead a strong building renovation campaign in order to reach a very low energy consumption for the community flats.
Project management	Amenity managers
Time frame	2030

## 10 Conclusion

By writing this ambitious strategy and action plan, Carterton District Council and South Wairarapa District Council are compliant to:

- the Paris Agreement,
- the Climate Change Response (Zero Carbon) Amendment Act,
- the New Zealand Local Government Leaders' Climate Change Declaration.

Indeed, the councils:

- Wrote a Climate Change Strategy in order to reduce their greenhouse gas emissions,
- Committed to regularly report on their greenhouse gas emissions,
- Set up carbon reduction 2030 targets that are compliant to the Climate Change Response (Zero Carbon) Amendment Act:
  - Reduce gross greenhouse gas emissions,
  - Increase the reservoirs, therefore the amount of greenhouse gas sequestered every year,
  - Reduce biogenic methane by 10% below 2017 levels.

This strategy is due for review in 2023.

## 11 Contacts and workgroups

In the process of writing this strategy, the Climate Change Advisor met with the following persons in order to have a feedback and input to the document:

- 8<sup>th</sup> of October 2019: Greg Hoskins, Director of Hoskins Energy Systems
- 8<sup>th</sup> of October 2019 and 22<sup>nd</sup> of January 2020: Resilient Carterton
- 10<sup>th</sup> of December 2019: Ra Smith, environmental consultant for Kahungunu ki Wairarapa
- 11<sup>th</sup> of December 2019: Warren Gray, senior analyst at Ministry for the Environment and Carterton Resident
- 12<sup>th</sup> and 18<sup>th</sup> of December 2019: Stuart Orme, Manager Land Use, Carbon and Consultancy and Michelle McCabe, Carbon and Land Use Specialist from Forest 360
- 19<sup>th</sup> of December 2019: Presentation to Mayor Alex Beijen, Councillor Brian Jephson, Harry Wilson (CEO) and Jennie Mitchell (Group Manager Corporate Services)
- 23<sup>rd</sup> of December 2019: Reuben Raihania Tipoki, Chair of the Māori Standing Committee (SWDC)
- 24<sup>th</sup> of December 2019: Allan Hogg, Martinborough Business Association
- 15<sup>th</sup> of January 2020: Presentation to Mayor Greg Lang, Councillor Russel Keys, Jane Davis (CEO) and Carolyn McKenzie (Community Services Manager)
- 29<sup>th</sup> of January 2020: Workshop with the mayors, the councillors, the CEO and the managers from both councils

In addition to these meetings, the Climate Change Advisor is also part of:

- the Wellington Region Climate Change Working Group
- the Wellington Region Electric Vehicle Working Group
- the Local Government Climate Change Working Group
- The EnviroSchools Climate Change Group

## 12 References

### Websites

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- Ministry for Environment: <https://www.mfe.govt.nz/climate-change/likely-impacts-of-climate-change/how-could-climate-change-affect-my-region/wellington> - consulted 24/09/2019
- Ministry for Environment: <https://www.mfe.govt.nz/climate-change/why-climate-change-matters/global-response/paris-agreement> - consulted 23/01/2020
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- Onoke – A saga of Wairarapa Moana and its people, Mary Tipoki
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## **Appendix 2 – Greenhouse Gas Inventory Report for SWDC in 2018**



MAY 20

# GREENHOUSE GAS INVENTORY

SOUTH WAIRARAPA DISTRICT COUNCIL - 2018



**SOUTH WAIRARAPA  
DISTRICT COUNCIL**  
*Kia Reretahi Tātau*

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# 1 Summary

	Scope	t Co <sub>2</sub> e - 2018	Uncertainties
<b>CORPORATE SERVICES</b>		<b>34.29</b>	[34.02 ; 34.56]
<i>Electricity - Other</i>	Scope 2	5.32	*
<i>Transport and distribution losses</i>	Scope 3	0.4	*
<i>Transport - Diesel</i>	Scope 1	7.35	*
<i>Transport - Petrol</i>	Scope 1	16.56	*
<i>Transport - Flights</i>	Scope 3	1.93	*
<i>Waste</i>	Scope 3	2.73	+/-10% [2.46 ; 3.01]
<i>Refrigerant</i>	Scope 1	0	*
<b>COMMUNITY SERVICES</b>		<b>20.03</b>	20.03*
<i>Electricity - Other</i>	Scope 2	18.62	*
<i>Transport and distribution losses</i>	Scope 3	1.41	*
<b>OPERATIONS</b>		<b>53.67</b>	53.67*
<i>Electricity - Other</i>	Scope 2	0.32	*
<i>Electricity - Streetlights</i>	Scope 2	29.59	*
<i>Transport and distribution losses</i>	Scope 3	2.27	*
<i>Transport - Diesel</i>	Scope 1	7.64	*
<i>Transport - Petrol</i>	Scope 1	13.86	*
<b>WATER</b>		<b>613.1</b>	[262.93 ; 1,028.49]
<i>Water supply</i>	Scope 3	46.04	*
<i>Wastewater treatment</i>	Scope 3	567.07	+/-10% activity data +/-40% CH <sub>4</sub> factor +/-90% N <sub>2</sub> O factor [216.89 ; 982.45]
<b>PARKS AND RESERVES</b>		<b>30.1</b>	30.1*
<i>Electricity - Other</i>	Scope 2	25.49	*
<i>Transport and distribution losses</i>	Scope 3	1.93	*
<i>Transport - Diesel</i>	Scope 1	0	*
<i>Transport - Petrol</i>	Scope 1	2.67	*
<b>REGULATORY</b>		<b>12.91</b>	12.92*
<i>Transport - Diesel</i>	Scope 1	11.48	*
<i>Transport - Petrol</i>	Scope 1	1.43	*
<b>GROSS EMISSIONS</b>		<b>764.10</b>	[413.66 ; 1,179.76]

\* Uncertainties exist but are not quantifiable

**Table 1: Emissions by business units**

	t Co <sub>2</sub> e - 2018	Uncertainties
Scope 1	60.99	60.99*
Scope 2	79.34	79.34*
Scope 3	623.77	[273.32 ; 1,039.43]
<b>GROSS EMISSIONS</b>	<b>764.10</b>	[413.66 ; 1,179.76]

\* Uncertainties exist but are not quantifiable

**Table 2: Emissions by scopes**

	t Co <sub>2</sub> e - 2018	Uncertainties
<b>ELECTRICITY</b>	85.35	85.35*
<i>Streetlights</i>	29,59	*
<i>Other</i>	49.75	*
<i>Transport and distribution losses</i>	6.01	*
<b>TRANSPORT</b>	62.92	63.99*
<i>Petrol</i>	34.52	*
<i>Diesel</i>	26.47	*
<i>Flights</i>	1.93	*
<b>WASTEWATER</b>	567.07	+/-10% activity data +/-40% CH <sub>4</sub> factor +/-90% N <sub>2</sub> O factor [216.89 ; 982.45]
<b>WATER SUPPLY</b>	46.04	46.04*
<b>WASTE</b>	2.73	+/-10% [2.46 ; 3.01]
<b>REFRIGERANT</b>	0.00	0.00*
<b>GROSS EMISSIONS</b>	<b>764.10</b>	[413.66 ; 1,179.76]

\* Uncertainties exist but are not quantifiable

**Table 3: Emissions by sources**

	t Co <sub>2</sub> e - 2018
<b>GROSS EMISSIONS</b>	<b>764.10</b>
<i>Forestry (removals)</i>	-2,513.47
<i>Forestry (harvest emissions)</i>	4,950.74
<b>TOTAL</b>	<b>2,437.27</b>
<b>NET EMISSIONS</b>	<b>3,201.37</b>

**Table 4: Forestry**

	2018
Gross emissions per FTE (t CO <sub>2</sub> e) 2018: 41 FTE	18.64
Gross emission per capita (kg CO <sub>2</sub> e) 2018: 10,569	72.30

**Table 5: Emissions per FTE and per head of population**

## 2 Introduction

This report is the annual greenhouse gas (GHG) emissions<sup>1</sup> inventory report for South Wairarapa District Council. The inventory is a complete and accurate quantification of the amount of GHG emissions that can be directly attributed to the organisation's operations within the declared boundary and scope for the specified reporting period.

The inventory has been prepared in accordance with the requirements of the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004)* and *ISO 14064-1:2006 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals*<sup>2</sup>.

## 3 Organisation Description

South Wairarapa District Council (SWDC) is the territorial authority for the South Wairarapa District. SWDC is located in the heart of the Wairarapa. The 30<sup>th</sup> of June 2018, SWDC employed 41 FTEs (Full Time-Equivalent) and is responsible for water and wastewater, waste, local roads (excluding State Highway), streetlighting, parks and reserves, community facilities and performing statutory duties such as regulatory compliance.

The council is organised as shown below:

- Corporate services,
- Community services,
- Operations,
- Water,
- Parks and reserves,
- Regulatory.

<sup>1</sup> Throughout this document 'emissions' means GHG emissions.

<sup>2</sup> Throughout this document 'GHG Protocol' means the GHG Protocol Corporate Accounting and Reporting Standard and 'ISO 14064- 1:2006' means the international standard Specification with Guidance at the Organizational Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals.

## 4 Inventory boundaries

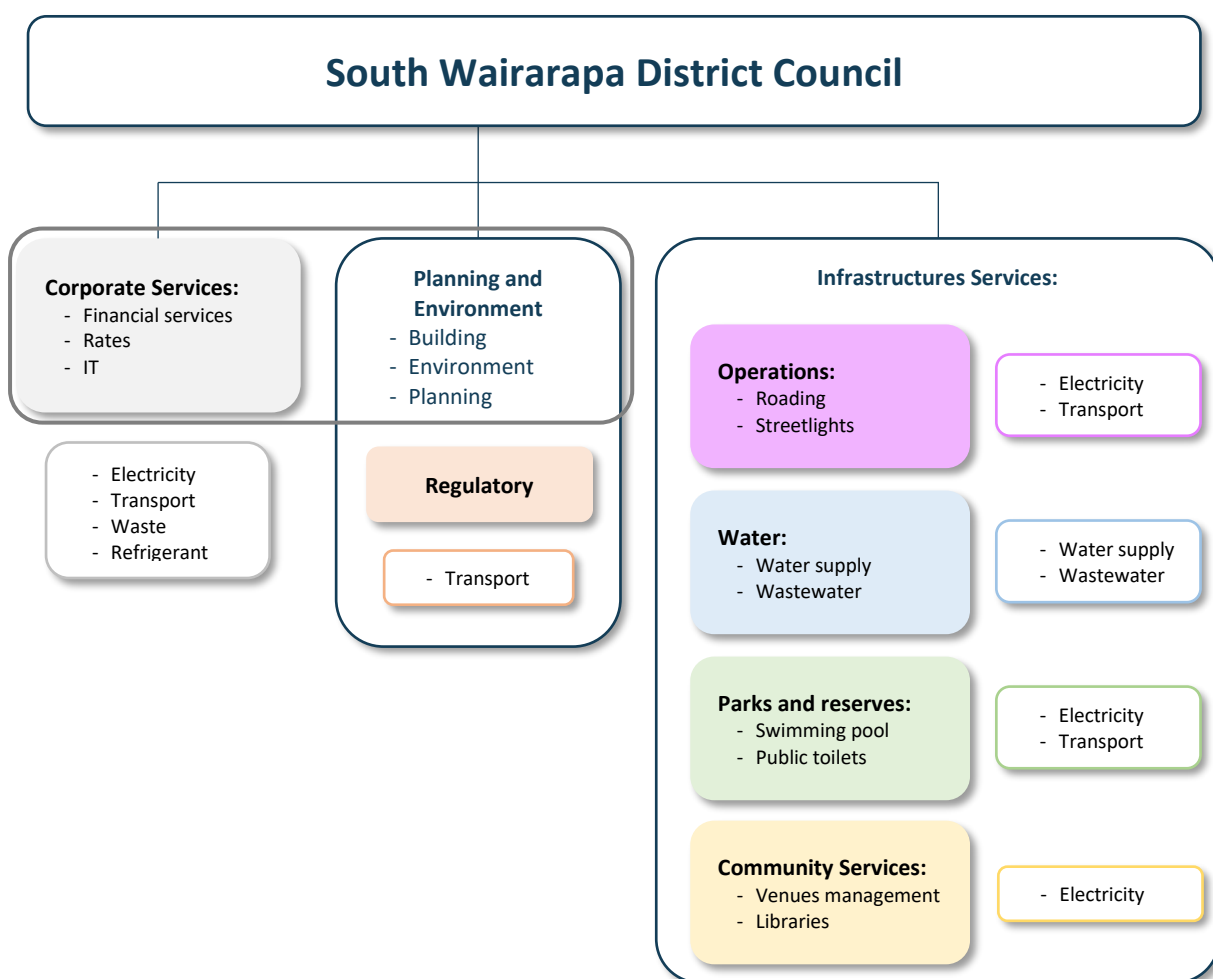
This inventory covers a period from January 2018 to December 2018.

### 4.1 Organisational boundaries

#### 4.1.1 Organisational boundaries included for this reporting period

Organisational boundaries were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2006 standards. The GHG Protocol allows two distinct approaches to consolidate GHG emissions: the equity share and control (financial or operational) approaches. We used an operational control approach to account for emissions.

This GHG inventory includes all the council's business units as shown in Figure 1: Organisational structure bellow.



**Figure 1: Organisational structure and emission sources**

Planning and environment service share the same building as Corporate services. Therefore, it has been aggregated under the same business unit "Corporate services". However, because the Regulatory service has dedicated vehicles, it was possible to create its own business unit.

#### 4.1.2 Organisational business units excluded from inventory

Business unit	GHG emission source	Scope	Reason for exclusion
Community services - Properties	Electricity	Scope 2	Tenants pay their own power accounts
Operations - Waste management	Waste from the community	Scope 3	Outside of SWDC operational control Contractor: Earth Care
Operations - Roading	Emissions from road maintenance	Scope 3	Outside of SWDC operational control Contractor: Fulton Hogan
<b>Operations – Gardens</b>	Emissions from parks and reserves maintenance	Scope 3	Outside of SWDC operational control Contractor: City Care

**Table 6: Business units and GHG emission source excluded from this inventory**

## 4.2 Reporting boundaries

### 4.2.1 GHG emission sources inclusions

The GHG emissions sources included in this inventory were identified with reference to the methodology in the *GHG Protocol and ISO14064-1:2006 standards*. As adapted from the *GHG Protocol*, these emissions were classified under the following categories:

- **Direct GHG emissions (Scope 1):** emissions from sources that are owned or controlled by the company (emissions from vehicles, refrigerant leaks)
- **Electricity indirect GHG emissions (Scope 2):** emissions from the generation of purchased electricity consumed by the company.
- **Other indirect GHG emissions (Scope 3):** emissions that occur as a consequence of the company's activities but from sources not owned or controlled by the company (waste, wastewater, energy transport and distribution losses, ...).

This inventory considers:

- Corporate services:
  - Electricity
  - Transport and distribution losses
  - Transport – Diesel
  - Transport – Petrol
  - Transport – Flights
  - Waste
  - Refrigerant
- Community services:
  - Electricity
  - Transport and distribution losses
- Operations:
  - Electricity – Other
  - Electricity – Streetlights
  - Transport and distribution losses
  - Transport – Diesel
  - Transport – Petrol

- Water:
  - Water supply
  - Wastewater treatment
- Parks and reserves:
  - Electricity
  - Transport and distribution losses
  - Transport – Diesel
  - Transport – Petrol
- Regulatory:
  - Transport – Diesel
  - Transport – Petrol

#### 4.2.2 GHG emission source exclusions

For more information, refer to Table 6: Business units and GHG emission source excluded from this inventory.

## 5 Data collection and uncertainties

Table 7 gives an overview of how data were collected for each GHG emissions source, the source of the data and an explanation of any uncertainties or assumptions.

A calculation methodology has been used for quantifying the emissions inventory using emissions source activity data multiplied by emission or removal factors. All emission factors and uncertainties were sourced from the Ministry for the Environment’s 2019 *Measuring Emissions: A Guide for Organisations*.

Business Unit	GHG emission source	Scope	Data source	Data collection unit	Uncertainty (description)
Corporate services	Electricity	Scope 2	Electricity company	kWh	Low It is assumed that the meter readings were done correctly
	Transport and distribution losses	Scope 3			
Corporate services	Transport - Diesel	Scope 1	Fuel company	L	Low It is assumed that the supplier reports are complete and accurate
	Transport - Petrol	Scope 1			
	Transport - Flights	Scope 3	Finance team	Km	Low/Moderate It is assumed that the supplier invoices are complete and accurate. The distance between airports has been estimated
Corporate services	Waste	Scope 3	Council officer	Kg	Moderate Estimation made by the staff in charge of the waste collection
Corporate services	Refrigerant	Scope 1	A/C company	Kg	Low It is assumed that the supplier data is complete and accurate
Community services	Electricity	Scope 2	Electricity company	kWh	Low It is assumed that the meter readings were done correctly
	Transport and distribution losses	Scope 3			
Operations	Electricity - other	Scope 2	Electricity company	kWh	Low It is assumed that the meter readings were done correctly
	Electricity - Streetlights	Scope 2			
	Transport and distribution losses	Scope 3			



Business Unit	GHG emission source	Scope	Data source	Data collection unit	Uncertainty (description)
Operations	Transport - Diesel	Scope 1	Fuel company	L	Low It is assumed that the supplier reports are complete and accurate
	Transport - Petrol	Scope 1			
Water	Water supply	Scope 3	Council officer	m <sup>3</sup>	Low It is assumed that the data source is an appropriate representation of activities
	Wastewater treatment	Scope 3	Council officer	m <sup>3</sup>	Low It is assumed that the data source is an appropriate representation of activities
Parks and reserves	Electricity	Scope 2	Electricity company	kWh	Low It is assumed that the meter readings were done correctly
	Transport and distribution losses	Scope 3			
Parks and reserves	Transport - Diesel	Scope 1	Fuel company	L	Low It is assumed that the supplier reports are complete and accurate
	Transport - Petrol	Scope 1			
Regulatory	Transport - Diesel	Scope 1	Fuel company	L	Low It is assumed that the supplier reports are complete and accurate
	Transport - Petrol	Scope 1			

**Table 7: GHG emission sources, data collection and uncertainty**

## 6 GHG emission calculations and results

### 6.1 Evolution of the GHG emissions

#### 6.1.1 Base year

The first greenhouse gas inventory done for South Wairarapa District Council is this one (done from January 2018 to December 2018). This inventory will be used as a baseline to set up targets and keep track of our emissions.

It has been decided to choose the year 2018 because the data was as complete and accurate as possible.

#### 6.1.2 Evolution of the GHG emissions and significant emissions changes

Because this inventory is the first of its kind we cannot compare to previous years.

### 6.2 Emissions for all seven GHGs

The seven GHG included in this inventory are:

- Carbon dioxide: CO<sub>2</sub>
- Methane: CH<sub>4</sub>
- Nitrous oxide: N<sub>2</sub>O
- Hydrofluorocarbons: HFCs
- Perfluorocarbons: PFCs
- Sulfur hexafluoride: SF<sub>6</sub>
- Nitrogen trifluoride: NF<sub>3</sub>

	<b>2018</b>	<b>Uncertainties</b>
<b>t CO<sub>2</sub> e</b>	764.10	[413.66 ; 1,179.76]
<b>t CO<sub>2</sub></b>	284.67	[274.84 ; 294.51]
<b>t CH<sub>4</sub></b>	200.56	[112.20 ; 304.24]
<b>t N<sub>2</sub>O</b>	278.87	[26.63 ; 581.02]
<b>t HFCs</b>	0	0
<b>t PFCs</b>	0	0
<b>t SF<sub>6</sub></b>	0	0
<b>t NF<sub>3</sub></b>	0	0

**Table 8: Emissions for all seven GHGs**

### 6.3 Gross emissions by scope, business unit and source

GHG emissions for South Wairarapa District Council for 2018 are provided in the GHG Inventory summary section at the start of this report.

The following figures give an overview of where the gross emissions are occurring across the organisation.

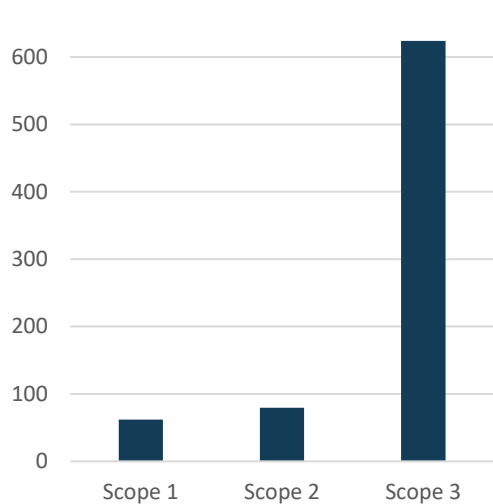


Figure 2: Gross emissions by scope (tCO<sub>2</sub>e)

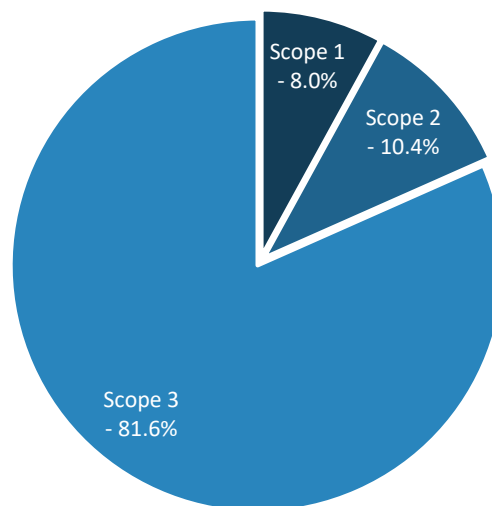
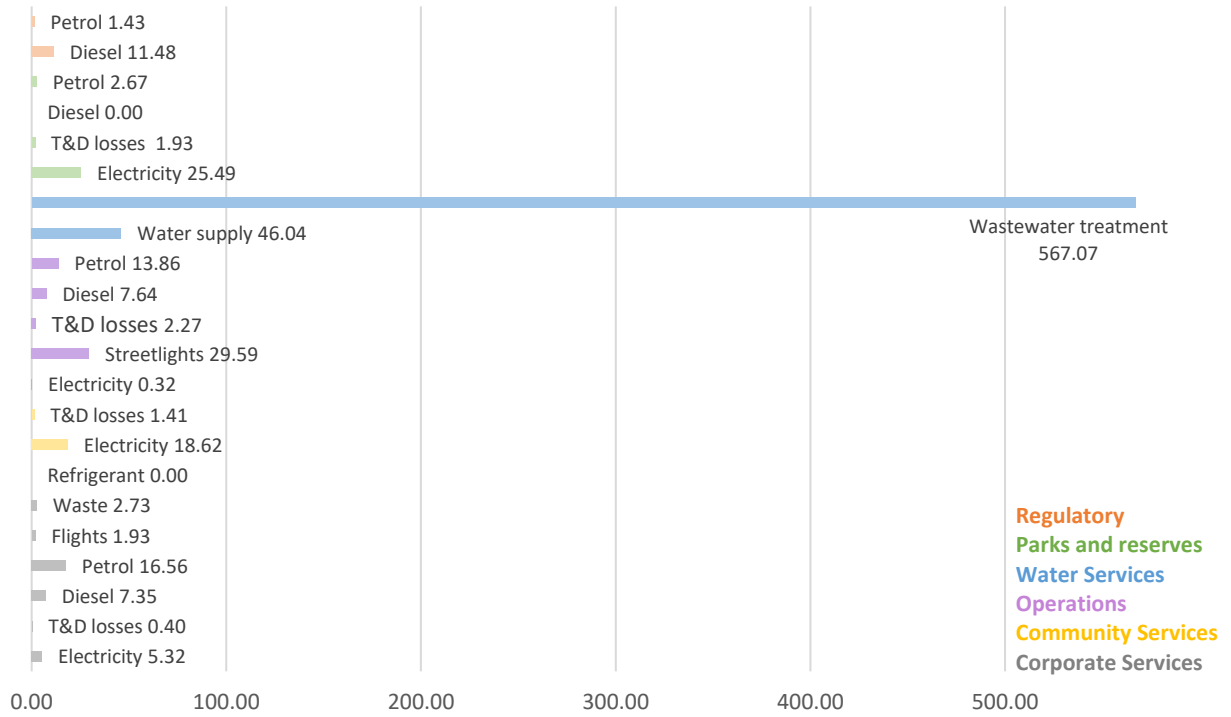
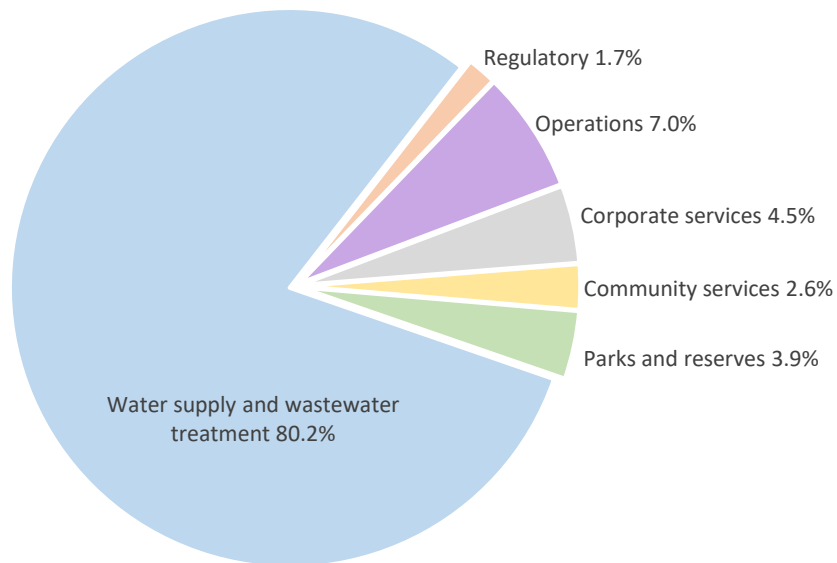


Figure 3: Gross emissions by scope (%)



**Figure 4: Gross emissions by business unit (tCO<sub>2</sub>e)**



**Figure 5: Gross emissions by business unit (%)**

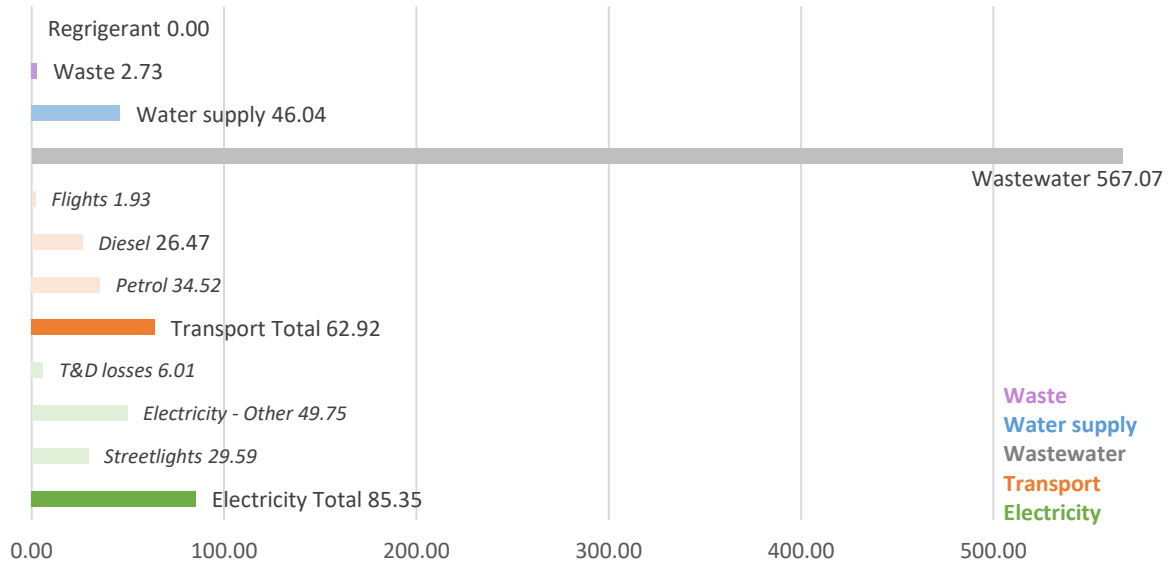


Figure 6: Gross emissions by source (tCO<sub>2e</sub>)

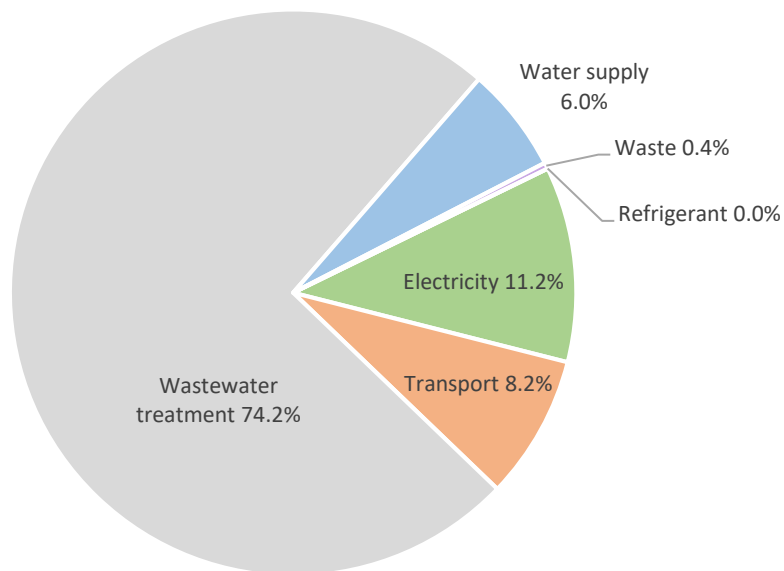


Figure 7: Gross emissions by source (tCO<sub>2e</sub>)

## 6.4 Emissions from biologically sequestered carbon

The following data can be found in a report made by Woodnet (now Forest 360) in 2014. This report makes a list of the forests owned by SWDC. For this greenhouse gas inventory, the only stands considered are the ones owned by SWDC.

In 2018, South Wairarapa District Council owned 79.10 ha of forest, mainly in road reserves but also in the Martinborough Golf.

- Planted forest: 74.23 ha
- Native – tall (84%): 4.09 ha
- Native – regenerating (16%): 0.78 ha

5.23 ha of forest have been deforested in 2018<sup>3</sup>. This deforestation occurred on:

- Birch Hill on White Rock Road (2.21 ha),
- Pah Hill on Ponatahi Road (1.87 ha),
- Martinborough Golf course (1,15 ha).

		Units	t CO <sub>2</sub> e	t CO <sub>2</sub>	t CH <sub>4</sub>	t N <sub>2</sub> O
<b>Planted forest Sequestration</b>	Growth	74.23 ha	-2,509.49	-2,509.49	n/a	n/a
	Regenerating	0.78 ha	-3.98	-3.98	n/a	n/a
<b>Natural forest Sequestration</b>	Tall	4.09 ha	0	0	n/a	n/a
	Planted forest	5.23 ha	4,950.74	4,950.74	n/a	n/a
<b>Harvest emissions</b>	Native forest	0 ha	0	0	n/a	n/a
	<b>TOTAL</b>		<b>2,437.27</b>	<b>2,437.27</b>	<b>n/a</b>	<b>n/a</b>

**Table 9: Total CO<sub>2</sub> sequestered and emitted by forestry in 2018**

<sup>3</sup> This data is an estimation. We compared the surface of forest from the report made by Woodnet and the surface of forest seen on an aerial picture taken the 18<sup>th</sup> of September 2018 (Google Earth Pro).

## 7 Liabilities

### 7.1 GHG stocks held

HFCs, PFCs and SF<sub>6</sub> represent GHGs with high global warming potentials. Their accidental release could result in a large increase in emissions for the reporting period. Therefore, any GHG stocks are included in the greenhouse gas emissions inventory to identify significant liabilities and implement procedures for minimising the risk of their accidental release.

HFCs, PFCs and SF<sub>6</sub> represent GHGs with high global warming potentials. Their accidental release could result in a large increase in emissions for that year, and therefore the stock holdings are reported in this inventory (Table 10: HFCs, PFCs and SF<sub>6</sub> held by ).

Source	Amount held – January 2018	Amount held – December 2018	Potential liability
R410-A	10.39 kg	10.39 kg	1.8 tCO <sub>2</sub> e
R32	2.61 kg	2.61 kg	21.7 tCO <sub>2</sub> e
<b>TOTAL</b>			<b>23.5 tCO<sub>2</sub>e</b>

**Table 10: HFCs, PFCs and SF<sub>6</sub> held by SWDC**

Because of the difficulty to reach the cooling units, the data doesn't include:

- The units from the main office – 19 Kitchener Street, Martinborough,
- One unit on top the office – 18 Kitchener Street – Martinborough,
- One unit on top of the Featherston library,
- One unit on top of the wall of the Featherston Information Centre.

This units will be included as soon as possible.

### 7.2 Land-use change

Organisations that own land subject to land-use change may achieve sequestration of carbon dioxide through a change in the carbon stock on that land. If a sequestration is claimed, this also represents a liability in future years should fire, flood or other management activities release the stored carbon.

Land-use change has been included in this inventory. SWDC owns 79.10 ha of forest (74.23 ha of planted forest and 4.87 ha of native forest). The potential liability of the land-use change is 74,399.41 tCO<sub>2</sub>e.

	t CO <sub>2</sub> e	t CO <sub>2</sub>	t CH <sub>4</sub>	t N <sub>2</sub> O
<b>Carbon emission (deforestation) – Planted forest</b>	70,266.49	70,266.49	n/a	n/a
<b>Carbon emission (deforestation) – Native forest</b>	4,132.93	4,132.93	n/a	n/a
<b>TOTAL</b>	<b>74,399.41</b>	<b>74,399.41</b>	<b>n/a</b>	<b>n/a</b>

**Table 11: Potential liability of the land-use change**

## 8 Methodology and references

### 8.1 Methodology

To do the greenhouse gas inventory, Carterton District Council used the Interactive Workbook made by the Ministry for Environment.

It is possible to download it here: <https://www.mfe.govt.nz/consultation/interactive-workbook-download>

We simply had to input our activity data (such as litres of fuel used, or kWh consumed) in this workbook to measure our greenhouse gas emissions.

### 8.2 References

Measuring Emissions: A guide for Organisations – MfE, 2019

The Greenhouse Gas Protocol: A corporate accounting and reporting standard – World Business Council for Sustainable Development and World resources Institute, 2004 (revised)

ISO14064-1:2018. Greenhouse gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals – International Organization for Standardization, 2018 (revised)

**Disclaimer:**

The information in this greenhouse gas inventory is true and complete to the best of our knowledge. The calculation method used (MfE workbook and MfE factors), the inclusions and exclusions of this inventory may be different from other inventories and can explain the differences. The author and publisher disclaim any liability in connection with the use of this information.



## **Appendix 3 – Wairarapa Combined District Greenhouse Gas Inventory**



# Wairarapa Combined District Greenhouse Gas Inventory

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# Wairarapa Combined District Greenhouse Gas Inventory

Client: Wairarapa Combined District Council

Co No.: N/A

Prepared by

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## Quality Information

Document Wairarapa Combined District Greenhouse Gas Inventory

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Prepared by Adam Swithinbank and Anthony Hume

Reviewed by Ruth Williams

### Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
6	15-May-2020	Final Report	Anthony Hume Principal Sustainability & Resilience Consultant	

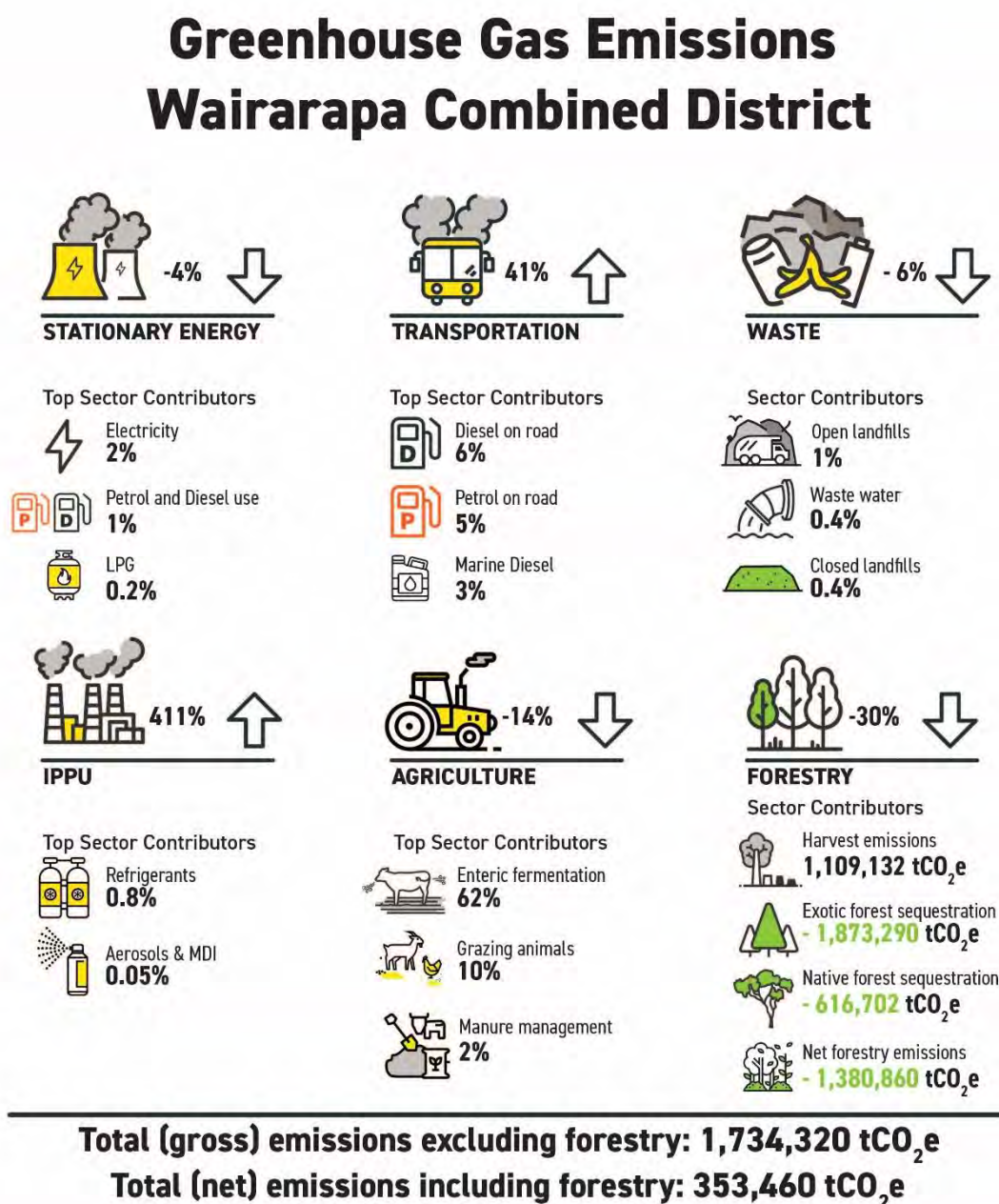
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## Executive Summary

Carbon emissions for the Wairarapa Combined districts 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. Figure 1 summarises the rate of change in emissions and top contributors to emissions for different sectors.

Figure 1 Summary of change in emissions from 2001 to 2019 including top contributors to total gross emissions from each sector in 2019



The document is split into two parts. In Part 1 this document focusses on the results for the 2018/19 financial reporting year. Referred to hereafter more commonly as 2019 for ease. Part 2 centres on emission trends in the last two decades (2000/01 to 2018/19) or more simply 2001 to 2019. Major findings of the project include:

### PART 1 – 2019 Emissions Inventory

- In the 2018/19 reporting year, the Wairarapa Combined Districts emitted **gross 1,734,320 tCO<sub>2</sub>e**. This equates for approximately 41% of the Wellington region's total gross emissions, 4,190,050 tCO<sub>2</sub>e for the reporting year.
- Agriculture is the biggest source of emissions accounting for 78% of total gross emissions. Transport (e.g. road, flights and rail) is the second largest emitter, 16% of total gross emissions. Stationary Energy, Waste and Industry are minor sources of emissions in the Wairarapa.
- After consideration of carbon sequestration (carbon stored in plants or soil by forests), the Wairarapa emitted **net 353,460 tCO<sub>2</sub>e** emissions. This equates to 14% of the Wellington region's total net emissions of 2,552,727 tCO<sub>2</sub>e.

### PART 2 – Changes in Emissions Inventory, 2001 to 2019

- Wairarapa's emissions fell by 7%, from **gross 1,871,095 tCO<sub>2</sub>e** to **gross 1,734,320 tCO<sub>2</sub>e (136,775 tCO<sub>2</sub>e)** between 2001 and 2019.
- Agriculture, waste and stationary energy emissions reduced between 2001 and 2019, by 14%, 6% and 4% respectively. The reason for the changes differs between sectors. Agriculture emissions reduced more than any sector due mainly to a reduction in the number livestock animals farmed within the area. The use of landfill gas capture has driven the fall in emissions from waste, while greater use of renewable energy to provide electricity has reduced the influence of stationary energy on total emissions.
- Transport and industry emissions increased between 2001 and 2019, by 41% and 411% respectively. Within the transport sector, petrol and diesel use increased by 26% from 2001 to 2019. In the industrial sector the vast majority of emissions are caused by industrial refrigerant use which has increased by 461% in this period.
- The reduction in agriculture emissions is the largest real change (rather than proportionate change) in emissions, decreasing by 221,399 tCO<sub>2</sub>e between 2001 and 2019. The increase of 78,704 tCO<sub>2</sub>e in emissions from transport was the second biggest real change.
- Net emissions for Wairarapa increased from net -91,460 tCO<sub>2</sub>e to net 353,460 tCO<sub>2</sub>e between 2001 and 2019. The increase in net emissions is due to forestry harvest emissions increasing dramatically, from 455,522 tCO<sub>2</sub>e in 2001 to 1,109,132 tCO<sub>2</sub>e in 2019, an increase of 143%.

## 1.0 Introduction

AECOM New Zealand Limited (AECOM) has been commissioned by the Wairarapa District Councils via a consortium of Wellington Region Councils, to assist in the development of a greenhouse gas footprint for the District for the 2018 / 2019 financial year. The study boundary incorporates the jurisdictions of the Masterton District Council, Carterton District Council and the South Wairarapa Council hereafter collectively referred to as Wairarapa Combined District (WCD).

The results of this study are split into two parts. The focus of Part 1 of this document is to explain the results for the 2018/19 financial reporting year. Referred to hereafter as 2019 for ease. Part 2 centres on emission trends in the last two decades (2000/01 to 2018/19), or more simply 2001 to 2019.

## 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) 2014. The GPC includes emissions from stationary energy, transport, waste, industry, agriculture and forestry activities within the District'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. Sectors also use methods consistent with GHG Protocol standards published by WRI for emissions measurement when needed.

The same methodology was used for other community scale greenhouse gas (GHG) inventories around New Zealand, (e.g. Auckland, Christchurch, Dunedin, Tauranga and Southland) and internationally. The GPC methodology<sup>1</sup> represents international best practice for district 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 are 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 (CO<sub>2</sub>e) including climate change feedback using the 100-year Global Warming Potential (GWP) values<sup>2</sup>.
- Total emissions are reported as gross emissions (excluding forestry) and net emissions (including forestry)
- Where district-level data was not accessible, information was calculated via a per capita break-down of national or regional level data, this is further detailed in Appendix B.
- 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.
  - Shipping emissions due to the movement of logs and timber were allocated based on the relative contribution of each district to harvested forest activity within the region.

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

<sup>2</sup> [https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5\\_Chapter08\\_FINAL.pdf](https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter08_FINAL.pdf) (Table 8.7)



- Solid waste emissions:
  - Solid waste emissions from landfill are measured using the IPCC First Order Decay method that covers landfill activity between 1950 and the present day. Data for the Wairarapa Combined Districts prior to 2014 is estimated based on population figures and NZ average waste generation per person per year. From 2014, data includes waste sent to Bonny Glen Landfill in the Horizons Region. This volume is included in the Wairarapa Combined Districts inventory and subtracted from the Horizon Region's inventory to avoid double-counting.
- Wastewater emissions:
  - Wastewater is treated either using oxidation ponds or septic tanks and is included in the figures.
- 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.
- 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.
- Due to changes in data sources and methodology, emissions quoted for years prior to 2018/19 may be different to those previously reported.

## 3.0 2019 Emissions Inventory

This section deals with emission results for the reporting year 2018/19 (2019). The paragraphs, figures and tables below explain the overall emissions and emissions from each sector. The focus of the information presented are gross emissions that need to be addressed in local council policy and initiatives. Results in this section are supported by further information and data in Appendix A.

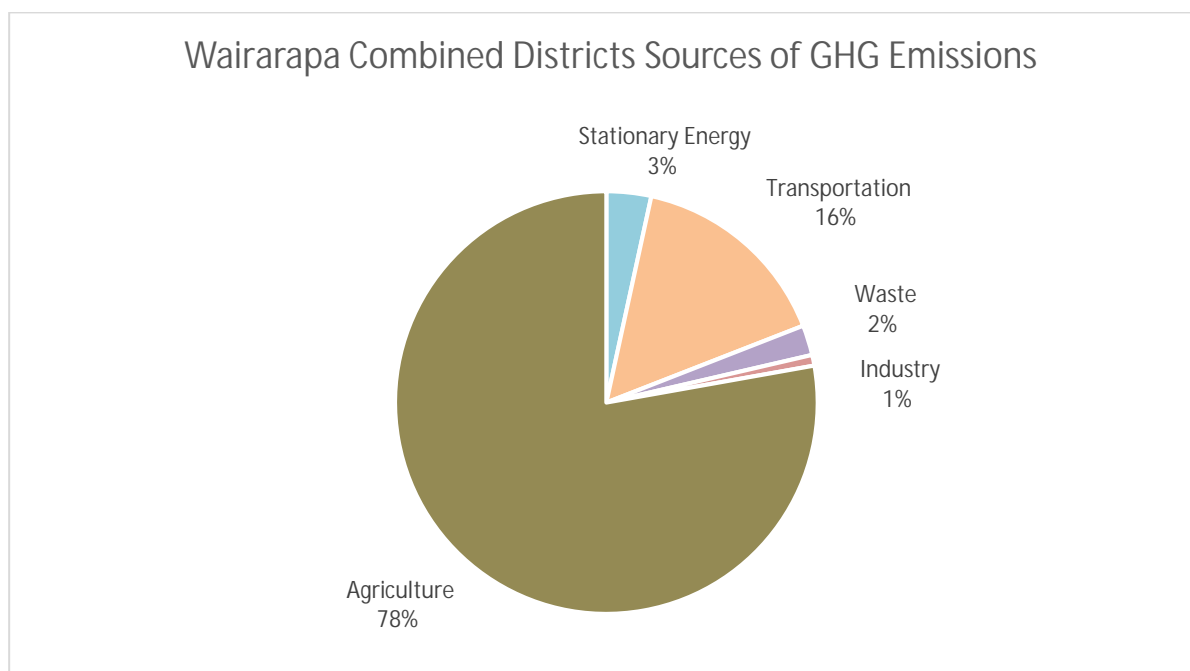
Discussion of per capita emissions is limited to when it is useful for comparing emission figures across the region or with other territorial authorities. Net emissions including results from forestry resources are reported separately.

### 3.1 Overall results

During the 2018/19 reporting period, the Wairarapa Combined Districts (WCD) emitted **gross 1,734,320 tCO<sub>2</sub>e** and **net 353,460 tCO<sub>2</sub>e** emissions. This equates for approximately 41% of the Wellington region's total gross emissions for the reporting year.

The population in 2019 was approximately **47,590** people, resulting in per capita gross emissions of **36.4 tCO<sub>2</sub>e/person**. Agricultural emissions are the largest contributor to the inventory for the district, followed by Transport (refer to Figure 2 and Table 1).

**Figure 2: Wairarapa Combined District's GHG gross emissions split by sector.**



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

**Stationary Energy:** Producing 59,293 tCO<sub>2</sub>e in 2019, stationary energy contributes to 3.4% of total gross emissions. Electricity consumption was the cause of 34,550 tCO<sub>2</sub>e, or 2% of the Wairarapa's total gross emissions.

- Industrial stationary energy consumption accounts for 28% of stationary energy emissions (16,560 tCO<sub>2</sub>e).
- Residential stationary energy consumption accounts for 22% of stationary energy emissions (13,124 tCO<sub>2</sub>e).

- Commercial stationary energy consumption accounts for 16% of stationary energy emissions (9,450 tCO<sub>2</sub>e).
- The remaining 34% of stationary energy emissions (20,159 tCO<sub>2</sub>e) were produced by diesel and petrol, which were not allocated to the above categories.

**Transportation:** The second highest emitting sector, transport, produced 271,511 tCO<sub>2</sub>e in the reporting year (15.7% of Wairarapa's gross total emissions). Most of these emissions can be attributed to On and Off-Road transportation (Petrol and Diesel) within the Wairarapa, which produced a total of 196,844 tCO<sub>2</sub>e (73% of the sector's emissions and 11% of the Wairarapa's total gross emissions). The rest of the transport emissions are produced by Wairarapa's share of the emissions associated with air, rail, LPG, Bus Electricity and port activities totalling 74,666 tCO<sub>2</sub>e (28% of the sector's total emissions and 4% of WC's total gross emissions).

**Waste (solid & wastewater):** Waste originating in the Wairarapa (solid waste and wastewater) produced 39,950 tCO<sub>2</sub>e in 2019 which comprises 2.3% of the area's total gross emissions. Solid waste produced the bulk of this, 32,665 tCO<sub>2</sub>e in 2019, making up 82% of total waste emissions.

Solid waste emissions include emissions from both open landfills and closed landfills that are still emitting GHGs. Both open and closed landfills emit landfill (methane) gas from the breakdown of organic materials disposed of in the landfill. Open landfills contributed 25,415 tCO<sub>2</sub>e (1.5%) and closed landfills 7,251 tCO<sub>2</sub>e (0.4%) to gross emissions respectively.

Wastewater produced 7,285 tCO<sub>2</sub>e making up 0.4% of total waste emissions. Wastewater tends to be relatively small emission source compared to solid waste as advanced treatment of wastewater produce 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 the Wairarapa, which due to confidentiality of data, are reported as a single value. IPPU emissions do not include energy use from industrial manufacturing, which is included in the relevant stationary energy sub-category (e.g. coal, electricity and/or petrol and diesel).

IPPU in the Wairarapa produced 14,219 tCO<sub>2</sub>e in 2019, contributing 0.8% to the area's total gross emissions.

**Agriculture:** The agricultural sector emitted 1,349,348 tCO<sub>2</sub>e in 2019. This is the largest contributor to the area's total gross emissions (77.8%). Enteric fermentation produced 80% of the Wairarapa's agricultural emissions (1,081,636 tCO<sub>2</sub>e). Most of the remaining agricultural emissions were produced from manure from grazing animals on pasture (164,862 tCO<sub>2</sub>e).

**Forestry:** The Wairarapa has a regenerative native forested area which includes Manuka, Kanuka and Broadleaved Hardwoods. Regenerating natives occupy 98,983 ha with exotics occupying a further 51,541 ha of land. In total, 2,489,992 tCO<sub>2</sub>e were sequestered by forests in the Wairarapa in 2019.

Of the total sequestered CO<sub>2</sub>, native forests sequestered 616,702 tCO<sub>2</sub>e while exotic forests sequestered 1,873,290 tCO<sub>2</sub>e in 2019. With emissions from harvesting of forestry producing 1,109,132 tCO<sub>2</sub>e, the forestry sector is a net-negative emitting sector (1,380,860 tCO<sub>2</sub>e in 2019).

The detailed break-down of emissions into sub-categories for each sector is provided in Table 1, including the percentage contribution per sector and the total gross emissions (excl. forestry).

**Table 1:** Summary of Wairarapa Combined District's gross emissions split by Sector and associated sub-categories.

Sector	tCO <sub>2</sub> e	% Gross	% Sector
<b>Stationary Energy</b>			
Electricity Consumption	31,928	1.8%	53.8%
Electricity T&D Loss	2,622	0.2%	4.4%
Natural Gas	-	0.0%	0.0%
Natural Gas T&D Loss	-	0.0%	0.0%
LPG	3,130	0.2%	5.3%
Stationary Petrol & Diesel Use	20,159	1.2%	34.0%
Coal	718	0.0%	1.2%
Biofuel / Wood	737	0.0%	1.2%
<b>Total:</b>	<b>59,293</b>	<b>3.4%</b>	<b>100%</b>
<b>Transportation</b>			
Petrol	91,514	5.3%	33.7%
Diesel	105,330	6.1%	38.8%
Rail Emissions	696	0.0%	0.3%
Bus (Electric)	9	0.0%	0.0%
Jet Kerosene	23,367	1.3%	8.6%
Av Gas	51	0.0%	0.0%
Marine Diesel	47,294	2.7%	17.4%
Light Fuel Oil	3,018	0.2%	1.1%
LPG	232	0.0%	0.1%
<b>Total:</b>	<b>271,511</b>	<b>15.7%</b>	<b>100%</b>
<b>Waste</b>			
Solid Waste Disposal	32,665	1.9%	81.8%
Wastewater	7,285	0.4%	18.2%
<b>Total</b>	<b>39,950</b>	<b>2.3%</b>	<b>100%</b>
<b>IPPU</b>			
Industrial Emissions	14,219	0.8%	100.0%
<b>Total</b>	<b>14,219</b>	<b>0.8%</b>	<b>100%</b>
<b>Agriculture</b>			
Agriculture	1,349,348	77.8%	100%
<b>Total</b>	<b>1,349,348</b>	<b>77.8%</b>	<b>100%</b>
<b>Forestry</b>			
Exotic Forest Sequestration	-1,873,290	N/A	N/A
Native Forest Sequestration	-616,702	N/A	N/A
Harvest Emissions	1,109,132	N/A	N/A
<b>Total</b>	<b>-1,380,860</b>	<b>N/A</b>	<b>100%</b>

<b>Total Emissions</b>	<b>tCO<sub>2</sub>e</b>
<b>Total (net) incl. forestry</b>	<b>353,460</b>
<b>Total (gross) excl. forestry</b>	<b>1,734,320</b>

### 3.2 Biogenic emissions

Biogenic CO<sub>2</sub> and methane emissions are stated in Table 2 and Table 3, respectively.

Biogenic CO<sub>2</sub> emissions from plants and animals are excluded from gross emissions as they are part of the natural carbon cycle. For example, wood biofuels originate from forestry and the Biogenic CO<sub>2</sub> from biofuels is excluded from gross emissions.

Biogenic CH<sub>4</sub> emissions are included in gross emissions due to their relatively large impact on warming relative Biogenic CO<sub>2</sub>. For example, farmed cattle produce Biogenic CH<sub>4</sub> emissions via enteric fermentation that are included in gross emissions.

The importance of Biogenic CH<sub>4</sub> is highlighted in NZ's Climate Change Response (Zero Carbon) Amendment Act. The Act includes targets to reduce Biogenic CH<sub>4</sub> between 24 percent and 47 percent below 2017 levels by 2050, and 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 CO<sub>2</sub> (Excluded from gross emissions)**

<b>Biogenic Carbon Dioxide (Excluded from gross emissions)</b>		
Biofuel	7,759	t CO <sub>2</sub>
Biodiesel	-	t CO <sub>2</sub>
Landfill Gas	-	t CO <sub>2</sub>
<b>Total biogenic CO<sub>2</sub></b>	<b>7,759</b>	<b>t CO<sub>2</sub></b>

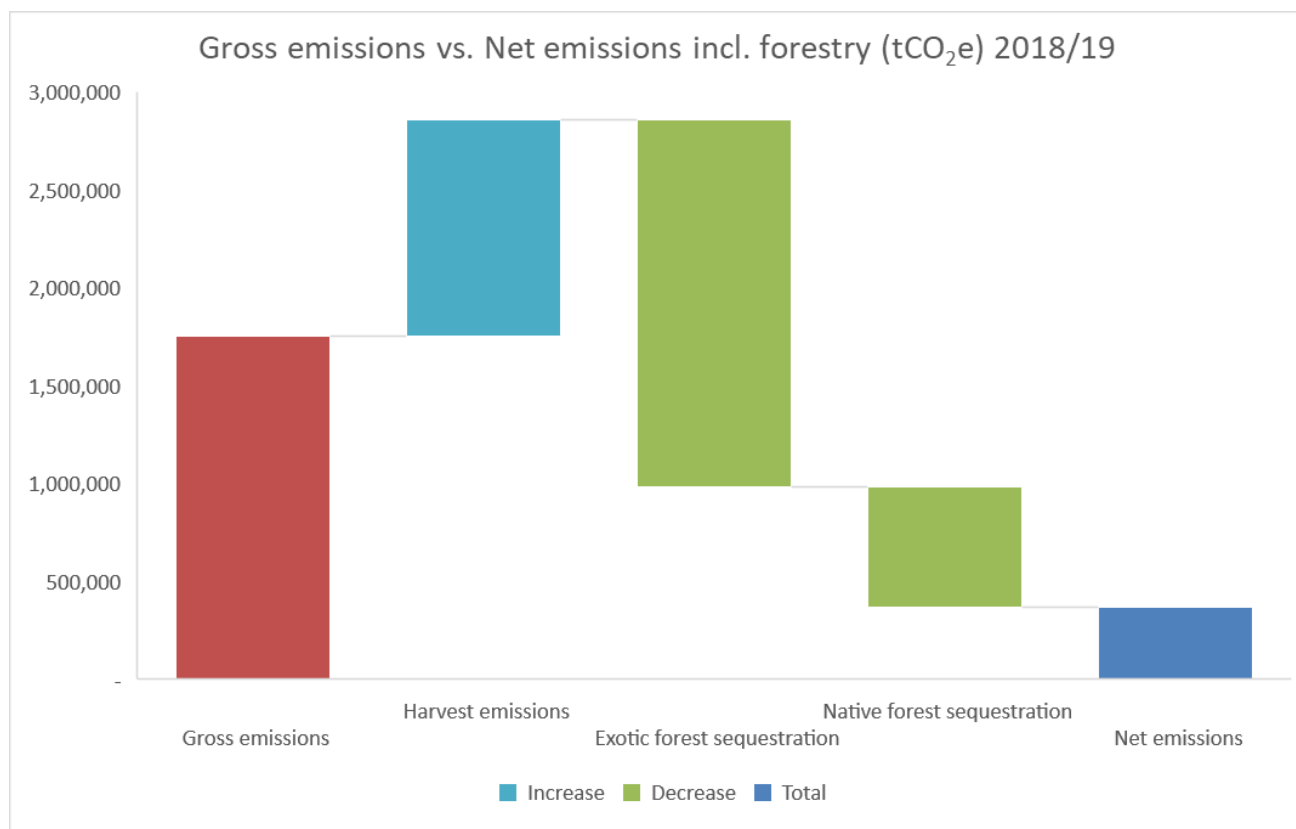
**Table 3 Biogenic Methane (Included in gross emissions)**

<b>Biogenic Methane (Included in gross emissions)</b>		
Biofuel	19	t CH <sub>4</sub>
Biodiesel	-	t CH <sub>4</sub>
Landfill Gas	961	t CH <sub>4</sub>
Wastewater Treatment	187	t CH <sub>4</sub>
Enteric fermentation	31,813	t CH <sub>4</sub>
Manure Management	992	t CH <sub>4</sub>
<b>Total biogenic CH<sub>4</sub></b>	<b>33,972</b>	<b>t CH<sub>4</sub></b>

### 3.3 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 -1,380,860 tCO<sub>2</sub>e due the sequestration of carbon mostly by exotic forest. Net negative emissions from forestry reduce gross emissions by 80% to a total of 353,460 tCO<sub>2</sub>e net emissions. Figure 3 shows gross emissions versus net emissions in 2019 and the impact of sequestration by Forestry.

**Figure 3** Gross versus Net emissions incl. forestry

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.

### 3.4 Comparison with other districts in the region

Table 4 shows gross emission results across the Wellington Region. The Wairarapa contributed to 41% of Wellington Region's total gross emissions for the 2019 reporting year.

With the largest population within the region, Wellington City contributes the highest overall emissions in comparison to the other Wellington Region districts (excluding Wairarapa). Wairarapa's high emissions are due to a large agricultural sector in that district.

**Table 4:** Wellington Region overall emissions - a comparison of districts

	Wellington Region	Wellington City	Porirua City	Kāpiti Coast	Lower Hutt	Upper Hutt	Wairarapa
<b>Total Gross Emissions (tCO<sub>2</sub>e)</b>	4,190,050	1,061,383	304,431	351,245	532,339	206,331	1,734,320
<b>% of Region Gross Emissions</b>	100%	25%	7%	8%	13%	5%	41%

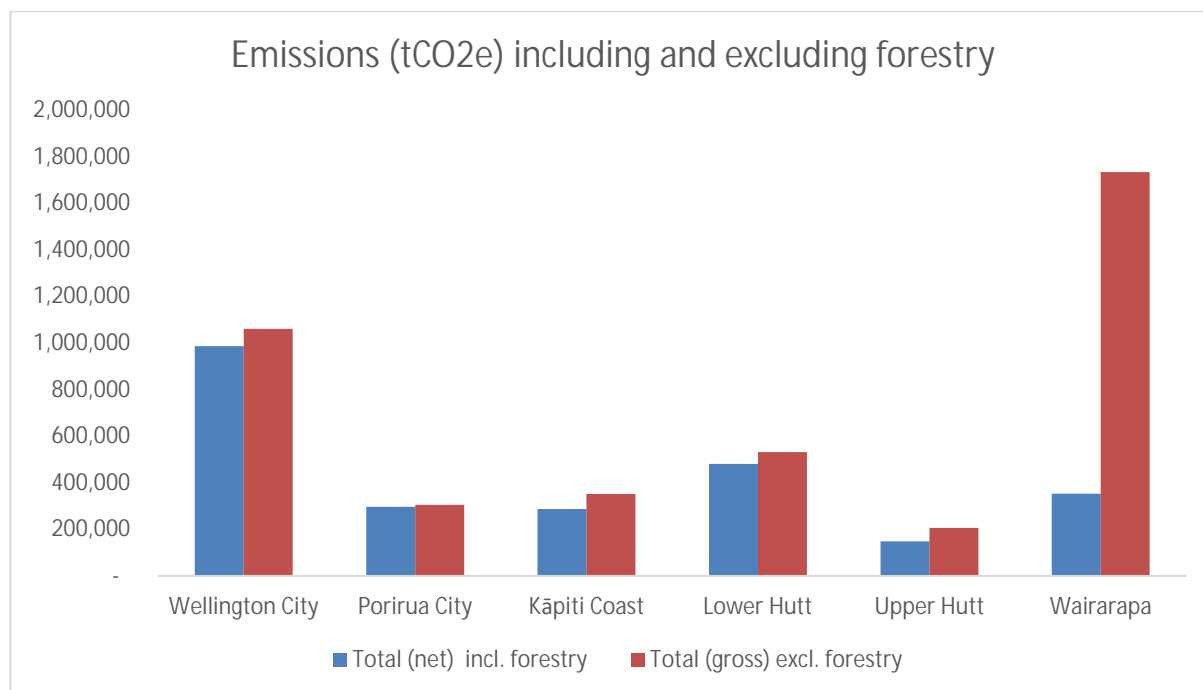
Table 5 shows figures for net emissions including sequestration from forestry. Net emissions produce a widely different pattern of results across the region than gross emissions. For example, net emissions for the Wairarapa, which has the highest gross emissions, are lower than both Lower Hutt and Wellington City.

**Table 5 Net emissions (incl. forestry) in the Wellington Region**

	Wellington Region	Wellington City	Porirua City	Kāpiti Coast	Lower Hutt	Upper Hutt	Wairarapa
<b>Total Net Emissions (tCO<sub>2</sub>e)</b>	2,552,727	986,196	296,815	286,560	480,834	148,862	353,460
<b>% of Region Net Emissions</b>	100%	39%	12%	11%	19%	6%	14%

The influence sequestration of carbon by forests, on gross emissions for The Wairarapa Combined District's, and on other parts of the region, can be seen clearly in Figure 4.

**Figure 4 Gross emissions and net emissions (incl. forestry) in the Wellington Region**



## 4.0 Changes in Emissions Inventory, 2001 to 2019

PART 2 considers the trends in emissions from 2001 to 2019. The focus of these results remains on gross emissions. However, per capita emissions are included when useful. Net emissions are discussed in the context of managing carbon sequestration by forest. Results in this section are supported by further results and data visualisations in Appendix A.

### 4.1 Change in emissions

Wairarapa's GHG inventory data covers 2001 to 2019. Figure 5 shows the change in gross emissions for each sector in the years between 2001 and 2019. The 2019 results can be directly compared with calculated data back to 2001 by using the same data and methodology as this study.

Total gross emissions fell by 7%, from 1,871,095 tCO<sub>2</sub>e in 2001 to 1,734,320 tCO<sub>2</sub>e in 2019. Reductions in emissions from stationary energy, waste and agriculture are responsible for the fall in total gross emissions. As the area's population has risen (by 22%, from 39,090 to 47,590), per capita gross emissions have reduced by 24% from 47.9 tCO<sub>2</sub>e in 2001 to 36.4 tCO<sub>2</sub>e in 2019.

The rest of this section briefly summarises major changes in the sectors that make up community-scale emissions.

- **Stationary Energy:** Emissions from stationary energy decreased in number in this time, from 62,053 tCO<sub>2</sub>e to 59,293 tCO<sub>2</sub>e, a fall of 4%.

Emissions from commercial stationary energy consumption shrank the most over the measurement period by 21% (13,881 tCO<sub>2</sub>e to 9,450 tCO<sub>2</sub>e). Emissions from residential stationary energy consumption also decreased by 19% (18,417 tCO<sub>2</sub>e to 13,123 tCO<sub>2</sub>e). Industrial stationary energy emissions dropped by the least, 14% (22,417 tCO<sub>2</sub>e to 16,560 tCO<sub>2</sub>e). In real terms however, industrial emissions reduced by the largest amount (5,857 tCO<sub>2</sub>e).

The changes in stationary energy emissions are explained most noticeably by the changes in electricity and diesel consumption between 2001 and 2019. Electricity consumption increased by 27% between 2001 and 2019 while associated emissions reduced by 17% (41,501 tCO<sub>2</sub>e to 34,550 tCO<sub>2</sub>e). The fall in stationary energy electricity emissions is largely due to changes in the mix of fuels used for electricity generation in New Zealand e.g. the greater use of renewable energy including wind rather than fossil fuels e.g. oil, gas and coal. The use of fossil fuel to generate electricity in New Zealand has decreased since 2010 and has been replaced by renewable sources. For example, oil for electricity production was phased out and the use of wind power increased.

The emissions from petrol and diesel used for stationary energy have different trends between 2001 and 2019. Petrol emissions increased slightly from 584 tCO<sub>2</sub>e to 678 tCO<sub>2</sub>e. In the same time, diesel emissions increased from 10,953 tCO<sub>2</sub>e to 19,480 tCO<sub>2</sub>e, a rise of 39% and 8,528 tCO<sub>2</sub>e.

LPG, coal and biofuel emissions all reduced between 2001 and 2019.

- **Transport:** Emissions from transport increased in number, and as a proportion of total gross emissions between 2001 and 2019, from 192,807 tCO<sub>2</sub>e (10% of total gross emissions) to 271,511 tCO<sub>2</sub>e (16% of total gross emissions), an increase of 41%.

Road transport is the highest emitting activity within the transport sector. Road emissions increased overall by 24% (34,440 tCO<sub>2</sub>e) during the measurement period. Both on and off-road petrol and diesel emissions increased during this period. Petrol emissions increased by 26% (40,061 tCO<sub>2</sub>e), from 156,783 tCO<sub>2</sub>e in 2001 to 196,844 tCO<sub>2</sub>e in 2019 and diesel emissions rose by 39% (29,732 tCO<sub>2</sub>e), from 75,608 tCO<sub>2</sub>e to 105,339 tCO<sub>2</sub>e.

Marine transport is the Wairarapa's second highest emitting transport sector. Marine transport emissions increased by 192% (33,053 tCO<sub>2</sub>e) between 2001 and 2019, from 17,258 tCO<sub>2</sub>e to 50,312 tCO<sub>2</sub>e. The rise in emissions from marine transport is driven mainly by the increase in the international export of logs from the Wairarapa.



Air travel emissions increased by 33% (5,794 tCO<sub>2</sub>e) from 17,624 tCO<sub>2</sub>e to 23,418 tCO<sub>2</sub>e with rail emissions also increasing, but by a relatively small real amount (269 tCO<sub>2</sub>e) between 2001 and 2019.

- **Waste (solid & wastewater):** Waste emissions are an important measure of progress for reducing environmental impact for many stakeholders. Overall waste emissions decreased by 6% from 42,709 tCO<sub>2</sub>e in 2001 to 39,950 tCO<sub>2</sub>e in 2019. The change in emissions reflects the impact of greater use of landfill gas capture. Gas capture reduces the warming effect of emissions from landfill by either using the methane captured for electricity production or breaking it down by flaring.

Waste continues to emit methane for many years after entering a landfill site. We have calculated annual emissions from currently open, and currently closed, landfill sites (as of 2019). Solid waste emissions from closed landfill sites reduced by 69% (16,192 tCO<sub>2</sub>e) from 23,442 tCO<sub>2</sub>e in 2001 to 7,251 tCO<sub>2</sub>e in 2019. In 2001 solid waste in closed landfill sites made up 55% of total waste emissions for the Wairarapa. By 2019 emissions closed landfill sites accounted for 18% of total waste emissions.

Emissions from open landfills managing solid waste are the biggest single source of total waste emissions in 2019 (64% of total waste emissions). Solid waste emissions from open landfill sites increased by 90% from 13,342 tCO<sub>2</sub>e in 2001 to 25,415 tCO<sub>2</sub>e in 2019. However, since reaching a peak in 2014, emissions have fallen by 30% (10,950 tCO<sub>2</sub>e). The reduction in open landfill emissions indicates the improved management of landfill gases since 2014.

Wastewater emissions are the smallest cause of emissions in the waste sector. As the population of the city has grown (by 22% between 2001 and 2019), associated emissions from the treatment of wastewater have trended upward. Wastewater emissions increased from 5,924 tCO<sub>2</sub>e in 2001 to 7,285 tCO<sub>2</sub>e in 2019, 23% higher.

- **Industry (IPPU):** Industrial Processes and Product Use (IPPU) emissions between 2001 and 2019 were a relatively small part of total gross emissions (representing 0.1% and 0.8% of total emissions in 2001 and 2019 respectively). Emissions from industrial sources jumped to 2,780 tCO<sub>2</sub>e from 14,219 tCO<sub>2</sub>e in this time, an increase of 411%. The increase in the industrial emissions follows developments at the national level in NZ where emissions have risen.
- **Agriculture:** Agriculture contributed by far the most to emissions in the Wairarapa's footprint and dropped by 14%, from 1,570,746 tCO<sub>2</sub>e to 1,349,348 tCO<sub>2</sub>e, between 2001 and 2019. The number of farm animals within the area (e.g. cattle (both dairy and non-dairy), sheep and pigs) fell from 1,984,638 to 1,652,099 in this period. Agricultural emissions are an important source of Biogenic Methane targeted as a reduction opportunity in the Climate Change Response (Zero Carbon) Amendment Act.
- **Forestry:** For the last two decades sequestration levels from regenerating forest have been relatively steady. Sequestration by exotic forest was main source of capturing carbon in this time. Carbon stored by exotic forestry (e.g. pine) rose by 4%, sequestering 1,801,044 tCO<sub>2</sub>e in 2001 compared to 1,873,290 tCO<sub>2</sub>e in 2019. Native forests (e.g. Manuka and Kanuka) stored 617,033 tCO<sub>2</sub>e and 616,702 tCO<sub>2</sub>e, in 2001 and 2019 respectively; a change of just 0.1%.

Data availability and quality of data for harvest emissions has rapidly improved in recent years meaning we can calculate these emissions for the last 20 years. Harvesting emissions increased by 143% from 455,522 tCO<sub>2</sub>e in 2001 to 1,109,132 tCO<sub>2</sub>e in 2019. The growth in harvesting emissions potentially means exotic trees are being removed in greater numbers.

**Figure 5 Gross emissions per year (excluding forestry) from 2001 to 2019**

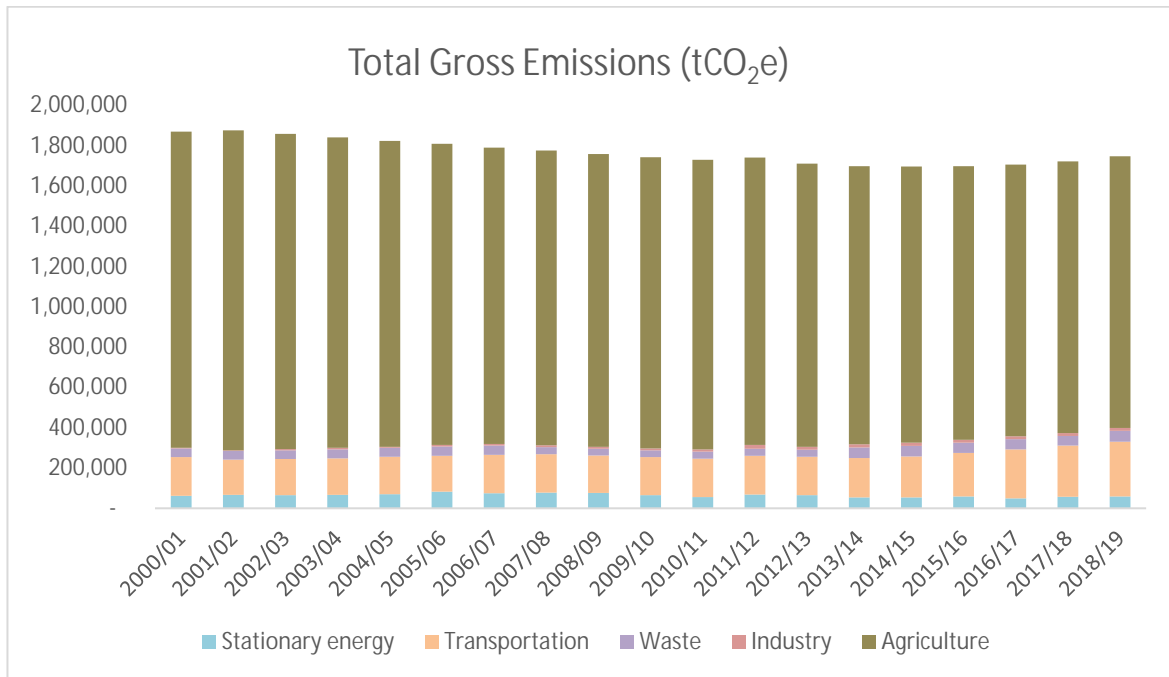
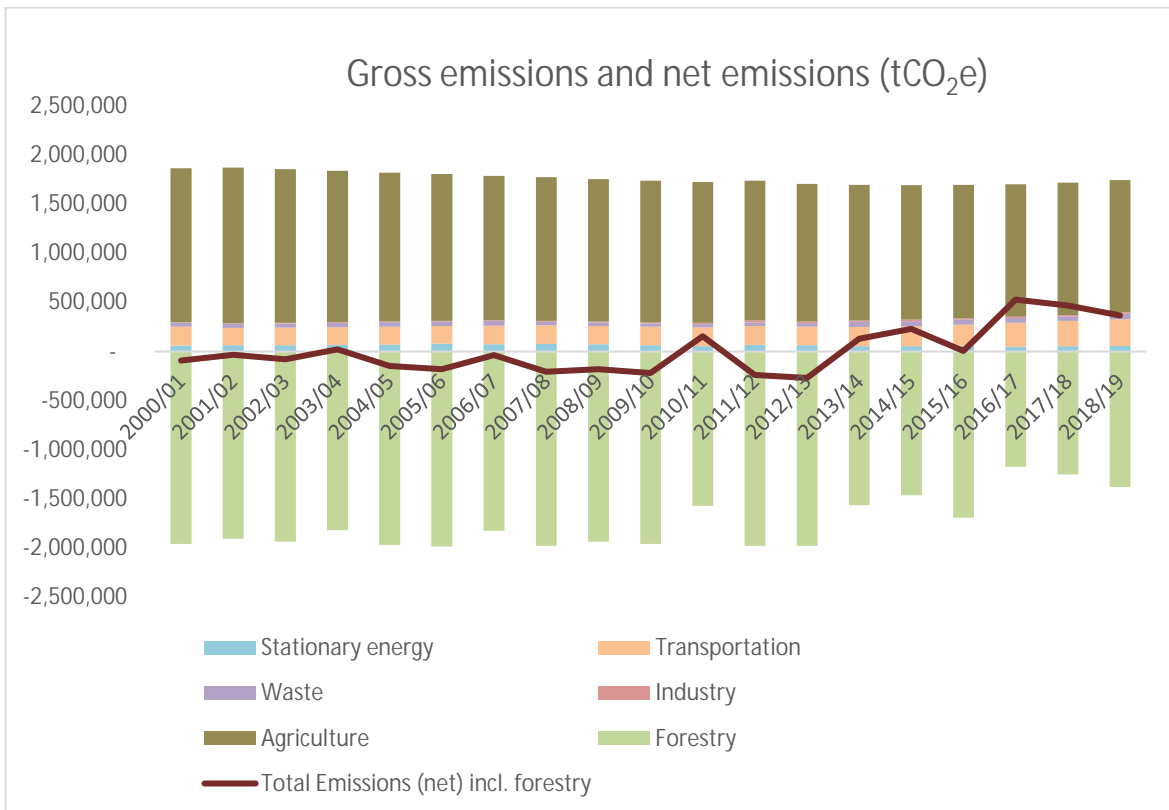


Figure 6 shows the impact of sequestration in the forestry sector on reducing net emissions. Net forestry sequestration reduced by 30% between 2001 and 2019 causing net emissions to increase from net-negative total emissions (-91,460 tCO<sub>2</sub>e in 2001) to net-positive emissions (353,460 tCO<sub>2</sub>e in 2019).

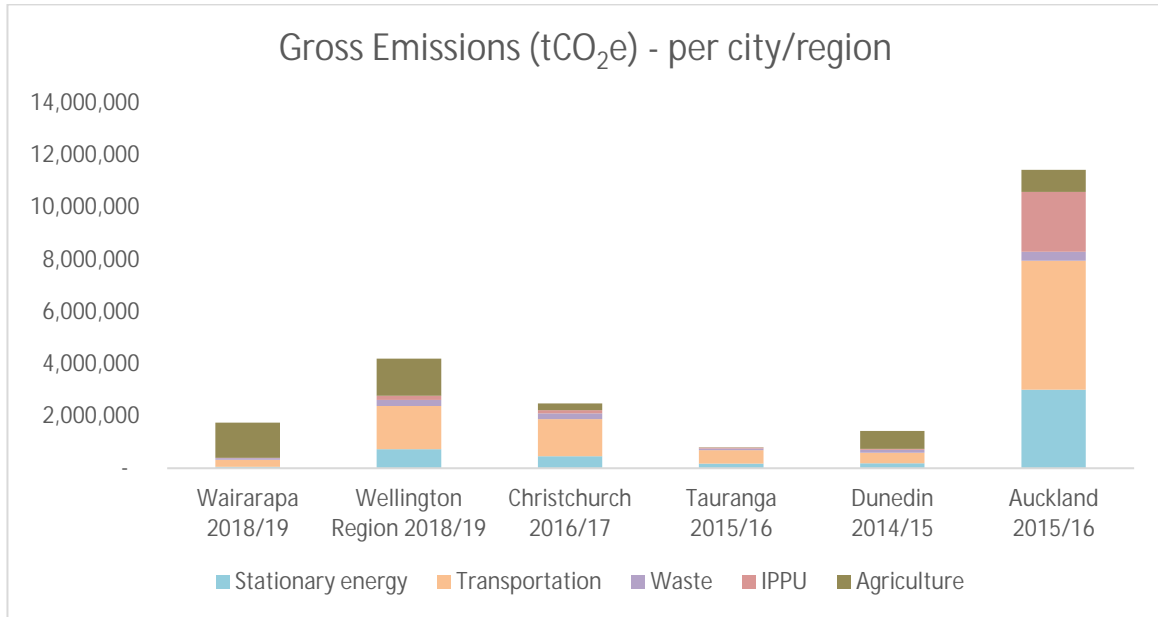
**Figure 6 Annual emissions showing gross and net emissions (including forestry) from 2001 to 2019**



## 5.0 Comparison with other New Zealand cities and regions

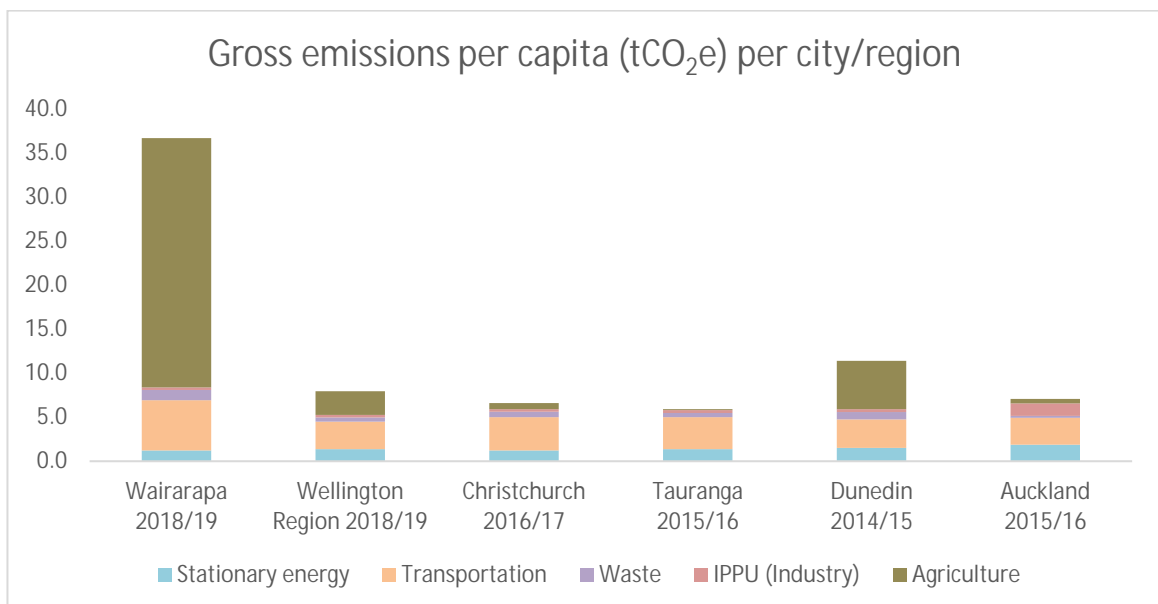
When compared with gross emissions from the Wellington region and other GHG Inventory studies, The Wairarapa has higher gross emissions compared to Tauranga and Dunedin, and lower gross emissions than the other areas. Note that the compared studies were conducted at differing geographic levels and in differing timeframes.

**Figure 7 Comparison of gross emissions by area/region**



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. The Wellington region has substantially lower per capita gross emissions than the Wairarapa mostly due to the large agricultural sector and small population in the Wairarapa. Per capita emissions in the Wairarapa are higher than in the other recent footprint studies presented in Figure 8, even when not considering agriculture.

**Figure 8 Comparison of per capita gross emissions by area/region**



## 6.0 Emissions and other metrics

Figure 9 shows the change in gross emissions when compared to changes in other metrics of interest between 2001 and 2019. Total gross emissions have reduced by 7%, against the backdrop of a 22% growth in population within the Wairarapa. Per capita emissions have fallen roughly in line with the rise in population observed (by 24%).

When emissions grow less rapidly than Gross Domestic Product (GDP) as a measure of income then this process is known as decoupling. The term decoupling is an expression of the desire to mitigate emissions without harming economic wellbeing. A full discussion of decoupling of emissions is beyond the scope of this project. However, the changes in emissions and GDP illustrated in Figure 9 suggest at a high-level decoupling has occurred in the last two decades. GDP was 42% higher in 2019 than in 2001 while emissions per unit of GDP declined by 35%.

The exact drivers for the decoupling of emissions from GDP are difficult to pinpoint. New policies, for restructuring the way to meet demand for energy, food, transport and housing will all contribute. In this case, both direct local actions including reducing the emissions from landfill gas and indirect national trends e.g. reduction of emissions from electricity generation will have contributed to the trends noted.

## 7.0 Closing statement

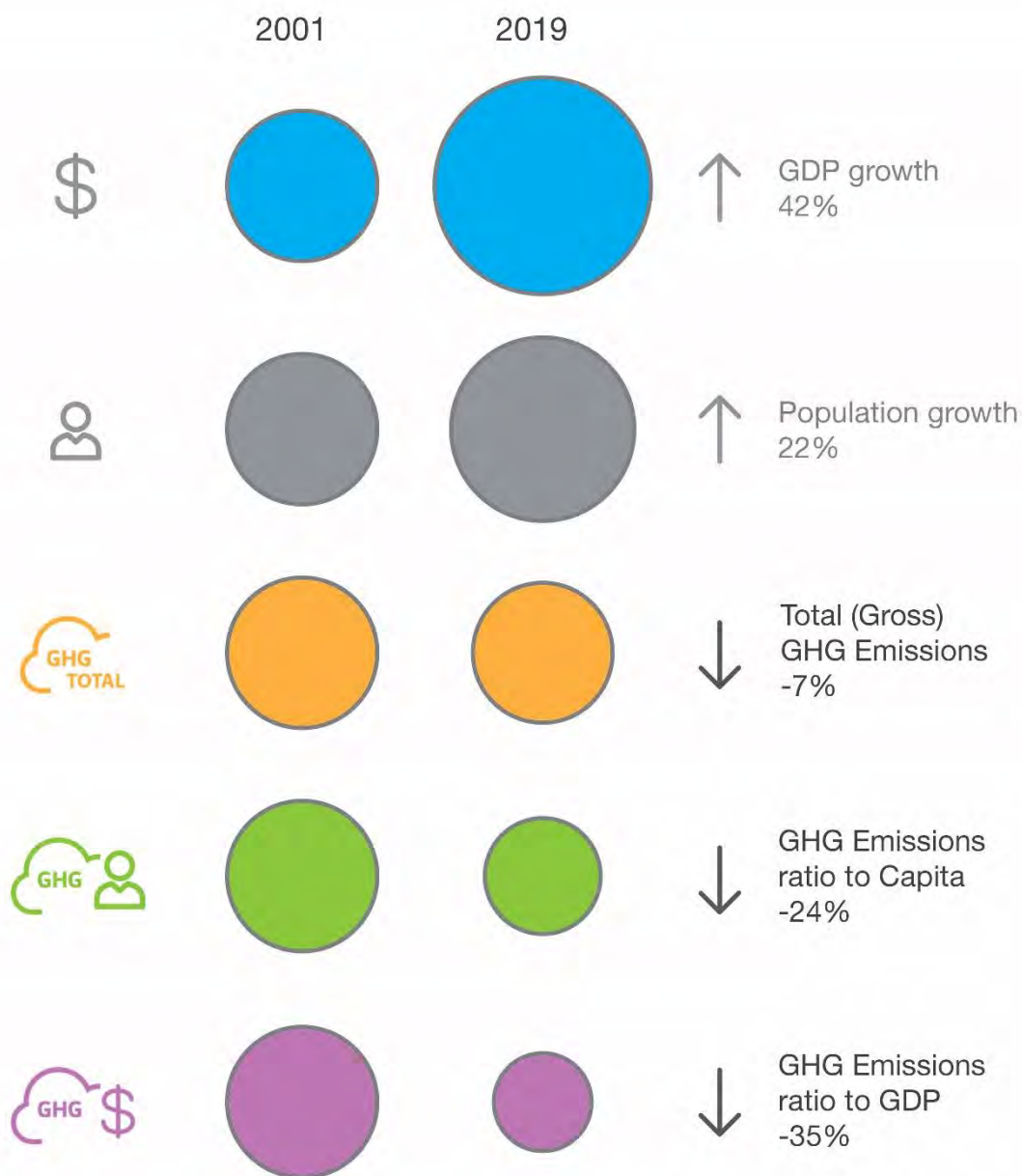
Wairarapa's updated GHG inventory provides information for the Council to demonstrate progress in emissions reductions as well as providing a continuing platform for action by the District Council, their stakeholders and the wider community. Sector-level data allows the District Council to target and work with those sectors, e.g. transport, which contribute the most emissions to the footprint.

Understanding of the extensive and long-lasting effects of climate change are improving all the time. The database the Council has developed over the last two decades provides an excellent foundation to implement informed decisions and policies to reduce emissions and to address climate change adaptation across the region.

We encourage councils to use the results of this study to update current climate actions plans. For example, results clearly highlight the need for rapid action to tackle the growth in emissions from air travel, marine shipping, and diesel consumption. Stationary Energy accounts for around a third of emissions; facilitating improvements in energy efficiency within this sector may be an effective method of reducing overall emissions.

Figure 9 Change in total gross emissions compared to other metrics of interest

### Wairarapa Emissions change over time 2001 – 2019



Decoupling GDP Growth from GHG Emissions

## 8.0 Limitations

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# Appendix A

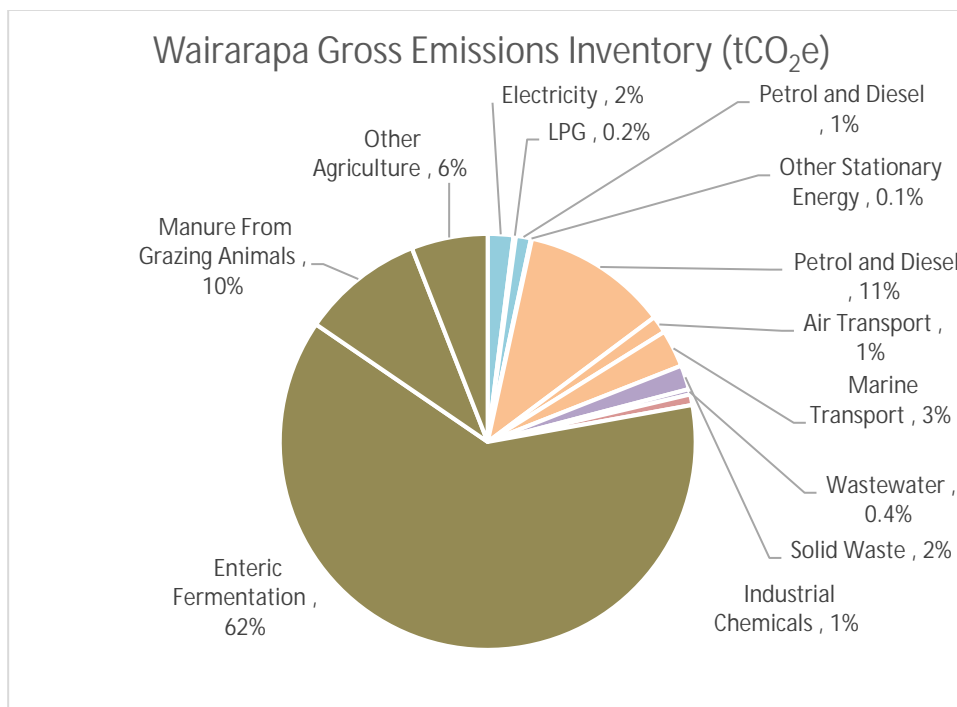
## Emission Breakdowns

## Appendix A Emission Breakdowns

The pie charts below show a breakdown of the proportion of gross emissions from each sector and source. The second pie chart is focussed on the sources of emissions from stationary energy and transport emission sources.

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

**Figure 10 Total gross emissions breakdown, by source (emissions representing less than 1% of total emissions are not shown)**



**Figure 11 Total gross emissions breakdown, by source, highlighting agriculture emissions**

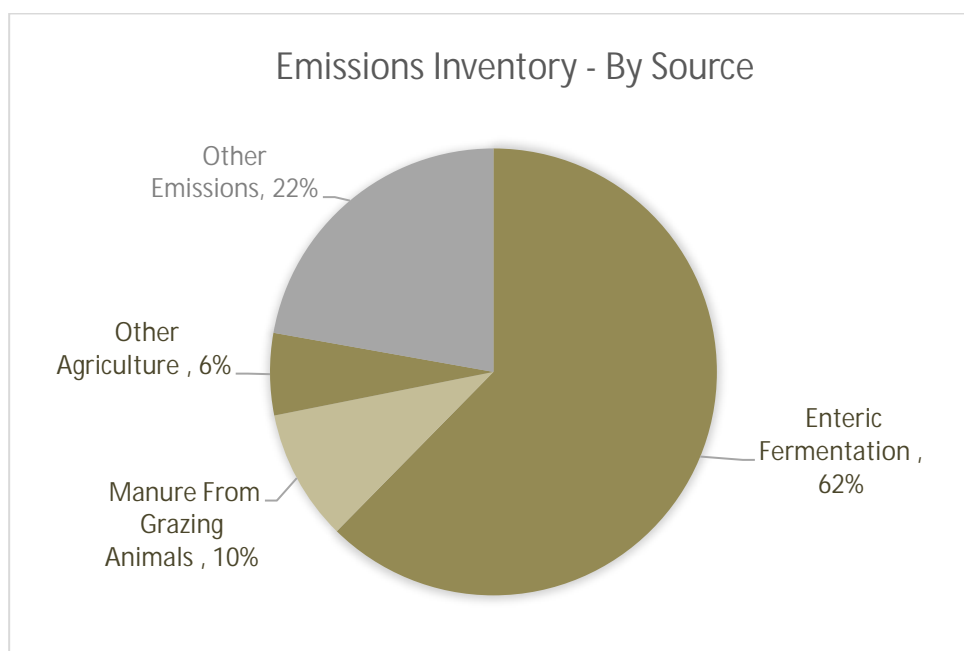
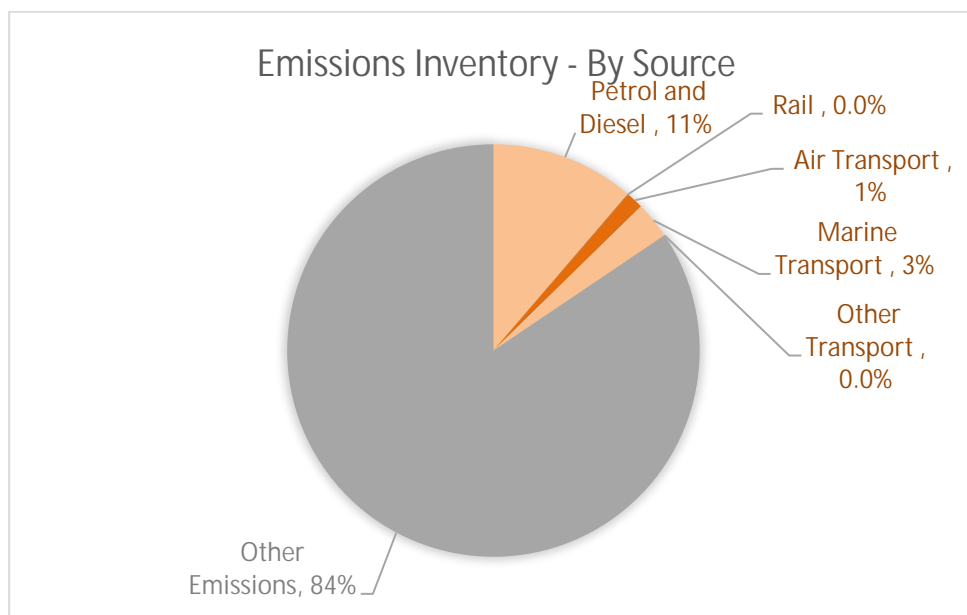




Figure 12 Total gross emissions breakdown, by source, highlighting transport emissions



### 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 district-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 district boundary. BASIC+ emissions reporting includes those emissions excluded from BASIC emissions reporting (which is equal to the total gross emissions reported in this study).

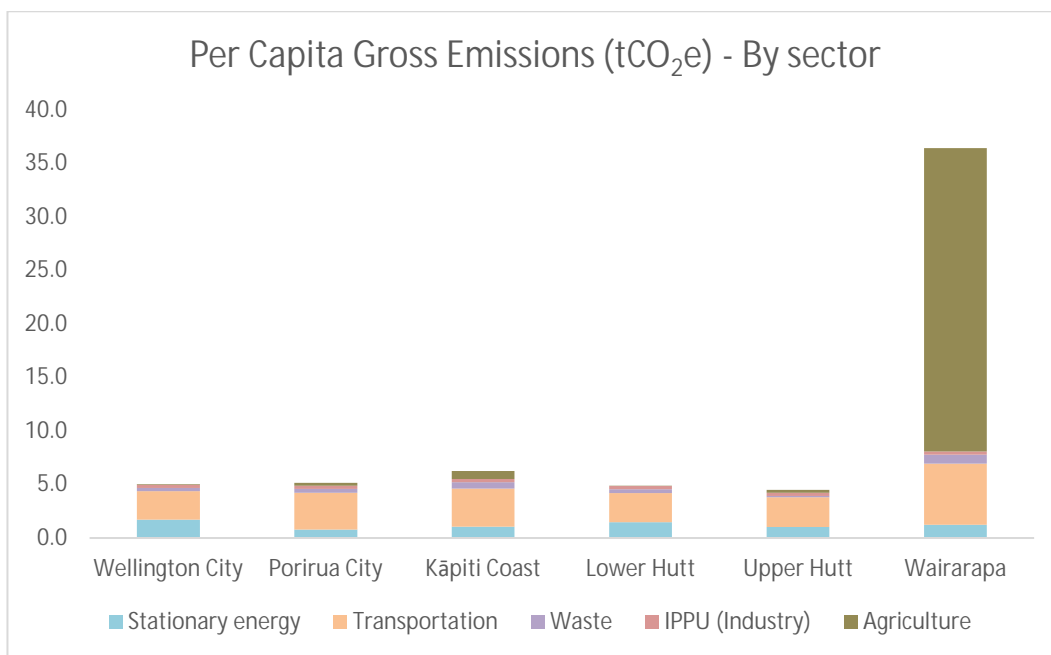
Table 6 BASIC and BASIC+ emissions

	Emissions tCO <sub>2</sub> e
<b>BASIC</b>	368,132
BASIC per capita	7.7
<b>BASIC+</b>	1,734,320
BASIC+ per capita	36.4

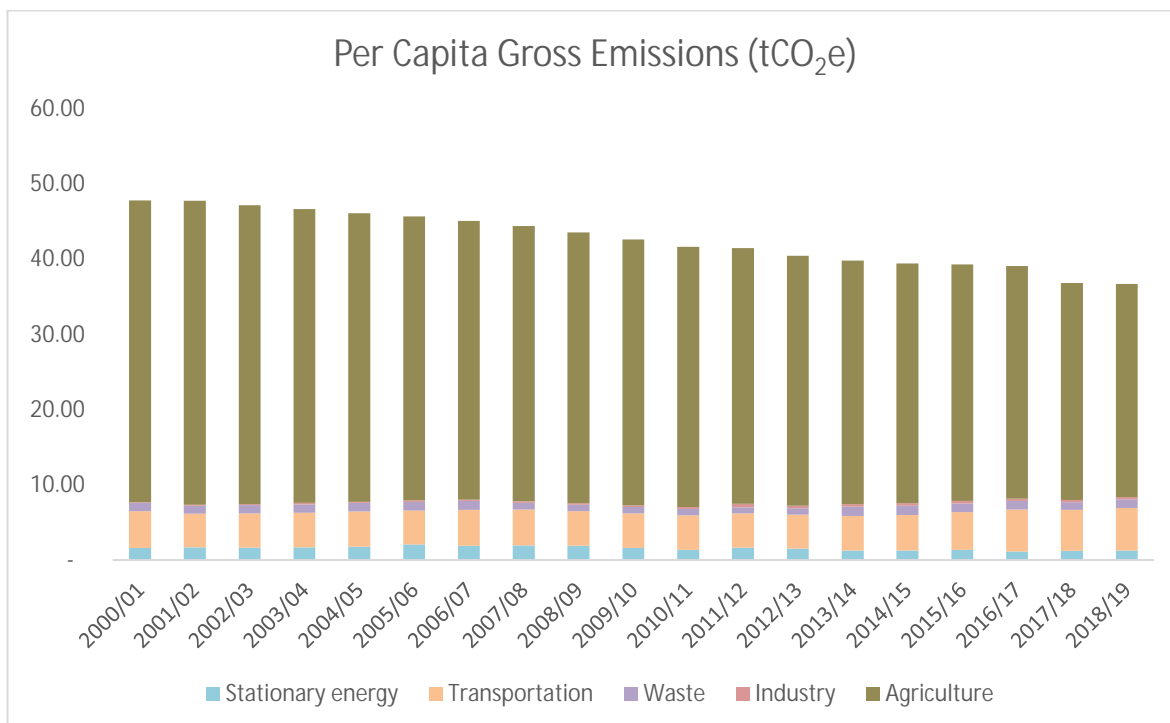
### Per capita emissions

On a per capita basis, Wairarapa (36.4 tCO<sub>2</sub>e) has by far the highest gross emissions compared to the other areas of the Wellington region. The Wairarapa’s particularly high per capita emissions are predominantly due to a large agricultural sector in the region, combined with a small population. However, even when not considering agricultural emissions, the Wairarapa still has the highest per capita emissions.

**Figure 13 A comparison of per capita gross emissions (tCO<sub>2</sub>e) between territorial areas in the Greater Wellington Region.**



**Figure 14 Per capita gross emissions, by sector (2001-2018/19)**



# Appendix B

## Assumptions

Nova Sector / Category	Assumption and Exclusions
General	
Geographical Boundary	LGNZ local council mapping boundaries have been applied
Population	Where district-level data was not accessible, information was calculated via a per capita break-down of national or regional level data. This is detailed in each emission section below.
Transport Emissions	
Petrol and Diesel:	<p>Regional sales figures were used. A per capita split was then applied to distribute the sales figures between each district by population.</p> <p>The transport vs stationary energy share of the fuel was calculated using national inventory data.</p> <p>The on-road and off-road split of petrol and diesel was calculated using the Energy Efficiency and Conservation Authority (EECA) national percentage split.</p> <p>On-road is defined as all standard transportation vehicles used on roads e.g. cars, bikes, buses.</p> <p>Off-road is defined as machinery for agriculture, construction and other industry used off-roads.</p>
Rail Diesel	<p>Consumption was calculated by Kiwi Rail using the Induced Activity method for system boundary. The following assumptions were made:</p> <ul style="list-style-type: none"> <li>- Net Weight is product weight only and excludes container tare (the weight of an empty container)</li> <li>- The Net Tonne-Kilometres (NTK) measurement has been used. NTK is the sum of the tonnes carries multiplied by the distance travelled.</li> <li>- National fuel consumption rates have been used to derive litres of fuel for distance.</li> <li>- Type of locomotive engine used, and jurisdiction topography, have not been incorporated in the calculations.</li> </ul> <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 district, arrival district and any district the freight stopped at along the way. If the freight travelled through but did not stop within a district, no emissions were allocated.</p>
Jet Kerosene	<p>Calculated using the Induced Activity method as per rail diesel.</p> <p>Wellington Airport serves the entire Wellington Region and therefore its associated emissions have been split on a per capita basis across each district.</p> <p>An estimate was calculated for flights departing and arriving from Wellington Airport:</p>

	<ul style="list-style-type: none"> <li>- Departures and arrivals information, and aircraft models, were used to calculate flight numbers and represent the models of aircraft for the years between 2016 and 2019.</li> <li>- All flight-path distances between Wellington and the destination / origin airport were calculated.</li> <li>- A density for kerosene of 0.81g/cm<sup>3</sup> was applied to all trips.</li> <li>- Fuel Burn (kgCO<sub>2</sub>e/km) for each model of aircraft was sourced where accessible. Where not available, the national inventory average figures were applied.</li> <li>- As per the induced activity method, only 50% of emissions calculated per one-way arrivals and departures were allocated to Wellington Airport. The remaining 50% of each leg was allocated to the originating or destination airport.</li> <li>- Light aircraft emissions were not calculated. Only a very small number occur, so assumed to be insignificant.</li> <li>- Fuel use data for aviation was also collected and used when possible to provide consistency with previous reporting.</li> </ul> <p>Scope 2 electricity use by airport / planes are incorporated within the general electricity consumption data for the district.</p>
Aviation Gas	<p>The total volume of aviation gas consumed by Wellington Airport has been split between the districts on a per capita basis. This reflects the assumption made that Wellington Airport serves the entire Wellington region and not just the district in which it is situated.</p> <p>Av Gas consumption was estimated based on community carbon footprints developed for other regions in New Zealand.</p>
Marine Diesel	<p>Port Operations:</p> <ul style="list-style-type: none"> <li>- As per the induced activity method, only 50% of emissions calculated per one-way arrivals and departures were allocated to Wellington Port (CPL). The remaining 50% of each leg was allocated to the originating or destination port.</li> <li>- Wellington City Council and Hutt City Council share equally the emissions generated by the East by West ferries.</li> <li>- International shipping passing through Wellington Port (CPL) was split by weight of cargo into 'Logs' and 'All other cargo'. Emissions generated by 'All other cargo' has been allocated on a per capita basis between all districts in the Wellington Region. Emissions generated by 'logs' (over 50% of total international shipping emissions) was split between districts, proportionally, by the percentage share of district forest area of harvest age (&gt;26 years old).</li> </ul>
Light Fuel Oil	<p>Calculated using the Induced Activity method as per the rail and aviation data.</p> <p>Does not include fuel use for private boating</p>
LPG	<p>North Island national consumption figures were used.</p> <p>LPG consumption and associated emissions have been split on a per capita basis across each district.</p>
Bitumen	Not calculated
Lubricants	Not calculated
<b>Stationary Energy Emissions</b>	
Electricity Demand	<p>Electricity demand has been calculated using national-level demand figures (kWh) from the MBIE, broken down on a per capita basis across each district, and district-specific Grid Exit Point data from the Electricity Authority (New Zealand).</p>

	The breakdown into sectors is based on NZ average consumption per sector (residential, commercial and industrial).
Electricity Generation	There is electricity generation in the Wellington 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.
Public transport electricity	There are electrified public transport systems in the Wellington region. Data has been provided at the regional level and broken down on a per capita basis for each district as public transport systems cross district boundaries.
Coal production	Not Calculated: There are no active coal mines within the region. (NZP&M 2019)
Coal Consumption	Consumption estimates based on national Commercial and Residential consumption for reporting years.  Consumption and associated emissions have been split on a per capita basis across each district.
Biofuel and Wood Consumption	Consumption estimates based on national Commercial and Residential emissions for biofuel use (provided New Zealand Greenhouse Gas Emissions 1990 -2015 (MfE 2017)).  Consumption and associated emissions have been split on a per capita basis across each district.
LPG Consumption	National LPG sales data has been provided by the LPG Association.  Consumption and associated emissions have been split on a per capita basis across each district.
Natural Gas Consumption	No assumptions were made around the district's general consumption data received from Vector. This information includes gas consumed by industrial, commercial and residential activities.
Coal Fugitive Emissions	Not Calculated: There are no active coal mines within the region. (NZP&M 2019)
Oil and Gas Fugitive Emissions	Not Calculated: There are no gas or oil processing plants within the region.
Biogenic Emissions	Consumption estimates based on national Commercial and Residential emissions for biofuel use (New Zealand Greenhouse Gas Emissions 1990 -2017 (MfE 2019)).  Consumption and associated emissions have been split on a per capita basis across each district.
<b>Agricultural Emissions</b>	
General	No assumptions were made during the collection of agricultural data as it was sourced from district-specific data provided by Statistics NZ and the Ministry for the Environment National Inventory.
<b>Solid Waste Emissions</b>	
Open Landfills	Wairarapa Combined Districts data prior to 2014 is estimated based on population figures and NZ average waste generation per person per year. From 2014, data includes waste sent to Bonny Glen Landfill in the Horizons Region. This volume is included in the Wairarapa Combined Districts inventory and subtracted from the Horizon Region's inventory to avoid double-counting.
Landfill Gas Recovery	LFG efficiency has been estimated based on LFG generation from waste deposited and reported LFG extraction volumes.
Closed Landfills	Data provided at the district level.
<b>Waste Water Emissions</b>	

Waste Water Volume	Estimate based on resource consents data for Wairarapa Waste Water Treatment systems.
Biochemical Oxygen Demand (BOD)	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.  BOD has been assumed using influent composite samples and inlet flow metres.
Population connected to WWTP or Septic tanks	Population connected to waste water treatment plant or septic tanks has been provided at the district level.
Industrial Emissions	
Industry & Solvent Emissions	Calculated from MfE National Inventory data, as this the latest, most recently available data on the required solvents for the calculations to be undertaken. Emissions are estimated on a per capita basis.
Industrial Activity	No information could be obtained from Industry representatives within the district. National level data has been used and split on a per capita basis across each district.
Forestry Emissions	
Exotic Wood harvested	District figures were calculated using the assumed percentage share of district 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 EF have been applied.

# PLANNING AND REGULATORY COMMITTEE

17 JUNE 2020

## AGENDA ITEM B3

### PLANNING AND ENVIRONMENT GROUP REPORT

#### **Purpose of Report**

To update the Planning and Regulatory Committee on the activities of the Planning and Environment Group and progress against Annual Plan performance measures.

#### **Recommendations**

Officers recommend that the Committee:

1. *Receive the Planning and Environment Group Report.*

## **1. Resource Management**

### **1.1 Planning Summary**

#### **1.1.1. General**

The Planning Team continues to receive a high number of consent applications, a range of planning enquiries, compliance matters and growing policy project work. Careful application assessment and consent decision making has continued through the months of the Covid 19 pandemic to ensure timely decisions and avoidance of application backlog which is pleasing.

#### **1.1.2. South Wairarapa Spatial Plan**

The Draft Spatial Plan Discussion Document looking out to 2050 was presented to Council on 15 May 2019. The integrated work saw the release of the Spatial Plan Discussion Document on 10 July, calling for feedback comments by 16 August. A total of 134 submissions were received in response to the Spatial Plan Discussion Document. An update and options approach on engagement for the South Wairarapa Spatial Plan was presented to Council on 18 March and more recently. A workshop is being scheduled to discuss the form and timeframes for the spatial plan, and taking into account the impact of Covid 19.

#### **1.1.3. District Plan Review**

The earlier work on this involved an officers' meeting late January at Carterton between MDC, Carterton District Council (CDC), SWDC and Boffa Miskell staff. Further meeting recently convened to progress this review and topics. Review to be in line with the government/MFE



National Planning Standards for future District Plans. WCDP became operative in 2011, required to be reviewed after 10 years. Review of a District Plan can take around 2 years. Recently, have called for expressions of interest, through manager Dave Gittings CDC. The CE of MDC sought that further expressions of interest for the review work be pursued. Of the ten consultancy firms that responded and put in applications to undertake the review, Boffa Miskell were clearly identified as the preferred provider to support the review of the WCDP.

#### **1.1.4. Dark Sky**

A report on the process for a council adopted plan change for review of the SWDC outdoor lighting rules to support a proposed dark sky reserve was presented to Council. Plan change to be based on approach used at Mackenzie DC. Further checking done on the extent of need to change outdoor lighting rules alongside advice from Carterton. Change to lighting on highways a focus, discussion with NZTA. A Memorandum of Understanding (MOU) on the proposed Dark Sky Reserve compiled for commitment by the three Wairarapa Council's. A recent visit by IDSS representatives from USA, and changes to outdoor lighting rules via a Council initiated plan change to the WCDP, by Perception Planning. Wairarapa Dark Sky Society are focused on their need to measure existing night light levels, funding, economic plan, preparing for certification. A draft of the Wairarapa International Dark Sky/Outdoor Artificial Lighting Plan Change has been compiled and is being reviewed for upcoming presentation to the Committee.

#### **1.1.5. Review of Notable Trees Register**

Public notification of the updated tree register was extended to 17th May 2019, to allow property owners identified as having listed trees overhanging their properties a chance to make submissions and for consultation on the Planning Maps. Total of 37 submissions were received, summary of the submissions done and was notified. Report done for independent commissioner hearing. Hearing was held in Greytown on 21 November. The Commissioner's decision on plan change to update register was reported to Council in early February 2020. The Commissioners recommendation was adopted and we are currently dealing with an appeal on the listing of one Oak tree.

#### **1.1.6. Greytown Development Area**

Following the decision and notification, the area is subject to an Environment Court appeal. Staff have worked with the two appellants to try and reach agreement on respective matters prior to an Environment Court hearing. The two appeals are both being mediated through two memorandums of understanding. One appeal resolved; other appeal awaits trustee signatures on agreement. This has avoided protracted time/related costs of appeal matters within the Environment Court.

#### **1.1.7. Featherston Tiny Homes/Brookside RC**

The application has involved multiple meetings. The applicant has been requested to provide further information on urban design and traffic assessment. Number of units proposed has lowered from 120 to approx. 100 dwellings. Once the further information has been independently peer reviewed, then there will be a decision on potential limited notification to

surrounding neighbours in line with RMA practice. Applicant, Council planner, independent urban design reviewer meeting 24 Feb to assess this application.

## 2. Building Services

The building team has continued to field technical enquiries, receive new applications and produce building consent decisions pre and during the Covid 19 pandemic which has been a high level of consistent service delivery. This was together with the provision of ongoing site inspections services and technical checks. The recent procedures audit by IANZ identified a small number of procedure improvements which were updated and quickly resolved, and resulted in recent re-accreditation of our BCA, together with positive praise by the auditors.

## 3. Environmental Services

The Environmental Services team has provided helpful advice, support and decision making within the realms of food safety, alcohol, bylaws and dog control areas of work. It has been especially pleasing to see a high level of interest, uptake and positive feedback for the recently delivered training, provided through Council on Food Safety Plans to support operators of food premises. A brief presentation on animal control work has been compiled by Rick Mead for providing answers to recently raised questions, and for sharing knowledge on the scope of dog control work with Councillors.

### 3.1 Resource Management Act - District Plan

*SERVICE LEVEL – Council has a Combined District Plan that proves certainty of land-use/environmental outcomes at the local and district levels.*

RESOURCE MANAGEMENT KEY PERFORMANCE INDICATORS	TARGET	RESULT	COMMENT SOURCE AND ACTIONS TAKEN TO ACHIEVE TARGET
Ratepayers and residents' image of the closest town centre ranked "satisfied"	80%	89%	NRB 3 Yearly Survey October 2018 (2016: 87%)
The district plan has a monitoring programme that provides information on the achievement of its outcomes (AER's)		-	Consultants have established data to be recorded and stored to enable effective reporting against AER's in WCDP. A final monitoring strategy is still to be completed.

### 3.2 Resource Management Act - Consents

*SERVICE LEVEL – All resource consents will be processed efficiently.*

RESOURCE MANAGEMENT KEY PERFORMANCE INDICATORS	TARGET	YTD RESULT	COMMENT SOURCE, AND ACTIONS TAKEN TO ACHIEVE TARGET
Consent applications completed within statutory timeframes	100%	90%	<b>Total 119/32</b>
		91.9%	57/62 Land Use applications were completed within statutory timeframes. NCS
		88.5%	62/70 Subdivision applications were completed within statutory timeframes. NCS
		100%	8/8 permitted boundary activity applications were completed within statutory timeframes. NCS
		-	
s.223 certificates issued within 10 working days	100%	88.5%	47 of 52 s223 certificates were certified within statutory timeframes. NCS. Impacted by the departure of the Planning Manager and team transition from June to August 2019
s.224 certificates issued within 15 working days of receiving all required information (note no statutory requirement)	95%	96%	51 out of 53 s224 certificates were certified. NCS.

### 3.3 Reserves Act – Management Plans

*SERVICE LEVEL – Council has a reserve management plan programme.*

RESOURCE MANAGEMENT KEY PERFORMANCE INDICATORS	TARGET	YTD RESULT	COMMENT SOURCE, AND ACTIONS TAKEN TO ACHIEVE TARGET
Council maintains, and updates reserve management plans as required.	Yes	Yes	RMP's are generally current and appropriate. It is therefore not anticipated that any updates will be undertaken this year.

Six Months Trend		
from 1 <sup>st</sup> December 2019 to 31 <sup>st</sup> May 2020		
Item	No of applications completed within the time frame over the total number of applications	% of applications processed within time frames
Land use consents	36/38 within 20 working days	94%
Subdivision Consents	40/46 in 20 working days	86.9%
223 Certificates	29/29 in 10 working days	100%
224 Certificates	25/25 in 15 working days	100%

3.4 Local Government Act – LIM’s

SERVICE LEVEL – Land Information Memoranda: It is easy to purchase information on any property in the District.

RESOURCE MANAGEMENT KEY PERFORMANCE INDICATORS	TARGET	YTD RESULT	COMMENT SOURCE, AND ACTIONS TAKEN TO ACHIEVE TARGET
LIMs contain all relevant accurate information (no proven complaints)	100%	100%	G:\LIMs\LIMS PROCESSED 2019-2020
Standard LIMs are processed within 10 days	100%	99.5%	216/217 standard LIMs were completed G:\LIMs\LIMS PROCESSED 2019-2020

TYPE	YTD 1 <sup>ST</sup> JULY 2019 TO 31 <sup>ST</sup> MAY 2020	PREVIOUS YTD 1 <sup>ST</sup> JULY 2018 TO 31 <sup>ST</sup> MAY 2019	PERIOD 1 <sup>ST</sup> JAN 2020 TO 31 <sup>ST</sup> MAY 2020	PREVIOUS PERIOD 1 <sup>ST</sup> JAN 2019 TO 31 <sup>ST</sup> MAY 2019
Standard LIMs (Processed within 10 working days)	144	210	69	79
Urgent LIMs (Processed within 5 working)	73	43	35	22
<b>Totals</b>	<b>217</b>	<b>253</b>	<b>94</b>	<b>101</b>

Building Act - Consents and Enforcement

SERVICE LEVEL - Council certifies all consented work complies with the building code, ensuring our communities are safe. The Council processes, inspects, and certifies building work in my district.

PUBLIC PROTECTION KEY PERFORMANCE INDICATORS	TARGET	YTD RESULT	COMMENT SOURCE, AND ACTIONS TAKEN TO ACHIEVE TARGET
Code Compliance Certificate applications are processed within 20 working days	100%	100%	NCS – 305 CCC’s were issued within 20WD YTD
Building consent applications are processed within 20 working days	100%	100%	NCS – 440 consents were issued within 20WD YTD
Council maintains its processes so that it meets BCA accreditation every 2 years	Yes	Yes	Next accreditation review due January 2022. Council was re-accredited in January 2020
BCA inspects new building works to ensure compliance with the BC issued for the work, Council audits BWO’s and Swimming Pools	Yes	Yes	<b>Building Consents</b> Council inspects all new work to ensure compliance (May 2020 – 252 inspections) <b>BWO’s –</b> Total 169 – average of 3 audits per month required, 0 audit carried out May <b>Swimming Pools –</b>

PUBLIC PROTECTION KEY PERFORMANCE INDICATORS	TARGET	YTD RESULT	COMMENT SOURCE, AND ACTIONS TAKEN TO ACHIEVE TARGET
			Total 279 – average of 7 audits per month required. 2 audits carried out in May
Earthquake prone buildings reports received	100%	N/A	Under the new legislation, 248 buildings were identified as potentially Earthquake Prone Buildings (EPB). Of which 203 have now been eliminated as not being EPB. Of the remaining buildings: <b>11</b> - still being assessed by SWDC <b>14</b> - identified as EPB <b>20</b> - require engineer assessment from owners

	<i>Dec 19</i>	<i>Jan 20</i>	<i>Feb 20</i>	<i>Mar 20</i>	<i>Apr 20</i>	<i>May 20</i>
<b>Monthly Building Consents issued</b>	<b>23</b>	<b>27</b>	<b>24</b>	<b>34</b>	<b>39</b>	<b>39</b>
<b>Monthly CCC issued</b>	<b>31</b>	<b>21</b>	<b>24</b>	<b>31</b>	<b>4</b>	<b>16</b>

### *Building Consents Processed*

TYPE – JAN-MAY 2020	NUMBER	VALUE
<b>Commercial</b> (shops, restaurants, rest home – convalescence, restaurant /bar / cafeteria / tavern, motel, commercial building demolition - other commercial buildings)	17	\$10,974,734.00
<b>Industrial</b> (covered farm yards, building demolition, warehouse and/or storage, factory, processing plant, bottling plant, winery)	1	\$33,000.00
<b>Residential</b> (new dwellings, extensions and alterations, demolition of building, swimming and spa pools, sleep-outs, garages, relocations, heaters, solid fuel heaters).	181	\$15,844,313.00
<b>Other</b> (public facilities - schools, toilets, halls, swimming pools)	4	\$124,521.00
<b>Totals</b>	<b>203</b>	<b>\$26,976,568.00</b>

## Environmental Health and Public Protection

### *Dog Control Act – Registration and Enforcement*

*SERVICE LEVEL – Dogs don't wander freely in the street or cause menace to humans or stock.*

PUBLIC PROTECTION KEY PERFORMANCE INDICATORS	TARGET	YTD RESULT	COMMENT SOURCE, AND ACTIONS TAKEN TO ACHIEVE TARGET
Undertake public education, school and community visits to promote safe behaviour around dogs and/or responsible dog ownership	3 visits	0	Letter to go out to schools. Adult education is being organised for at "risk groups" who work out in public spaces such as Council staff/ contractors, meter readers etc.
Complaints about roaming and nuisance dogs are responded to within 4 hours	100%	98.5%	K:\resource\Bylaw Officers\Registers\AC Service Requests.xls 136/137 (unable to locate owner at the time)
Complaints about dog attacks on persons, animals or stock are responded to within 1 hour	100%	100%	25/25

INCIDENTS REPORTED FOR PERIOD 1 JAN 2020 TO 31 MAY 2020	FEATHERSTON	GREYTOWN	MARTINBOROUGH
Attack on Pets	1	-	-
Attack on Person	-	2	3
Attack on Stock	2	-	-
Barking and whining	3	5	1
Lost Dogs	2	1	2
Found Dogs	2	1	2
Rushing Aggressive	3	4	2
Wandering	24	7	10
Welfare	-	-	-
Fouling	-	-	-
Uncontrolled (off leash urban)	2	1	1

	<i>Dec 19</i>	<i>Jan 20</i>	<i>Feb 20</i>	<i>Mar 20</i>	<i>Apr 20</i>	<i>May 20</i>
<b>Nuisance dogs</b>	11	17	17	18	11	12
<b>Attended to within 4 hours</b>	11	17	18	18	11	12
<b>Attack totals</b>	3	0	3	2	3	0
<b>Attacks attended within 4 hours</b>	3	0	3	2	3	0

*Public Places Bylaw 2012 - Stock Control*

*SERVICE LEVEL – Stock don't wander on roads, farmers are aware of their responsibilities.*

<b>PUBLIC PROTECTION KEY PERFORMANCE INDICATORS</b>	<b>TARGET</b>	<b>YTD RESULT</b>	<b>COMMENT SOURCE, AND ACTIONS TAKEN TO ACHIEVE TARGET</b>
Stock causing a traffic hazard is responded to within 1 hour	100%	100%	K:\resource\Bylaw Officers\Registers\AC Service Requests.xls 20/20
In cases where multiple stock escapes (more than 1 occasion) have occurred from a property taking compliance or enforcement or prosecution action against the property owner	100%	-	No incidents
Council responds to complaints regarding animals within 48 hours.	100%	100%	K:\resource\Bylaw Officers\Registers\AC Service Requests.xls 13/13

<b>INCIDENTS REPORTED</b>	<b>TOTAL FOR PERIOD 1 JAN 2020 TO 31 MAY 2020</b>
Stock	14

*Resource Management Act – afterhours Noise Control*

*SERVICE LEVEL – The Council will respond when I need some help with noise control.*

PUBLIC PROTECTION KEY PERFORMANCE INDICATORS	TARGET 19/20	YTD RESULT	COMMENT SOURCE, AND ACTIONS TAKEN TO ACHIEVE TARGET
% of calls received by Council that have been responded to within 1.5 hours	100%	98.8%	<a href="#">K:\resource\Health\Resource Management\Noise Control Complaints</a> 165/167 attended within timeframe

AFTER HOURS NOISE CONTROL COMPLAINTS RECEIVED	YTD 1 JULY 2019 TO 31MAY 2020	PREVIOUS YTD 1 JULY 2018 TO 31MAY 2019	PERIOD 1 JAN 2020 TO 31 MAY 2020	PREVIOUS PERIOD 1 JAN 2019 TO 31 MAY 2019
Total	167	104	84	50

	<i>Dec 19</i>	<i>Jan 20</i>	<i>Feb 20</i>	<i>Mar 20</i>	<i>Apr 20</i>	<i>May 20</i>
<b>Calls</b>	<b>9</b>	<b>8</b>	<b>28</b>	<b>27</b>	<b>7</b>	<b>14</b>
<b>Attended to within 1.5 hours</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



*Sale and Supply of Alcohol Act - Licensing*

*SERVICE LEVEL – The supply of alcohol is controlled by promoting responsible drinking.*

	TARGET 19/20	YTD RESULT	COMMENT SOURCE, AND ACTIONS TAKEN TO ACHIEVE TARGET
Premises are inspected as part of licence renewals or applications for new licences.	100%	78.7% YTD	<p>MAGIQ data. All premises inspected at new or renewal application stage (48/61*).</p> <p>*Number of inspections completed or licences coming up for renewal within the YTD period.</p> <p>For this reporting period (Jan to May) 10 premises are expected to have been completed to align with the 2019/20 target.</p> <p>We have undertaken 12 in this period</p> <p>Total number of licences is subject to change month by month as new businesses open and existing premises close.</p>
Premises that are high risk are inspected annually, while low or medium risk premises are audited no less than once every three years.	100%	85.7% YTD	<p>MAGIQ data. There are no high risk premises in the district. Low and medium risk premises are inspected every 3 years as part of the renewal process. There are currently 35 low and medium licenses due for renewal or new inspections in this financial year.</p> <p>For this reporting period (Jan to May) 6 premises are expected to have been completed. We have undertaken 12 premises inspections.</p> <p>As at 31 May 20, 30 inspections have been done YTD.</p> <p>Total number of licenses is subject to change month by month as new businesses open and existing premises close. 30/35</p>
Compliance activities are undertaken generally in accord with the Combined Licencing Enforcement Agencies agreement.	100%	100%	<p>1 Controlled purchase Operation has been undertaken this year. All premises in SWDC were compliant</p> <p>10 Compliance inspections undertaken at 10 licensed premises</p>

ALCOHOL LICENCE APPLICATIONS PROCESSED	YTD 1 JULY 2019 TO 31 MAY 2020	PREVIOUS YTD 1 JULY 2018 TO 31 MAY 2019	PERIOD 1 JAN 2020 TO 31 MAY 2020	PREVIOUS PERIOD 1 JAN 2019 TO 31 MAY 2019
On Licence	29	15	10	6
Off Licence	37	18	12	5
Club Licence	7	7	1	4
Manager's Certificate	150	115	45	73
Special Licence	65	55	12	29
Temporary Authority	4	5	1	1
<b>Total</b>	<b>292</b>	<b>215</b>	<b>81</b>	<b>118</b>

### Health Act - Safe Food

*SERVICE LEVEL – Food services used by the public are safe.*

PUBLIC PROTECTION KEY PERFORMANCE INDICATORS	TARGET 19/20	YTD RESULT	COMMENT SOURCE, AND ACTIONS TAKEN TO ACHIEVE TARGET
Premises have appropriate FMP in place and meet the risk based standards set out in the Plan.	100%	100%	FHR – 0 FCP (Food Act) – 105 NP – 63  The changes in the Food Act 2014 require that businesses have an appropriate Risk Based Measure in place by end of transition period (Feb 2019). Total number of premises is subject to change month by month as new businesses open and existing premises close.
Premises are inspected in accord with regulatory requirements.	100%	41.9%	FCP verifications – 44/105  An EHO has been newly appointed. Aim is to complete 2 verifications per week to remove backlog. Jan to May 21 verifications were undertaken  *Total number of premises is subject to change month by month as new businesses open and existing premises close.

<b>Verifications</b>	<b>Dec 19</b>	<b>Jan 20</b>	<b>Feb 20</b>	<b>Mar 20</b>	<b>Apr 20</b>	<b>May 20</b>
	<b>7</b>	<b>4</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>6</b>

### *Bylaws*

Between 1 July 2019 and 31 May 2020 there were

#### Trees & Hedges

- 18 notices were sent by council requesting the owner/occupier to remove the obstruction from the public space.

#### Litter

- 26 litter incidents were recorded and from this, council sent 15 notices to the identifiable people associated with these incidents.

#### Abandoned vehicles

- There were 21 abandoned vehicles located in the SWDC area, of which 11 were removed by their owners and the remaining 10 vehicles **were removed by councils' contractor.**

Contact Officer: **Russell O'Leary, Group Manager – Planning & Environment**

# PLANNING AND REGULATORY COMMITTEE

17 JUNE 2020

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## AGENDA ITEM B4

### ACTION ITEMS REPORT

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#### **Purpose of Report**

To present the Planning and Regulatory Committee with updates on actions and resolutions.

#### **Recommendations**

Officers recommend that the Committee:

1. *Receive the Planning and Regulatory Action Items Report.*

#### **1. Executive Summary**

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

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

#### **2. Appendices**

Appendix 1 - Action Items to 17 June 2020

Contact Officer: Suzanne Clark, Committee Advisor

Reviewed By: Harry Wilson, Chief Executive

# **Appendix 1 – Action Items to 17 June 2020**

Number	Raised Date	Action Type	Responsible Manager	Action or Task details	Open	Notes
434	19-Jun-19	Resolution	Russell	<p>PLANNING AND REGULATORY RESOLVED (PR2019/07)</p> <p>1. To receive the Report on proposed Dog Pound South Wairarapa and Carterton District Location Recommendation. (Moved Cr Jephson/Seconded Ramsden) Carried</p> <p>2. That officers continue to look at dog pound solutions in Greytown, noting an appetite to establish a joint arrangement between Carterton District Council and South Wairarapa District Council. (Moved Cornelissen/Seconded Cr Maynard) Carried</p>	Open	15/7/19: Information report to P&R for 24 July 19. Consultant report being compiled on three sites, costings and components for combined CDC/SWDC new dog pound. Recent report by Armstrong Dixon Ltd April 2020 presented to Plan/Reg Comm June 2020.
130	29-Apr-20	Action	Russell	At the end of the spatial plan consultation period, provide the total cost attributed to spatial plan community engagement to the Planning and Regulatory Committee	Open	27/5/20: Action transferred to the P&R Committee
131	29-Apr-20	Resolution	Russell	<p>COUNCIL RESOLVED (DC2020/42):</p> <p>1. To receive the Listing of the Carkeek Observatory as a Heritage Building Report. (Moved Cr Emms/Seconded Cr Colenso) Carried</p> <p>2. To support, in principle, the listing of the Carkeek Observatory by Heritage New Zealand through Heritage New Zealand's public consultation process.</p> <p>3. To delegate to the Chief Executive and Mayor the authority to make the submission to Heritage New Zealand subject to councillor comment on said submission.</p> <p>4. To inform the public about the Heritage New Zealand process and Council's support for the listing.</p> <p>5. To undertake further investigation, including costings, to conserve Carkeek Observatory as recommended by Heritage New Zealand. (Moved Cr Fox/Seconded Cr Vickery) Carried</p>	Open	27/5/20: Items 2-4 completed. Action transferred to P&R Committee. Awaiting outcome of Heritage NZ consultation before considering #5.