

PALMERSTON NORTH CITY COUNCIL

AGENDA

ENVIRONMENTAL

SUSTAINABILITY COMMITTEE

9AM, WEDNESDAY 9 DECEMBER 2020

COUNCIL CHAMBER, FIRST FLOOR,
CIVIC ADMINISTRATION BUILDING,
32 THE SQUARE, PALMERSTON NORTH



MEMBERSHIP

Brent Barrett (Chairperson)
Aleisha Rutherford (Deputy Chairperson)
Grant Smith (The Mayor)

Zulfiqar Butt	Billy Meehan
Vaughan Dennison	Karen Naylor
Renee Dingwall	Chris Whaiapu
Lorna Johnson	

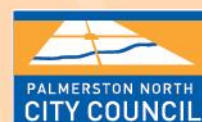
Agenda items, if not attached, can be viewed at:

pncc.govt.nz | Civic Administration Building, 32 The Square
City Library | Ashhurst Community Library | Linton Library

Heather Shotter
Chief Executive, Palmerston North City Council

Palmerston North City Council

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Private Bag 11034, 32 The Square, Palmerston North



ENVIRONMENTAL SUSTAINABILITY COMMITTEE MEETING

9 December 2020

ORDER OF BUSINESS

1. Apologies

2. Notification of Additional Items

Pursuant to Sections 46A(7) and 46A(7A) of the Local Government Official Information and Meetings Act 1987, to receive the Chairperson's explanation that specified item(s), which do not appear on the Agenda of this meeting and/or the meeting to be held with the public excluded, will be discussed.

Any additions in accordance with Section 46A(7) must be approved by resolution with an explanation as to why they cannot be delayed until a future meeting.

Any additions in accordance with Section 46A(7A) may be received or referred to a subsequent meeting for further discussion. No resolution, decision or recommendation can be made in respect of a minor item.

3. Declarations of Interest (if any)

Members are reminded of their duty to give a general notice of any interest of items to be considered on this agenda and the need to declare these interests.

4. Public Comment

To receive comments from members of the public on matters specified on this Agenda or, if time permits, on other Committee matters.

(NOTE: If the Committee wishes to consider or discuss any issue raised that is not specified on the Agenda, other than to receive the comment made or refer it to the Chief Executive, then a resolution will need to be made in accordance with clause 2 above.)

5. Presentation - Palmerston North Women's Health Collective and Palmerston North Women's Centre Page 7

6. Presentation - Manawatū River Source to Sea Page 9

7. Confirmation of Minutes Page 11
 "That the minutes of the Environmental Sustainability Committee meeting of 9 September 2020 Part I Public be confirmed as a true and correct record."

8. Presentation of the Environmental Sustainability Review 2020 Page 17
 Memorandum, presented by Michael Duindam, Acting City Planning Manager and Don Martin, Head of Communications & Content.

9. Committee Work Schedule Page 75

10. Exclusion of Public

To be moved:

"That the public be excluded from the following parts of the proceedings of this meeting listed in the table below.

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under Section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under Section 48(1) for passing this resolution

This resolution is made in reliance on Section 48(1)(a) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by Section 6 or Section 7 of that Act which would be prejudiced by the holding of the whole or the relevant part of the proceedings of the meeting in public as stated in the above table.

Also that the persons listed below be permitted to remain after the public has been excluded for the reasons stated.

[Add Third Parties], because of their knowledge and ability to assist the meeting in speaking to their report/s [or other matters as specified] and answering questions, noting that such person/s will be present at the meeting only for the items that relate to their respective report/s [or matters as specified].

PRESENTATION

TO: Environmental Sustainability Committee

MEETING DATE: 9 December 2020

TITLE: Presentation - Palmerston North Women's Health Collective and Palmerston North Women's Centre

RECOMMENDATION(S) TO ENVIRONMENTAL SUSTAINABILITY COMMITTEE

1. That the Environmental Sustainability Committee receive the presentation from Palmerston North Women's Health Collective and Palmerston North Women's Centre for information.

SUMMARY

Dr Jean Hera, Manager and Community Health Worker, Te Hā o Hine-ahu-one Palmerston North Women's Health Collective, and Ms Krys Baker, volunteer co-ordinator for Te Whare o Ngā Wāhine Palmerston North Women's Centre, will make a presentation regarding the need for an eco-burial cemetery option for Palmerston North, the need to address funeral poverty, and their plan to collaborate with other groups to support simple, natural (eco-friendly) after-death choices/options, with an emphasis on family and community led after-death care options.

ATTACHMENTS

Nil

PRESENTATION

TO: Environmental Sustainability Committee

MEETING DATE: 9 December 2020

TITLE: Presentation - Manawatū River Source to Sea

RECOMMENDATION(S) TO ENVIRONMENTAL SUSTAINABILITY COMMITTEE

1. That the Environmental Sustainability Committee receive the presentation from Manawatū River Source to Sea for information.

SUMMARY

Heather Knox, Co-ordinator, will make a presentation regarding the Palmy Plastic Pollution Challenge.

ATTACHMENTS

Nil

PALMERSTON NORTH CITY COUNCIL

Minutes of the Environmental Sustainability Committee Meeting Part I Public, held in the Elwood Room, Conference & Function Centre, 354 Main Street, Palmerston North on 09 September 2020, commencing at 9.03am

- Members Present:** Councillors Brent Barrett (in the Chair), Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Lorna Johnson, Billy Meehan, Karen Naylor, Aleisha Rutherford and Mr Chris Whaiapu.
- Non Members:** Councillors Susan Baty, Rachel Bowen, Patrick Handcock ONZM, Leonie Hapeta, Bruno Petrenas and Tangi Utikere.
- Apologies:** The Mayor (Grant Smith) (early departure on Council business) and Councillor Lew Findlay QSM.

The Mayor (Grant Smith) entered the meeting at 9.04am at the conclusion of clause 11. He left the meeting at 9.39am during consideration of clause 13. He was not present for clauses 11 and 13 to 18 inclusive.

Mr Chris Whaiapu left the meeting at 10.53am during consideration of clause 17. He was not present for clauses 17 and 18.

11-20 Apologies

Moved Brent Barrett, seconded Vaughan Dennison.

The COMMITTEE RESOLVED

1. That the Committee receive the apologies.

Clause **Error! Reference source not found.** above was carried 15 votes to 0, the voting being as follows:

For:

Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Karen Naylor, Bruno Petrenas, Aleisha Rutherford, Tangi Utikere and Mr Chris Whaiapu.

The Mayor (Grant Smith) entered the meeting at 9.04am

12-20 Presentation - Horizons Regional Council

Dr Jon Roygard, Group Manager Natural Resources & Partnerships and Ms Rachel Keedwell, Chair of Horizons Regional Council updated the Committee regarding the Biodiversity Programme.

Horizons have one of the largest areas of hill country in New Zealand and the highest proportion of highly erodible land of any region. Land use is predominantly sheep and/or beef farms (approximately 45%). Around one third of the region is in native cover; the Department of Conservation administer 18% of the region.

Non-regulatory programme delivery over the last year included (in a COVID interrupted year) the planting of more than 5 million trees, over 300km of stream fencing, possum control on about 40% of the region as part of an over 1.5 million hectare programme, supporting 13 community projects in the Freshwater Programme (eight in the Manawatū) and supporting 27 community biodiversity projects.

A review of the biodiversity programme including an overhaul of the strategy around this programme was being undertaken, with plans to leverage on existing resources in biosecurity teams to provide greater biodiversity outcomes. Biodiversity partnerships included grant funded projects at Turitea Reserve, Manawatū Estuary, Awahuri Park and Massey Hill.

COVID recovery projects included an urban pest control programme. Funding of \$18.4 million (toward work totalling \$27 million) had been received for stream fencing and planting, the enhancing of fish populations through fish passage repair and the restoration of Lake Horowhenua.

Horizons and Palmerston North City Council were working across a range of biodiversity projects including Te Apiti Manawatū Gorge, Turitea Reserve and the work of the Manawatū River Leaders Accord, with room for further alignment of programmes.

Moved Brent Barrett, seconded Aleisha Rutherford.

The **COMMITTEE RESOLVED**

1. That the Environmental Sustainability Committee receive the presentation for information.

Clause 12-20 above was carried 16 votes to 0, the voting being as follows:

For:

The Mayor (Grant Smith) and Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Karen Naylor, Bruno Petrenas, Aleisha Rutherford, Tangi Utikere and Mr Chris Whaiapu.

13-20

Presentation - Environment Network Manawatu

Ms Helen Lehndorf, Food Action Co-ordinator and Ms Madz BatachEl, Coordinator of Environment Network Manawatū updated the Committee with a snapshot of what is happening in the food resiliency sector in the Manawatū through the work of the Manawatū Food Action Network (MFAN).

MFAN was established in 2016, initiated by social service and environmental groups. The focus of the network included connecting, educating and empowering people around food, along with working to increase collaboration, education and awareness, build capacity and avoid duplicating efforts – essentially bridging food security organisations with food resilience initiatives.

Scope of interest included food security, food banks, localising food, Māori food sovereignty, food rescue, harvest capture, food resiliency, community gardens, community food education, crop swaps and composting. To date activity had consisted of meetings to network and share ideas, a social media presence and two development projects to accelerate efforts.

Opportunities to do more in the local food resiliency space included looking at ways to increase visibility/storytelling/outreach, bridging food security work with food resilience work, fostering and supporting urban agriculture, keeping food out landfill (food rescue/home and community composting) and food resiliency social enterprise to create ethical, positive employment opportunities for our local people.

MFAN would like to work with Palmerston North City Council to minimise food waste to landfill, and also suggested Council support of MFAN initiatives via committing to co-fund government fund applications in the Long Term Plan. Council could also assist with providing clearer pathways to support of community food initiatives (for example utilising 'scrap' land for urban regenerative agricultural projects), and through public-facing support and guidance with getting projects going.

The General Manager Marketing & Communications commented that there were opportunities for Council to support the work being done by MFAN, utilising its communication channels to emphasise the work being done in the food space across the city, particularly in and around the food resiliency directory. Ms Batatchi commented that Wellington, Christchurch, Dunedin and Nelson City Councils' communications teams were doing great work in this space.

The Mayor (Grant Smith) left the meeting at 9.39am

Moved Brent Barrett, seconded Aleisha Rutherford.

The **COMMITTEE RESOLVED**

1. That the Environmental Sustainability Committee receive the presentation for information.

Clause 13-20 above was carried 15 votes to 0, the voting being as follows:

For:

Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Karen Naylor,

Bruno Petrenas, Aleisha Rutherford, Tangi Utikere and Mr Chris Whaiapu.

14-20 Confirmation of Minutes

Moved Brent Barrett, seconded Aleisha Rutherford.

The **COMMITTEE RESOLVED**

1. That the minutes of the Environmental Sustainability Committee meeting of 12 February 2020 Part I Public be confirmed as a true and correct record.

Clause 14-20 above was carried 14 votes to 0, with 1 abstention, the voting being as follows:

For:

Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Patrick Handcock ONZM, Lorna Johnson, Billy Meehan, Karen Naylor, Bruno Petrenas, Aleisha Rutherford, Tangi Utikere and Mr Chris Whaiapu.

Abstained:

Councillor Leonie Hapeta.

15-20 PNCC Corporate Emissions Inventory and Management Plan

Memorandum, presented by David Murphy, City Planning Manager.

During discussion Elected Members requested that the report be adjourned to discuss at Council meeting on 23 September 2020, to enable technical questions to be answered more fully.

Moved Brent Barrett, seconded Aleisha Rutherford.

The **COMMITTEE RESOLVED**

1. That the item of business under discussion be adjourned to Council meeting on 23 September 2020.

Clause 15-20 above was carried 15 votes to 0, the voting being as follows:

For:

Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Karen Naylor, Bruno Petrenas, Aleisha Rutherford, Tangi Utikere and Mr Chris Whaiapu.

16-20 Update on practical options to increase solar electricity generation

Memorandum, presented by David Murphy, City Planning Manager.

Moved Brent Barrett, seconded Aleisha Rutherford.

The **COMMITTEE RESOLVED**

1. That the memorandum entitled “Update on practical options to increase solar electricity generation” reported to the Environmental Sustainability Committee on 9 September 2020 be received.
2. That it be noted that practical options to increase solar electricity generation on Council properties will continue to be investigated as part of asset management planning.
3. That it be noted that the viability of practical options to increase solar electricity generation on private property is best addressed as part of the development of the Low Carbon Roadmap so it can be assessed against other tools and policy options to reduce carbon.

Clause 16-20 above was carried 15 votes to 0, the voting being as follows:

For:

Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Karen Naylor, Bruno Petrenas, Aleisha Rutherford, Tangi Utikere and Mr Chris Whaiapu.

The meeting adjourned at 10.23am

The meeting resumed at 10.42am

17-20 Progress Towards Actions in the Waste Management and Minimisation Plan 2019

Memorandum, presented by Mike Monaghan, Water and Waste Operations Manager and Natasha Hickmott, Rubbish & Recycling Engineer.

During discussion Elected Members noted that whilst robust reporting on the individual activities and actions in the waste management and minimisation space was occurring, a synthesis of the overall picture of how well Council was tracking towards the goal of increasing waste diversion to 48% by 2025 would be useful.

Mr Chris Whaiapu left the meeting at 10.53am

Moved Brent Barrett, seconded Karen Naylor.

The COMMITTEE RESOLVED

1. That the memorandum entitled ‘Progress Towards Actions in the Waste Management and Minimisation Plan 2019’ reported to the Environmental Sustainability Committee on 9 September 2020 be received.
2. That the Chief Executive report annually on percentage waste diversion from landfill, and on total tonnes of waste sent to landfill.

Clause 17-20 above was carried 14 votes to 0, the voting being as follows:

For:

Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Karen Naylor, Bruno Petrenas, Aleisha Rutherford and Tangi Utikere.

18-20 Committee Work Schedule

Moved Brent Barrett, seconded Aleisha Rutherford.

The **COMMITTEE RESOLVED**

1. That the Environmental Sustainability Committee receive its Work Schedule dated September 2020.

Clause 18-20 above was carried 14 votes to 0, the voting being as follows:

For:

Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Karen Naylor, Bruno Petrenas, Aleisha Rutherford and Tangi Utikere.

The meeting finished at 11.09am

Confirmed 9 December 2020

Chairperson

MEMORANDUM

TO: Environmental Sustainability Committee

MEETING DATE: 9 December 2020

TITLE: Presentation of the Environmental Sustainability Review 2020

PRESENTED BY: Michael Duindam, Acting City Planning Manager and Don Martin, Head of Communications & Content

APPROVED BY: David Murphy, Acting General Manager - Strategy and Planning
Sacha Haskell, General Manager - Marketing and Communications

RECOMMENDATION(S) TO ENVIRONMENTAL SUSTAINABILITY COMMITTEE

1. That the memorandum titled 'Presentation of the Environmental Sustainability Review 2020' and report titled '*Environmental Sustainability Review 2020*', presented to the Environmental Sustainability Committee on 9 December 2020, be received for information.

ATTACHMENTS

1. Environmental Sustainability Review 2020 

ITEM 8

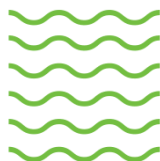
PALMY[®]
PALMISTON
NORTH
CITY

PALMY.
ENVIRONMENTAL SUSTAINABILITY
REVIEW 2020

WASTEWATER



We have 420km of wastewater pipes



We treat water for around four days before it's discharged to the Manawātū River



Our wastewater investment in the coming years is the largest ever for Council and Palmy



32.3% of our domestic wastewater in Palmy comes from the shower

STORMWATER



100% of network capital new and renewal programmes delivered



4km of the critical network was inspected by CCTV



City-wide stormwater model extended to include Ashhurst



Birmingham Street and Ellesmere pump stations upgraded

WATER SUPPLY



Revised Water Safety Plan for the city's water supply was lodged



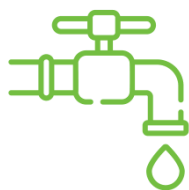
Significant water safety improvements completed at Turitea WTP, bores and reservoirs sites



Palmy's carbon emissions are decreasing



The Palmy climate calculator provides future insights to reduce emissions



We have 548km of water pipes, 14 reservoirs and 21 bores and pump stations

100%

of our network renewal programme was completed



Palmy is targeting a 25% reduction in carbon emissions by 2028



The planned freight hub will reduce emissions as freight on the road reduces

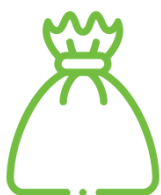
WASTE



4,166 tonnes of recyclables collected
increase of 1% from 2018/19



2,584 tonnes of glass collected
increase of 1% from 2018/19



3% more rubbish bags were sold last year than in 2018/19



11,258 visitors referred to Council's online Guru Guide

TRANSPORT



We have 556 kms of road, 596km of footpaths, 88 bus shelters.



2 per cent of Palmy residents regularly catch the bus to work.



4 per cent of Palmy residents regularly cycle to work



8 per cent of people regularly walk to work

BIODIVERSITY



12,000 eco-sourced native plants were planted throughout the Green Corridors



\$168,288 given in grants to the environmental sector

URBAN DESIGN



78 Units at Papaioea developed using urban design principles

ENERGY



33 new wind turbines at Turitea



230 volunteers attended community planting events



Our Eco Design Advisor ran community-based workshops eco-housing tips



Streets for People is the way of the future, integrating pedestrian and transport flows



LED lighting is now the standard for street lights in Palmy



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FOREWORD

Kia ora and welcome to our first Environmental Sustainability Review.

Our vision is for Palmy to maintain all the benefits of a small city and the ambition of a big city. One of our goals by which we will achieve this vision is to be an Eco-City. We want a future-focused city that plans for and cares about the future, enhancing its natural and built environments. We want our city to realise the benefits to society from creating clean energy, lowering carbon emissions, and reducing our ecological footprint.

As part of this we have established an Environmental Sustainability Committee. Its purpose is to oversee our environmental work, including climate change response, biodiversity, waste minimisation, environmentally sustainable practices and the environmental aspects of energy, transport, and water.

We hope that through producing this Environmental Sustainability Review not only will it be discussed around the Council table, it will become a valuable

resource for our residents, businesses, visitors and broader communities to understand the efforts of our city and people to ensure our big city ambition and small city benefits of Palmy are sustainable for the future.

We are working across the region to support this work with the eight Councils in the Manawātū-Whanganui Region, signing the local Government Declaration on Climate Change in September 2019.

We all need to work together to protect and enhance our environment and the people and communities who live in it.

Toitū te Marae o Tane, Toitū te Marae o Tangaroa, Toitū te Iwi - Protect and strengthen the realms of the Land and the Sea, and they will protect and strengthen the people.

Mayor Grant Smith



Local government has a wide role working with our community to impact the environment for good. We exist to improve the social, economic, environmental, and cultural wellbeing of our current and future communities. Local government enables local democratic decision-making to reflect the desires and aspirations of our city. This review supports these aspirations.

Councils provide a wide range of services people use every day: roading, water, stormwater, wastewater, rubbish and recycling, parks and sports fields, libraries, economic development, urban design, community development, and more. All of these require inputs and impacts on our environment.

Our staff who provide these services have a strong commitment to looking after Palmy's environment – to improve economic, social and cultural wellbeing for all of us. This document is part of that commitment and I invite you to have a look through to see what, and how we are doing.

Chief Executive – Heather Shotter



RANGITĀNE O MANAWATŪ

The long-term relationship between Palmerston North City Council and Rangitāne o Manawātū has developed into a strong partnership and we are working towards joint outcomes in many areas including those encompassed by sustainability.

Iwi representatives sit as full members on the Environmental Sustainability, Community Development and Economic Development Committees. These appointments represent the foundational building blocks and ensure Rangitāne aspirations, worldview and voice contribute to the growth and development of Papaioea for generations to come. Rangitāne's role among other things as kaitiaki embodies sustainability as its core principle.



Our Council documents highlight the special relationship tangata whenua and wider Māori have with the land, forests, rivers and sea, and the obligation to working together in partnership with Rangitāne o Manawātū to restore the mauri of the waterways and forests.

Supporting this among other things is the Hei Manga Oranga programme which is aimed at a comprehensive set of indicators and outcomes that weave together a comprehensive set of agreed commitments in freshwater management.

PARTNERING WITH RANGITĀNE

- We as Council acknowledge and honour the special relationship tangata whenua have with the land, forests, rivers and sea.
- We partner with Rangitāne o Manawātū to restore the mauri of the waterways and forests.
- We engage proactively and collaboratively to ensure positive outcomes where Rangitāne values are embodied.

ECO-CITY STRATEGY

OUR VISION

Palmerston North will have a sustainable future and a reduced ecological footprint through effective planning of infrastructure and the protection, maintenance and enhancement of our natural and built environment. We are working towards our City becoming a low carbon economy.

Where we want to be

We want a future-focused city that plans for and cares about the future, enhancing its natural and built environment. Our city will realise the benefits to society from creating clean energy, lowering carbon emissions and reducing our ecological footprint.

Palmy will have a sustainable future and a reduced ecological footprint by planning of infrastructure coupled with the protection, maintenance and enhancement of our natural and built environment.

We're also working to become a low carbon economy.

How we are going to get there

We value the natural environment and our natural assets.

Our response to changes in our economy, society and climate must leave our environment in a better place, and one way we can do this is to grow our city sustainably by:

- Planning to accommodate growth through intensification rather than urban sprawl.
- Incorporating requirements for environmentally sensitive design in our public spaces and buildings.
- Supporting the infrastructure for electric vehicles and active transport.
- Actively promoting and creating renewable, clean energy.
- Actively pursuing new and sustainable economies that have low impact on our environment.
- Acknowledging Te Ao Māori practices for the Rangitāne iwi, especially around the protection and preservation of our environment.
- Increasing our biodiversity and protecting our high-class soils from urban development.
- Harnessing our natural assets, including protecting a plentiful and safe water supply.

OUR ECO-CITY PRIORITIES

Our resources are limited, and these priorities guide us by giving direction as to what is important.

- Respect and enhance the mauri of the Manawatū River.
- Work with the community to reduce carbon emissions.
- Regenerate native biodiversity.
- Invest in infrastructure that serves to protect, enhance and preserve the environment.
- Use council's legislative powers and policies to ensure urban development is sustainable now and into the future.
- Educate our community, in particular property owners, on the benefits of investing in sustainable building design and green buildings.
- Demonstrate leadership and best practice by developing and implementing an environmental sustainability plan for the council, council-run events, and facilities.

WATER

We manage three types of waters in the City - wastewater, stormwater and our drinking water.

All our water services are delivered within the context of the Manawatū River Leaders Accord, which sets out the shared commitment to improving the mauri of the Manawatū River. The Accord is made up of iwi and hapu, local and central government, farming, and industry leaders, along with Massey University and environmental and recreational advocacy. Recently it has grown to include others. It's a collaborative group supported by Horizons Regional Council.

The River is at the geographical, recreational and spiritual heart of Palmy. The mauri of the river is a direct reflection of people's values. It's of great historical, cultural, spiritual and traditional significance to Rangitāne. While we once turned our back on this asset, this is now not the case and we are actively and increasingly turning the city towards this waterway.

We have also strengthened our connection between the city and Turitea Valley, the home of our drinking water reserve and invested heavily in predator control in the area which has resulted in the regeneration of bush and increased birdlife. Planting the gullies and streams also improves water quality and provides corridors for native birds to move between the ranges and the city.

We monitor water through regular water health checks, a water quality table can be found in appendix 3.



THE THREE WATERS

The three waters are a key focus for central and local government with water reforms currently being formulated for the country. The three waters represent some of the most significant investments required now and over the next decade. The opportunity for sustainable practice is huge and mandatory and Palmy is rising to this challenge.



WASTEWATER

The city currently owns and manages directly its wastewater treatment plant in Awapuni. The discharge of wastewater is stringently managed and is monitored by Horizons Regional Council.

Where we are now

Recently efforts have been made to reduce wastewater discharge into the River. We agreed to bring forward our next application for resource consent for the treatment and discharge of wastewater to 2022 and are currently in the process of selecting the best practicable wastewater options. This will be the largest project for council for some years and a range of important considerations need to be made, such as community, public health, environmental, financial and sustainability implications.

Community consideration is a key component of the project and there are many opportunities for the community to have their say. Called 'Nature Calls' this project is detailed further on the next page.

We are also considering new ways to manage, move, and treat our wastewater, and have taken steps already. An example is our new Pressure Sewer Policy. This requires pressure sewer systems to be installed in areas difficult to service with a conventional gravity sewer system. This reduces the risk of stormwater entry into the wastewater network and provides storage of water to smooth peak flows into the treatment plant.

Where we want to be

Looking forward in the near future the city wants to achieve the following actions in wastewater treatment.

- A Best Practicable Option (BPO) for the treatment and disposal of the city's wastewater is identified for the renewal of Wastewater Treatment Plant resource consents by June 2022.
- Smart metering and on-line monitoring is introduced to provide more robust profiling of flows and loads from large trade waste dischargers.
- A reduction of stormwater infiltration and inflow into the wastewater network.
- 100 per cent user pays charge for trade waste consent monitoring, inspection, treatment and conveyance costs.
- A city-wide wastewater network hydraulic model is completed and in use to inform asset management and city development decisions.

NATURE CALLS - IN FOCUS

Nature Calls is our project determining how we will treat and discharge our wastewater for up to the next 35 years.

Wastewater is everything that goes down a drain inside your home or business. Currently, city wastewater travels to our treatment plant in Awapuni, where it is treated for around four days before it is discharged to the Manawātū River.

Our resource consent for our current discharge to the river is ending soon, and we need to apply for a new consent by June 2022.

Our current consent requires us to determine a Best Practicable Option (BPO) for how we will treat, and discharge treated wastewater into the environment into the future. To determine the BPO, we need to investigate all potential options thoroughly.

In mid-2020, more than 1100 individuals and groups provided feedback on six potential options for how we could do this. Options considered in that consultation included options with discharge to the river, land, groundwater and ocean, and a hybrid of some of those options.

Over the next two years council will select a preferred option, assess the effects of that option

on the receiving environment and apply for a resource consent from Horizons Regional Council.

With the City's growing population and the increasing value being placed on our environment, sustainability considerations will play a key role in any option selection.

During the development of the options, sustainability is a key consideration. How this is demonstrated is a potential river discharge, where we are considering a move away from the current chemical removal of phosphorus, to one relying on biological removal processes. For options involving discharge to land, we are considering growing crops to harvest the nutrients.

Through this project, we have explored ways to reduce the volume and levels of contaminants in the wastewater before it is discharged to the wastewater network and arrives at the treatment plant. For the preferred option, we will consider practical and cost-effective interventions to persuade residents and commercial companies to reduce wastewater volumes and contaminant



WATER SUPPLY

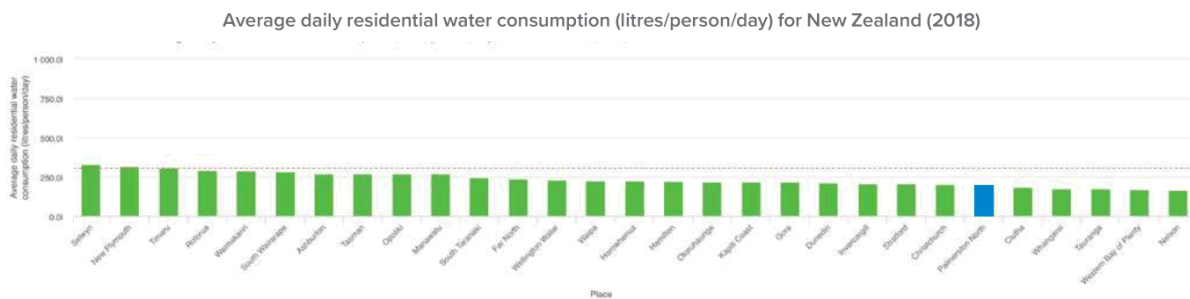
Where we are now

Palmy has some of the best quality drinking water in New Zealand, which comes from a combination of water from the Turitea dam and a number of bores. Our water supply is of high quality and plentiful. However, summer droughts and growing demand means we need to conserve water every summer to ensure everyone has enough water.

We're committed to developing ways to reduce residential water use and increase storage. We also need to upgrade aging infrastructure including pipes.

We are looking to improve our district-wide resilience and improving the connection of Palmerston North's water supplies to its satellite communities like Ashhurst which have separate water supplies in place.

Daily water consumption across the Manawatū is around the average when comparing all of New Zealand.



Source: Water New Zealand

Water New Zealand data shows that the water use by Palmerston North residents (average per person per day) is below the average of all places recorded. In 2018 the national average daily residential water consumption was 306.1 litres and in Palmerston North the figure was 191.6 litres.

Where we want to be

We want to continue making progress in relation to water supply. We have made some headway, yet we need to do more in the community and as a council.

This means we will continue to have a safe and readily available water supply that is cost-effective and environmentally sound. All our existing water supplies are secure, have approved safety plans in place and are fully compliant with the New Zealand Drinking Water Standards.

Council will use smart metering to accurately profile commercial water use coupled with pressure management which reduces leakage and delivers sustainable reductions in water use and wastewater flows. In future this means there will be user pays charges for water supply to commercial customers.

We will strive to ensure all urban areas continue to be serviced with chlorinated and fluoridated water as demand grows as our city expands.

We will work with Horizons Regional Council on global resource consents to be issued to provide for flexible and staged increases in groundwater supply.

There will be seismic increase in groundwater source capacity as necessary to provide back up in the event of mechanical or seismic event failure. There will be seismic strengthening of key water assets to reduce risk of major asset failure, loss of service and reduce the time to restore services in a seismic event.

We are currently constructing a duplicate water main to improve resilience and ensure we have a water supply in the event of an earthquake.

If demand increases, we plan for water supply zones throughout the district that have the ability to have water pressure reduced to save water. This coupled with household water-saving and storage solutions will further reduce water demand, and wastewater flows.



STORMWATER

As our city grows and the impact of climate change becomes known our storm water network will become increasingly more important.

Where we are now

Greater urban development has increased the amount and speed of rainwater going into urban waterways.

As rain washes over buildings, pavings and roads the contaminants dirt and litter also flow directly into our water ways.

We are committed to exploring alternative approaches to ensure there is a more sustainable response to the stormwater effects of urban growth.

As a result, a range of options are being considered, and when fully developed Council will consult with the community on what the communities preferred options might be.

Where we want to be

We will use modelling data to identify areas of Palmy that are subject to high risk of flooding and to evaluate options for engineered solutions to reduce flooding frequency and the extent of flood events.

We will evaluate options to implement controls by way of permeable surface coverage, stormwater detention, water sensitive design and minimum floor level separation to mitigate the effects of and flooding risks associated with new development.

We ensure our stormwater services are resilient enough to cope with the effects of climate change, there is an approved and continued city-wide resource consent from Horizon's Regional Council for managing stormwater.

All urban streams are in full public ownership and biodiversity treatments are undertaken on all urban waterways. These urban waterways are thriving ecosystems and District Plan provisions enable us to restrict impacts of stormwater run-off from new development, particularly infill or brown-field redevelopment on these ecosystems.

There is also a formal cultural monitoring framework for freshwater management with Rangitāne o Manawatū, and we understand Iwi and community values around urban waterways.

Our measures of success

To measure our performance across the three waters, there are several metrics we monitor such as:

- Our water supply is secure and compliant with the New Zealand Drinking Water Standards.
- Wastewater discharge to the Manawatū River complies with resource consent requirements.
- The wastewater network can function without failure in significant rainfall events.
- The stormwater network minimises the extent of property loss in the majority of rainfall events.
- Increase in the efficiency of water use.
- Increase in rainwater tank uptake and less reliance on town supply.

Community engagement and change

Our community plays an important part of our response to water sustainability. To assist and encourage behaviour change in how our residents can use and conserve water, we undertake several campaigns regarding water conservation:

- Water tank promotion. *See next page.*
- Save water tips. *See next page.*
- Water restrictions - during summer.
- Reporting leaks to our call centre.

FACT BOX WATER CONSUMPTION

Palmy residents consume far less water than many residents in other parts of the country. Our average resident used 197 litres per day last year, compared to the national average of around 250 litres per person.

The total water supplied to Palmy over the past year was 9.91 million litres. This includes leaks and only includes the Palmerston North water supply (not Ashhurst, Longburn or Bunnythorpe).

Two-thirds of our city's water comes from the Turitea Dam. The remainder comes from bores scattered around Palmy. Ashhurst, Longburn and Bunnythorpe are supplied from separate bores.





CASE STUDY WATER TANK PROMOTION

Over summer 19/20 we trialled the sale of household residential water tanks.

These 200-litre tanks aid water conservation by being able to collect rainwater that can then be used in the garden. They're also a great civil defence resource by providing an emergency water supply.

Initially, we ordered 24 tanks but sold out almost immediately and then had a waitlist for more.

We're continuing the trial which has been a resounding success.

If you want to find out more about using water tanks you can find information on our website

pncc.govt.nz

Tips to save water at your home:

We have promoted several ways to conserve water and some are easier than you think:

- Save 6 litres of water by turning off the tap while you brush your teeth.
- Only put your washing on when you have a full load.
- Scratch the surface of the soil in your garden with your finger. If it feels moist 10 cm down, then watering can wait.
- Put mulch on your garden. It helps plants retain moisture and reduces weeds. Get yours at our Awapuni Resource Recovery Park.
- Fix a leaking tap – this can save 15 litres a day.
- Consider switching to a low-flow showerhead. This could save up to 6 litres a minute and cut the cost of your hot water.
- If you only have a few dishes, wash them by hand rather than using a dishwasher.
- Wash your car with a bucket instead of a hose.

CARBON

We recognise the threat of climate change effects, such as increased drought and flooding pose to our economy, environment, and way of life. We have a moral duty to reduce our emissions to mitigate this threat. Ultimately, high carbon emissions are a key indicator of inefficiencies and unsustainability.

The recent Climate Change Response (Zero Carbon) Amendment Act sets a national target of net-zero carbon by 2050. While this target is

not binding on local government, we are working towards a similar goal, and have set an interim target of a 25% reduction in carbon emissions by 2028.

Conversely, a lack of action will not only contribute to further climate change, but increase the risk of Palmy missing opportunities and forcing us to play catch-up as international agreements and national requirements strengthen.



OUR KEY FOCUS AREAS ARE

- Reduce Council's organisational greenhouse gas emissions.
- Work with residents and other city partners to implement the 'Low Carbon Roadmap' and reduce citywide emissions.
- Work with Horizons Regional Council, mana whenua, and other regional partners to assess and adapt to climate change vulnerability.
- To assist Rangitāne o Manawatū achieve their own climate change aspirations.

Where we are now

The climate is changing as a result of human greenhouse gas emissions. Although the pace of future change is uncertain, climate change is likely to have significant impacts on the frequency and severity of droughts and flooding in our region. However the impacts of future climate change can be mitigated by reducing greenhouse gas emissions (predominantly carbon dioxide and methane).

New Zealand Parliament passed the Climate Change Response (Zero Carbon) Amendment Bill in late 2019, setting a national target of net zero carbon emissions by 2050. Palmerston North City Council has substantially reduced its annual emissions by 5,200 tonnes carbon dioxide equivalent (tCO₂e), or 20%, since it first began monitoring in 2016, with the additional benefit of operational cost savings in many cases. For example, the installation of LED street lighting.

In 2018, a citywide emission's inventory, found that Palmy emits roughly 500,000tCO₂e each year, or approximately 5.7 tonnes per person per year.

We have built upon this inventory and developed an emissions model which predicts citywide emissions out to 2050 under a wide range of scenarios through the 'Palmy Climate Calculator'. Following the release of this to the public, we developed a 'Low Carbon Roadmap', which breaks down the 2050 net zero target into a series of actions and interim targets.

How we are doing this

We have undertaken a number of actions to reduce our carbon emissions.

We are measuring and independently certifying our own organisational carbon emissions and measuring and reporting on Palmy's total citywide emissions.

We are reducing our organisational emissions by improving energy efficiency, reducing waste, and using modern low-carbon technologies. We also have provided the 'Palmy Climate Calculator' tool for the public to raise awareness so we can all understand our emissions in context, and the impact of different policies and any changes.

Council is providing infrastructure that enables the rest of the city to make low carbon choices, by making it easier for people to walk and cycle, and supporting the uptake of electric vehicles through the provision of fast-charging stations in Te Marae o Hine - The Square.

Where we want to be

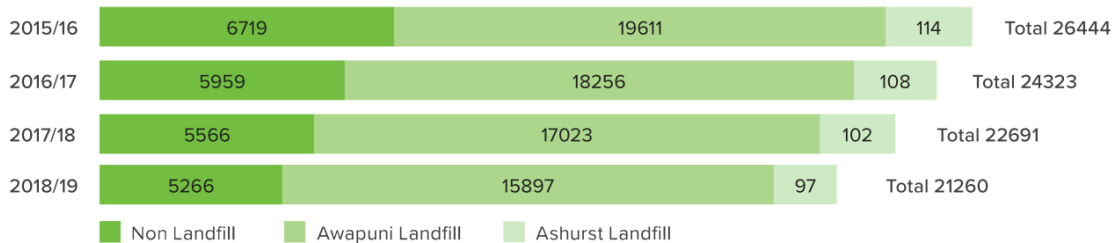
We want to lead by example, having already taken significant steps towards reducing our organisational emissions and develop expertise in systematically reducing emissions, which can be used to help support others.

The aim is to be eventually carbon neutral.

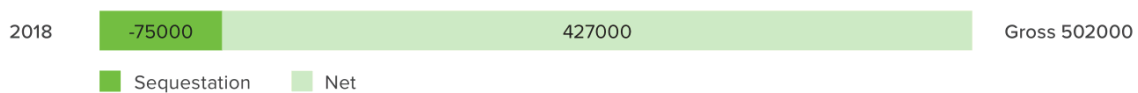
CARBON EMISSIONS

This data shows that Council carbon emissions are decreasing over the year from 2016 through to 2019. We expect this trend to continue.

PNCC



Citywide



Several greenhouse gases included in the emissions inventory have a different lifespan in our atmosphere and is responsible for a different amount of warming per molecule.

The total warming potential of citywide greenhouse gas emissions has been expressed in terms of a single figure of carbon dioxide equivalent (CO₂e) and the inventory will be completed triennially (every three years).

Further information about the city's emissions inventory is available on the PNCC website: <https://www.pncc.govt.nz/council-city/official-documents/research/community-carbon-footprint/>

Carbon calculation is extremely complex and for further information on how we calculate this, and other detail please go to our City Dashboards on our website [pncc.govt.nz](https://www.pncc.govt.nz).

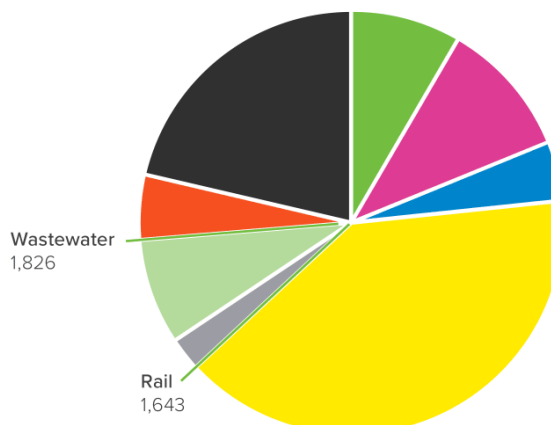
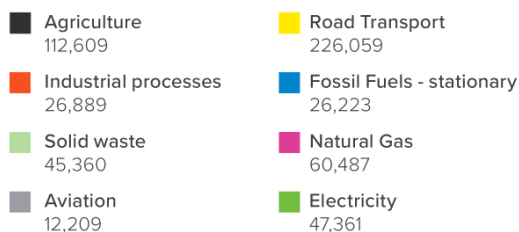
Where we are now

In 2016/17 the majority of our carbon emissions were generated from road transport followed by agriculture.

The graph below shows how each sector contributes to the total gross CO₂e emissions produced in Palmy for the 2016/2017 year. Forest sequestration contributes -69,657 tCO₂e, reducing the city's gross emissions from 570,666 tCO₂e down to 501,008 tCO₂e.

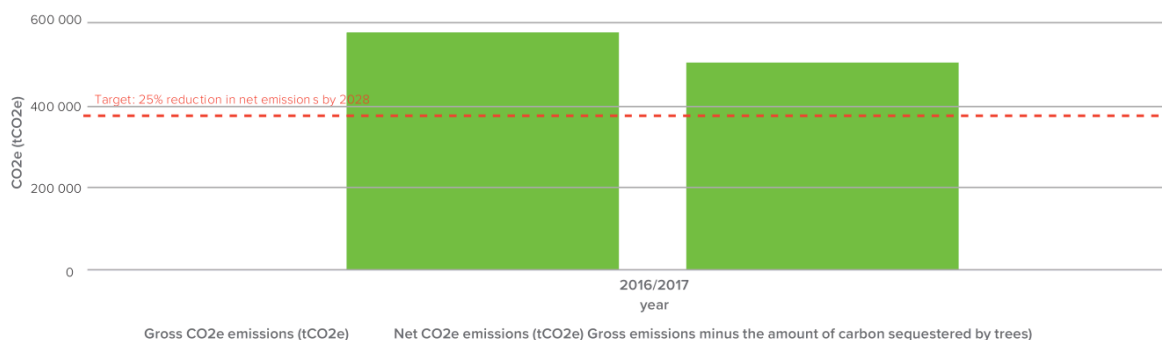
A new report for the 2020 year will be available in 2021.

CO₂ emissions (tCO₂e) (by sector) in Palmerston North (2016/2017)



Our progress as a city continues

Gross and net CO2e emissions for Palmerston North - progress towards 2028 target (2016/2017)



We've set a target of 25% reduction in CO2 emissions by 2028. The graph shows the levels of gross and net emissions for 2016/2017 alongside the target of 375,756 CO2e net emissions (in red).

The CEMARS (Certified Emissions Measurement and Reduction Scheme) inventory assesses both direct (production-based) emission sources within the geographic area and indirect (consumption-based) emission sources associated with goods and services imported into the geographic area. Examples of indirect emission sources include electricity from the national grid, and transport that originates or terminates outside the City area e.g. aviation. Examples of consumption-based emission sources are emissions from product use occurring within the City, such as refrigerants used in air conditioning, and petrol and diesel

consumed within the City boundary. Each of the greenhouse gases measured has a different lifespan in our atmosphere and is responsible for a different quantum of warming per molecule. The total warming potential of citywide greenhouse gas emissions has been expressed in terms of a single figure of carbon dioxide equivalent (CO2e).

Alongside the total emissions of the city, the inventory also reports net emissions, which are the gross emissions minus the amount of carbon sequestered by trees during the inventory period. A new report for the 2019/2020 year will be available in 2021.

How we compare as a city regarding carbon emissions is represented in appendix 4.

CASE STUDY THE CITY CARBON CALCULATOR AND OUR FUTURE

We've reached a critical moment in time for the future of our environment. Developing a roadmap that will lead towards a low carbon future is critical for our environment.

The city carbon model provides us with a roadmap to the future.

Although the recipe towards more environmentally-friendly practices might seem straightforward – recycle more, invest in renewable energy, drive

less. For our planning it was vital to understand where residents thought the most change could be made.

And so the 'Palmy Climate Calculator' based on the carbon model was born.

A completely digital tool, the city carbon model lets users explore how changes to transport, land use, industry, buildings, and energy will impact the city's overall yearly carbon emissions.

Imagining how the city will look won't be a far stretch for users who will recognise our famed icons, including the Clock Tower, represented on screen.

As users make decisions on different outputs, such as travel demand or solar power, the 3D model will reflect those decisions by showing less cars on the road or more buildings with solar panels.

The model provides an interactive way for the Palmy community to reflect on how they think the city will change over the next 30 years and how those changes will affect our city's carbon outputs.

The data will be collected to help us make decisions on the most effective ways to manage climate change.

We want to know what residents think the critical touchpoints for carbon emissions in the city are, and that information will tell us where, as a Council, we should be focusing our attention.

People of all ages and backgrounds are encouraged to try the Carbon Calculator and create their ideal yearly carbon emissions for the city in the year 2050.

The Palmerston North City Carbon Calculator can be found at palmyclimatecalculator.nz



CASE STUDY CENTRAL NEW ZEALAND REGIONAL FREIGHT HUB SET TO REDUCE TRANSPORT EMISSIONS

We're taking a collaborative approach to assist the successful development of a new Central New Zealand Regional Freight Hub in Palmy.

In June 2019, we signed a Memorandum of Understanding (MoU) with KiwiRail, Waka Kotahi - NZ Transport Agency (NZTA) outlining how the three organisations will share information and work together as the freight hub project progresses. KiwiRail has now identified a preferred site in Palmy.

We established a new industrial zone on the outskirts of the City, to encourage growth of our logistics industry. The announcement of KiwiRail's preferred site sits within and alongside that zone, and we look forward to the development progressing.



The Central New Zealand Regional Freight Hub will have a range of benefits, including:

- **Reducing transport emissions and roading costs** - every tonne of freight carried by rail has 66% fewer carbon emissions than heavy road freight. Getting more freight on rail also reduces road maintenance costs and improves road safety.
- **Taking pressure off city roads** - situating the Hub outside Palmy and integrating it with NZTA's planned Integrated Transport Improvements will help take freight traffic out of central city and reduce congestion. The Hub will also link to the Te Ahu a Turanga: Manawatū-Tararua Highway project (the new State Highway 3 route across the Ruāhine Ranges).
- **Growing the logistics industry in Manawatū** - KiwiRail will also work with key customers on major infrastructure requirements to encourage logistics and distribution businesses into the area, to help grow the sector and create more local jobs.



CASE STUDY ELECTRIC FLEET

We have a commitment to transitioning to a lower emission vehicle fleet.

Currently our light vehicle fleet contains five hybrid cars together with five e-bikes which we encourage staff to use for short business trips around Palmy. Additionally, Council has purchased electric light utility vehicles and mowers for use in parks and reserves.

In 2018, we were the first city to replace two diesel rubbish and recycling trucks with two purpose-built Low Emission Vehicles (LEV, or electric). These were entirely constructed in New Zealand and funding was received for 50% of the cost (\$350,000) from EECA's Low Emission Vehicle Contestable Fund.

The electric trucks offer an innovative approach as most recycling and solid waste trucks are diesel. LEV trucks are an emerging technology on the ground. After two years of operating, the trucks have been successful and are the longest-serving purpose-built electric trucks in New Zealand.

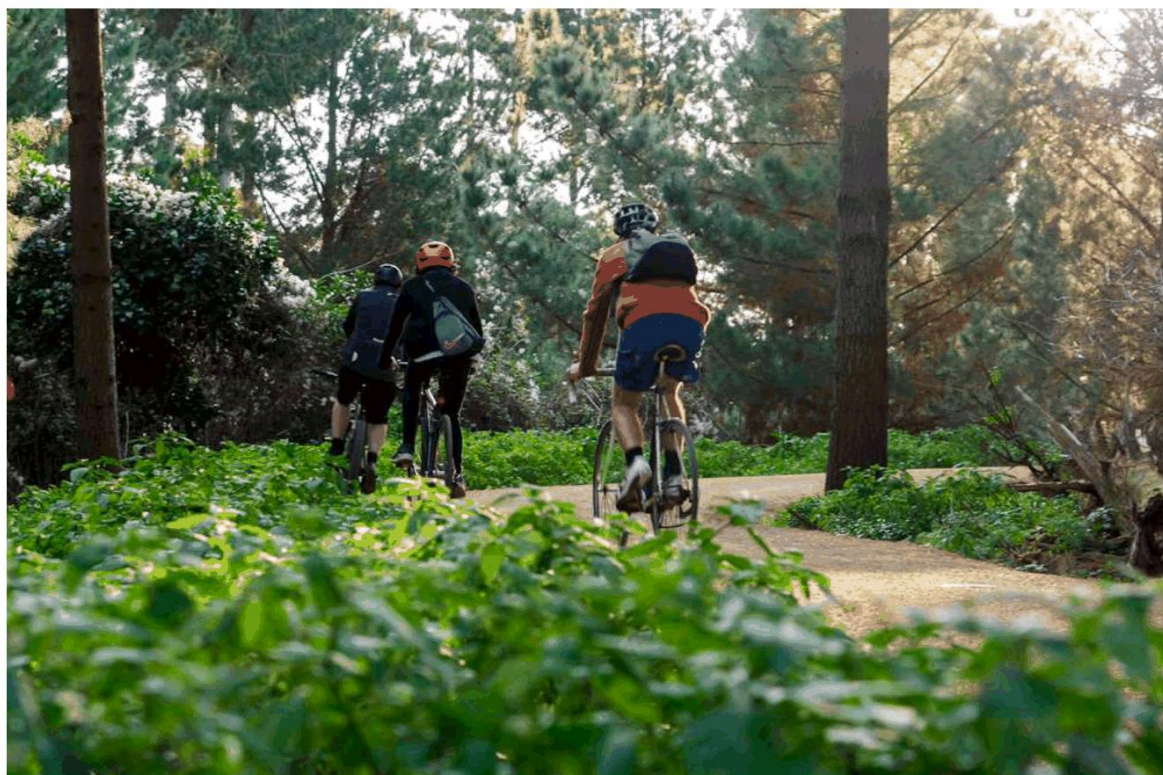
We have promoted the use of such vehicles through our Performance Report for the Energy Efficiency and Conservation Authority (EECA) to assist with promote the uptake of electric vehicles.

Our key messages are:

- Electricity fuel costs are significantly less than diesel, per km and maintenance costs are lower than diesel.
- Battery usage per day is lower than anticipated for the required kilometre range and the battery condition remains good.
- Reliability with less days off road for this innovative design of truck has improved significantly since the first quarter of operation.
- Driver feedback is favourable compared to traditional diesel equivalents.
- Quiet and ergonomically comfortable to drive, including the latest safety features.
- Working with EECA was a positive experience.
- Project funding grant payments were efficient and timely.

Transition to greater use of LEV vehicles and plant is planned as part of our fleet renewal programme. We will implement this over the next 3-5 years. The detailed replacement schedule will be developed during 2020-21.

We also use a range of electric lawn mowers and electric power equipment.



CASE STUDY HE ARA KOTAHI

He Ara Kotahi's name means 'a pathway that brings people together', and that's what it does.

The 7.1km track connects the City directly to Linton Military Camp and on the way, you traverse dairy farms, forests, pā sites, the military camp, streams and a river. A 1.8km route connects the City, to Massey University and FoodHQ. Created as a commuter link it links almost 18,000 people who live or work near these facilities. Its breath-taking beauty and location just a few minutes from Palmy's CBD have made it a hotspot and encouraged people to fall back in love with our awa for recreational purposes.

He Ara Kotahi's popularity has remained constant, with over 600,000 people using the pathway since it opened in June 2019. The data from the first year shows we have close to double our original estimate of users. This displays the positive benefits

of investing in infrastructure that encourages active transport.

The Covid lockdown also resulted in increased sales for bike shops, with cyclists flocking to Palmy's shared cycle paths coinciding with the first anniversary of He Ara Kotahi pathway, with people exploring exercise options which fuelled a surge in cycle sales, particularly e-bikes.

Local bike shops are also providing customers with maps of the cycle paths and the urban cycle network to further promote the city's active transport opportunities.

He Ara Kotahi was funded by the New Zealand Government Urban Cycleways programme, NZ Transport Agency, PNCC, Central Energy Trust and Powerco.

URBAN DESIGN

Our Urban Design Plan outlines how we plan to create and enable opportunities for employment and growth and ensure sustainable practices.

Urban Design principles include context, character, choice, connections, creativity, custodianship, collaboration, continuity and enclosure, diversity, quality public realm, legibility, movement and adaptability.



What we are doing

- We've taken an adaptive approach to the re-use of existing buildings and brownfield development. An example of this is the conversion of the former Teachers College site in Centennial Drive to housing through the rezoning process. This will provide an additional site for 130 houses.
- We've promoted the intensification of housing within our existing urban environment. An example of this is the Soho social housing multi-unit development on Pioneer Highway that has been recently completed.
- We now have a mixed use and compact city centre with more people living in or near the city centre. Apartments are now enabled in our City Centre as an outcome of our District Plan review.
- Encouraging the use of low carbon materials are green architecture and water sensitive urban design. An example of this are the rain gardens in the Centennial Park development and the proposed Council-led Tamakuku Terrace development. Rain gardens collect road runoff and prevent pollutants from going directly into our waterways.
- Projects that show our urban design approach are:
 - » Streets for People
 - » Park Road residences
 - » Cuba Street
 - » Papaeoia Place
 - » Central Energy Trust Arena Masterplan

POSITIVE URBAN DESIGN

CASE STUDY PARK ROAD RESIDENCES

As our city grows in population and size, so too do the spatial and physical needs of our places and spaces for how we move, live, work and play. Like many New Zealand cities, the lot size, and typology of residential housing choice in Palmy is slowly changing to be closer together, taller and with a more compact floor size.

Delivering residential housing at a higher density in and around the city centre and local neighbourhood areas is a sustainable way to manage horizontal city growth. This has been a housing development option in Palmerston North since new Residential Zone rule changes that came into effect late 2018.

Over the last two years, we have dealt with many medium-density housing proposals. We are now starting to see the first medium-density housing developments being constructed in an around the city centre. A recent example is 164 Park Road where a traditional 552m² lot was subdivided to deliver two stand-alone two-story townhouses on smaller lots. Both lots created excellent housing accommodation being:

The front lot was a 182m² townhouse over two-story on 195m². The ground floor has – an open plan kitchen, living and dining, toilet, double garage with laundry and outdoor living court. The first floor has – 3 bedrooms, 2 bathrooms, walk-in wardrobe, media room/living and storage.

The rear lot 145m² townhouse over two-stories is on 243m². The ground floor – has an open plan kitchen, living and dining, bathroom, bedroom, single garage with laundry and outdoor living court. The first floor – 2 bedrooms, bathroom, walk-in wardrobe, open study and storage.

Each townhouse displays sound application of good urban design principles. These include; good site planning to accommodate dwellings and outdoor living, positive frontage to Park Road, orientation to solar gain, windows to access natural light, legible and safe front entries, private outdoor living courts, garaging at the rear, and architectural interest. The results are two warm, private, dry generously proportioned dwellings that promote a positive relationship to each other, their neighbours and the street.

The dwellings are located close to nearby services and amenities - public transport, convenience stores, PNGHS, tennis club, Ongley Park, The Lido, Victoria Esplanade, Manawātū River and the city centre.

Although both lots can accommodate a vehicle onsite, it is the convenient location to these surrounding amenities that now offers a wider mode choice to move around the city. The increased ability to walk, bike or use public transport is now a real option for the residents that promotes a healthier, active lifestyle and reduces congestion and pollution.





STREETS FOR PEOPLE - HUARAHİ WHAKAHUIHUI TANGATA

CASE STUDY STREETS THAT BRING PEOPLE TOGETHER

Like many cities, Palmy is in constant competition to attract talent and investment. If we are to be considered a great place to live, work and play, then the quality, experience and image of our city's urban environment is a strategic risk we need to manage.

Since 2010, Palmy has proactively moved to address many years of poor urban design outcomes, especially in and around the city centre.

Our vision of 'Small City Benefits, Big City Ambition' prioritises city centre transformation as one of our top 'City Shaping' moves that will reposition the city centre as a vibrant and lively destination that:

- Encourages locals and visitors to frequent more often and stay for longer.
- Is pedestrian-friendly, well-connected with easy

links to a range of activities and transportation modes.

- Is comfortable, safe, interesting, and leaves a positive and lasting impression.
- Makes it easier to connect with others, network, collaborate, innovate and do business.
- Offers new private development opportunity and commercial enterprise including inner-city residential living, adaptive re-use of older buildings and mixed-use developments.
- Builds a deeper cultural and social identity including developing a stronger night-time economy.
- Attracts new talent, investment and innovation.
- Reinforces the city centre as the beating heart for city life.

Through stakeholder engagement, a streetscape plan aimed to create more pedestrian-friendly public spaces and encourage more investment and people into the city centre was developed. The physical change is underway through our Streets for People programme - Huarahi Whakahuihui Tangata of which Stage 2 Square East is completed.

Huarahi Whakahuihui Tangata translates as 'streets that bring people together' is a streetscape development around our inner-city centre. The programme is focused on improving the street environment to connect people with the open and central greenspace and commercial edges around Te Marae O Hine /The Square, Broadway and Main St East.

This work integrates with the inter-regional and urban bus terminals where improvements in these facilities will provide increased comfort and convenience in using public transport. Improving these streets for all users provides the physical platform for improving the activity and vibrancy of visible public life making for an engaging street environment and great places to stop and stay.

This is achieved by:

- Narrowing the vehicle roads to reduce vehicle speeds and discourage 'rat running' of unwanted vehicles through the city centre.
- Reducing general street parking while increasing mobility priority parking directly in front of businesses.

- Widening footpaths to facilitate increased pedestrians, free movement along building edges and longer staying opportunities in front of businesses.
- Flexible open spaces for business to activate and encourage a longer stay and spend.
- Comfortable bespoke street furnishings that accommodate people to stay longer and promote social interaction.
- Flexible street furniture and plug-in assets for street events, performances, play and other activations.
- Investing in natural stone paving that is of a higher amenity finish, harder wearing with a longer life cycle and ability to be re-used.
- Vegetation to provide shade, permeable space, visual interest comfort.
- LED street lighting for increased visibility and safety as well as flexibility for 'smart' infrastructure.
- Feature-led ground lighting for added visual interest at night.
- Integrated upgrading of other underground infrastructure delivered parallel to above street works.



BIODIVERSITY

Biodiversity is important for the city and its environmental sustainability because less than 1% of our original bush cover remains, so everything we have left is precious.

Council has committed to enhancing our biodiversity to bring more birds into the city and help reduce our climate and ecological impacts.

There are several programmes and investments that the city is making to protect, enhance and promote biodiversity as part of our Eco-City Strategy.

This includes programmes like Green Corridors, pest control and the District Plan

Here are the key areas we are focussing on:

- Ensuring pest control.
- Planting of native species.
- Reintroduction of native species.
- Ensuring our District Plan protects biodiversity areas identified as habitats of local significance.



Where are we now

Mātauranga Māori (Māori indigenous knowledge) is a fundamental foundation pillar for understanding and managing indigenous species. We are incorporating this into our policies and practice and more habitats of local significance are being identified and protected in the District Plan.

We are ensuring that the Turitea Reserve and adjacent forests ecosystems are protected from pests, allowing these ecosystems to recover.

Since 2003, we've been conducting an extensive predator control programme across 4000ha of the reserve. As a result of this work, we've seen roughly a ten-fold increase in many native bird species such as kererū and tūī.

We have been working with community predator trapping groups that have sprung over the last three years to extend predator control over a wider area and provide safe havens for our native birds when they come down into the city.

Excitingly, with predators under control, we're now able to begin reintroducing species that have been locally extinct for generations. Starting in 2021 we will begin translocation of the toutouwai (North Island Robin) from Bushy Park in Whanganui into the Turitea Reserve.

We have also been ensuring that the Turitea Reserve and incorporated stream is connected with the city through an extensive green corridor network; and this is encouraging native wildlife to increasingly move into the city. Since 2001, over 150,000 native trees have been planted in the Aokautere gullies and alongside the Turitea and Kahuterawa Streams.

More native-friendly species are planted within the city, providing year-round food sources for native wildlife.

In addition the mauri of urban streams is enhanced, and native aquatic life is thriving.

How are we doing this

We are expanding the Green Corridors programme to plant the riparian margins of streams linking the Turitea Reserve with the city and river, and planting more native bird-friendly trees in our reserves and roadsides.

We continue to fund and support community groups working in partnership to increase biodiversity activities such as Green Corridors.

We also continue to review our District Plan to identify and protect additional habitats of local significance. An example of this is enhancing freshwater bodies such as wetlands and urban streams and provide more opportunities for people to interact with these sites, such as the Urban Eels programme.

Vegetation in our reserves and sports fields provide opportunities for creating invertebrate and bird habitat that urban areas don't allow due to space restrictions. Examples include Olearia species, Kohuhu, Karamu (*Coprosma lucida*), Tarata, Ribbonwood, Ti Kouka and Hebes are all particularly insect and bird-friendly species.

Where we plant native trees in our natural and city-wide reserves, we endeavour to plant eco-sourced vegetation.

Eco-sourcing is based on the following principles:

- Using seed sourced from local naturally occurring populations.
- Preserving ecological history.
- Maintaining local biodiversity.
- Recognising ecological district species.

We will continue to review our District Plan to identify and protect more habitats of local significance.

Biodiversity Programmes and Campaigns

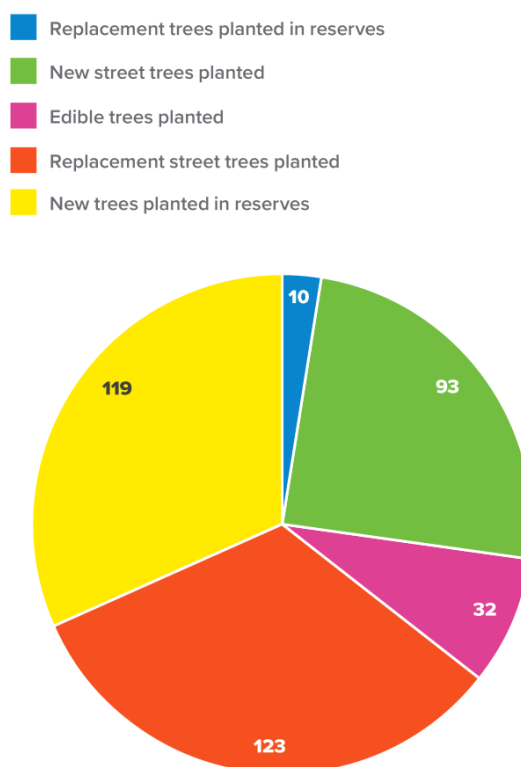
There are several successful campaigns and programmes to support biodiversity, and the details of these can be found on our website at pncc.govt.nz.

In summary they are:

- Widespread predator control across the Turitea Reserve and surrounding areas in partnership with the community
- Reintroduction of toutouwai (North Island robins) into the Turitea Reserve
- Protection and restoration of parks and reserves (info graphic below)
- Substantial native tree planting in our green corridors programme
- Continuing our street and reserve planting

We planted 377 trees planted in the 2018/2019 year. The graph shows that most of these new trees were on streets, contributing to more than 3,800 street trees.

Number of trees planted in reserves and streets
Palmerston North (2018/2019)



MEASURES OF SUCCESS

To measure our performance, there are several metrics we monitor, such as:

- Increase in native bird numbers.
- Increase in number of trees, mainly, native and bird-friendly species.
- Increase in native aquatic life.
- Increase in the area of significant habitats protected by the District Plan.
- Decrease in predator tracking rates.
- Increase in eco-tourism numbers.



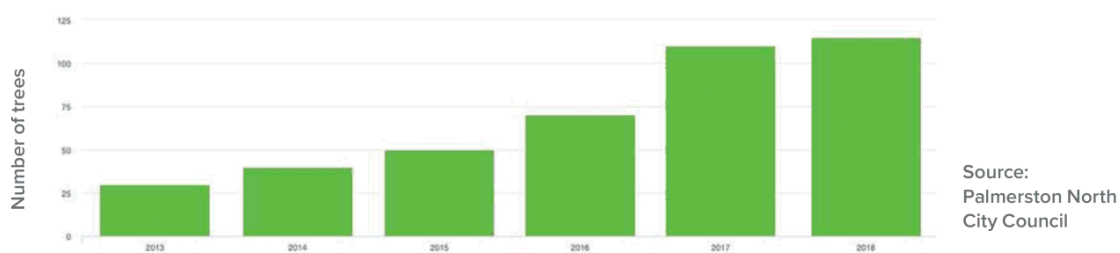
CASE STUDY GREEN CORRIDORS

The Green Corridors programme enhances areas of native bush along streams, provides a place for wildlife to thrive, improves water quality, and creates open green spaces from the Tararua Ranges to the Manawatū River.

Green Corridors' mission is to create a corridor of native plants along streams and gullies to connect the Tararua Ranges to the Manawatū River. Launched in 2001, the purpose of the project is to improve water quality, increase habitat for wildlife, provide recreational access to waterways and bush area, and to bring birds from the mountains into the city.

Much of the inspiration for Green Corridors came from work being done by the Keebles Bush Trust on land located near Massey University. Keebles Bush is a remnant podocarp forest that covers 23 hectares; the seed was sourced from Green Corridors and now seeds and young are being sourced from here for the first 10-12 years of Green Corridors. Seed and young plants are now being sourced from areas such as Turitea Reserve, Kahuterawa Reserve and remnant bush areas from the Gorge Scenic Reserve through to Kahuterawa Stream to increase diversity.

Number of trees planted in Green Corridors (2016/17 - 2018/19)



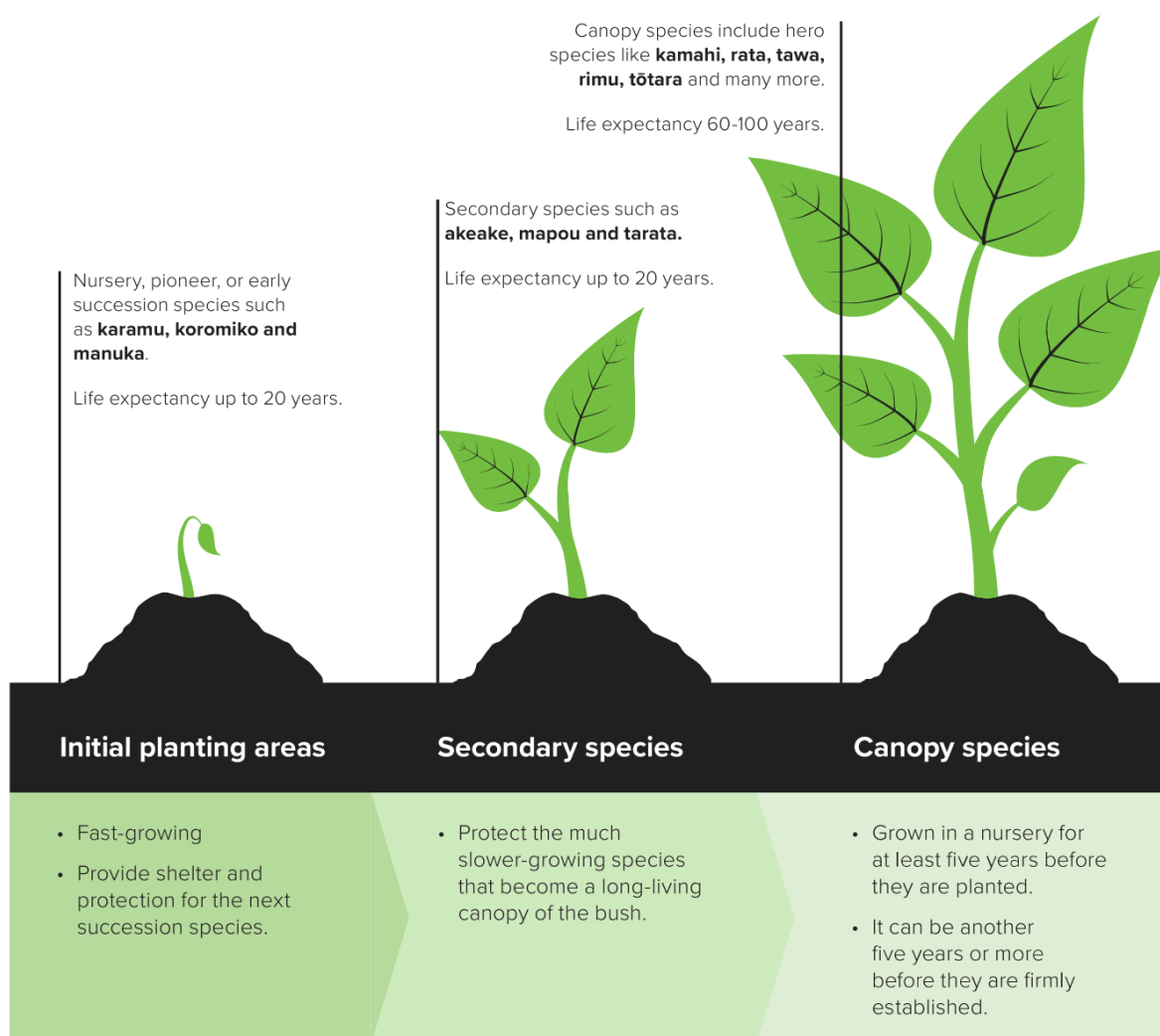
Green Corridors is a voluntary group that works with Council to plan and oversee the planting of reserve areas to encourage native biodiversity. Since 2001 Green Corridors has planted over 178,000 trees.

How does the project work?

Seeds for Green Corridors are eco-sourced from local bush remnants. This is deliberate and is one of the reasons why the project is so special. Species have adapted over hundreds and thousands of years to meet local conditions. A plant from the Turitea Valley has different characteristics to one found in Northland, Wellington or even Rangitikei. The flowering and fruiting of plant species also varies between regions. Eco-sourcing helps preserve local biodiversity and has the added benefit that what is planted is more likely to survive and thrive because it is optimised for our conditions.

Initial planting areas contain nursery, pioneer, or early succession species such as karamu, koromiko

and manuka. These species are fast-growing and provide shelter and protection for the next succession species. To successfully re-establish bush requires a careful and deliberate process over several years to be followed. Secondary species such as akeake, mapou and tarata develop a sub-canopy that outlive the nursery species. They protect the much slower-growing species that become a long-living canopy of the bush. Canopy species include hero species like kamahi, rata, tawa, rimu, tōtara and many more. These are grown in a nursery for at least five years before they are planted. It can be another five years or more before they are firmly established.



Canopy species live 60 - 100 years, compared to some of the pioneer and secondary species that only live for up to 20 years. Fortunately, as the bush is gradually restored, a habitat is created for birds and regeneration opportunities arise as birds spread seed. Eventually, the bush becomes self-sustaining.

Who is involved?

The Green Corridors project is a Council-community partnership.

A committee of community volunteers, our staff and a Horizons Regional Council representative, oversees the project. The wider community is involved in planting projects throughout the year, either through formal planting days or through the monthly working bees that are co-ordinated by community volunteers.

The community representatives on the committee provide a hugely valuable service to the success of the project. Hundreds of hours of work have been undertaken to keep the Green Corridors maintained. Significant work has been done to remove domestic waste from reserves.

Planting days have been hugely popular. Community involvement has grown from a few dozen volunteers back in 2009 to almost 100 in 2019. Commercial sponsorship has been invaluable for ensuring the success of the project over the past decade, by providing financial support, personnel for planting and refreshments for hungry volunteers.

What has Green Corridors achieved?

The Turitea Valley and Aokautere Gullies have had over 150,000 plants planted since 2001. This effort was recognised in 2017 by the Society of Local Government New Zealand when the project received the Excellence Award for Environmental Impact.

Number of trees planted in Green Corridors (2016/17 - 2018/19)



Source: Palmerston North City Council

Green Corridors is a voluntary group that works with Council to plan and oversee the planting of reserve areas to encourage native biodiversity. Since 2001 Green Corridors has planted over 178,000 trees.

What are the future plans

Planting will gradually increase from 12,000 to 15,000 plants annually. Most plants will be pioneer species, which help to establish initial forest cover. At least 5000 plants per year will be planted for supporting the early growth of the longer-lived species, like rata, tōtara and rimu. It typically takes five years or more before they are ready to be planted. Many of the pioneer species only have a lifespan of 20 years, so it is important to plant canopy trees as soon as possible so that a self-

sustaining bush area can be established before the pioneer species die-off.

As the Green Corridors expand, birds feeding on seeds and fruits of plants can help create new bush by spreading seeds. After 20 to 30 years an area is self-sustaining, provided invasive pest plants are kept at bay.



CASE STUDY CENTRAL ENERGY TRUST

WILDBASE RECOVERY

The Wildbase Recovery Centre opened its doors to the public in February 2019 and is New Zealand's only specialist wildlife rehabilitation centre.

Funded by Council and co-managed with Massey University, the centre at Victoria Esplanade is multifaceted. It houses native species that people can see during opening hours, it rehabilitates birds treated at Massey's Wildbase Hospital, and it runs educational programmes for schools.

The centre has 15 permanent residents and has rehabilitated and released more than 120 native species since February 2019. In the last 12 months, more than 100,000 people visited the centre, and over 4300 school students have come through the Centre for educational programmes. The centre runs these in the morning and so is closed to the public.

The centre, whose partners include the Department of Conservation and Rangitāne o Manawātū,

has a range of common and rare species. It has successfully raised 20 pāteke as part of the national captive breed for release programme, is raising two baby tuataras and can accommodate up to 300 birds.

The Wildbase Recovery Community Trust carried out the initial fundraising for the building and continues to fundraise for the centre's ongoing operation and maintenance.

Rotary New Zealand initiated the project. Without the passion and dedication of our local Rotarians, this centre would never have happened.

Also, at the heart of the centre are the volunteers who do the hard graft – scrubbing, cleaning, washing, sanitising and working as tour guides. As of May 2020, the centre had 62 volunteers and has need of more.

Admission is free to the award-winning architectural-designed centre.



FACT BOX

CENTRAL ENERGY TRUST WILDBASE RECOVERY CENTRE

Open to public 1pm-4pm.

Fully bilingual.

Monday to Friday and all day at weekends.

4300 Students received education programmes.

Variety of patients which are always changing.

Over 1000 people thorough Wildbase since opening.

Children under 16 can join the Juniors programme.

Accommodation available for up to 300 birds.



ENERGY

Improving our energy efficiency is a critical element of our sustainability strategy. Reducing energy consumption both reduces costs, as well as associated carbon emissions.

We monitor our energy use by collecting data from each building, facility and vehicle, which is collected each month. This monitoring identifies the largest energy users and which areas need to be targeted first. We conduct a comprehensive energy audit on each facility, starting with the facilities that use the greatest energy. These audits produce a list of energy and cost-saving recommendations, which are then implemented.

We however aren't waiting for each facility to be audited before making improvements. We undertake a separate programme of replacing obsolete lighting with LEDs, while still ensuring lighting standards are met. Other opportunities include investigating whether the use of solar technology might allow some smaller facilities to go off-grid, saving line charges. Council is

also committed to constructing energy-efficient buildings, saving costs over the longer term.

Unfortunately, achieving our energy efficiency objectives is difficult for a range of reasons:

- Energy efficiency has not historically been a key consideration during facility upgrades, renewals and new builds.
- Many of our sites still use obsolete and inefficient technologies that are increasingly expensive to operate and maintain.
- Many existing buildings are highly energy inefficient and hence costly to run.
- Some low usage sites have very high associated electricity line charges.
- We lease a few of our facilities, making efficiency upgrades more difficult to achieve.
- Current lighting and heating levels are not fit for purpose at some sites.



What we're doing

This doesn't mean we are not able to make a big difference. After beginning a comprehensive energy monitoring programme in 2016, Council has been able to achieve substantial improvements in energy efficiency for the organisation. There has been an overall reduction in energy consumed, despite increasing levels of service. Energy costs have risen in previous years, yet energy saving measures have enabled costs to remain stable.

Most of the energy savings achieved to date are the result of four major projects:

Upgrade of the Totara Rd Wastewater Treatment Plant cogeneration plant, which uses gas captured from the adjacent Awapuni Landfill to generate electricity, powering and offsetting the energy requirements of the treatment plant.

The upgrade of the city's streetlights to modern LED technology is now mostly complete, with only a few remaining streets still to be upgraded. This change has roughly halved energy consumption, while the longer lasting and more durable LEDs have also substantially reduced ongoing maintenance costs.

Following a comprehensive audit of the Lido Aquatic Centre, a range of energy efficiency measures were implemented over the 2017/18 financial year. Measures included a suite of minor capital works and operational changes to better preserve heat and reduce the energy requirements of the second-largest Council facility by energy consumption.

Council has begun upgrading its vehicle fleet, where appropriate, to improve energy and fuel efficiency. In many cases, these vehicles have been upgraded to pure-electric or plug-in hybrids. One notable example of this shift is the procurement, of two pure-electric heavy rubbish trucks in partnership with the Energy Efficiency Conservation Authority.

Despite these improvements, the majority of Council facilities and fleet still uses older energy intensive technologies such as incandescent lightbulbs and inefficient vehicles. As such, there remains significant capacity to further improve energy efficiency.

On average, Manawatū consumes less electricity than New Zealand collectively but that the gap has narrowed in recent years.

SUSTAINABLE WIND POWER

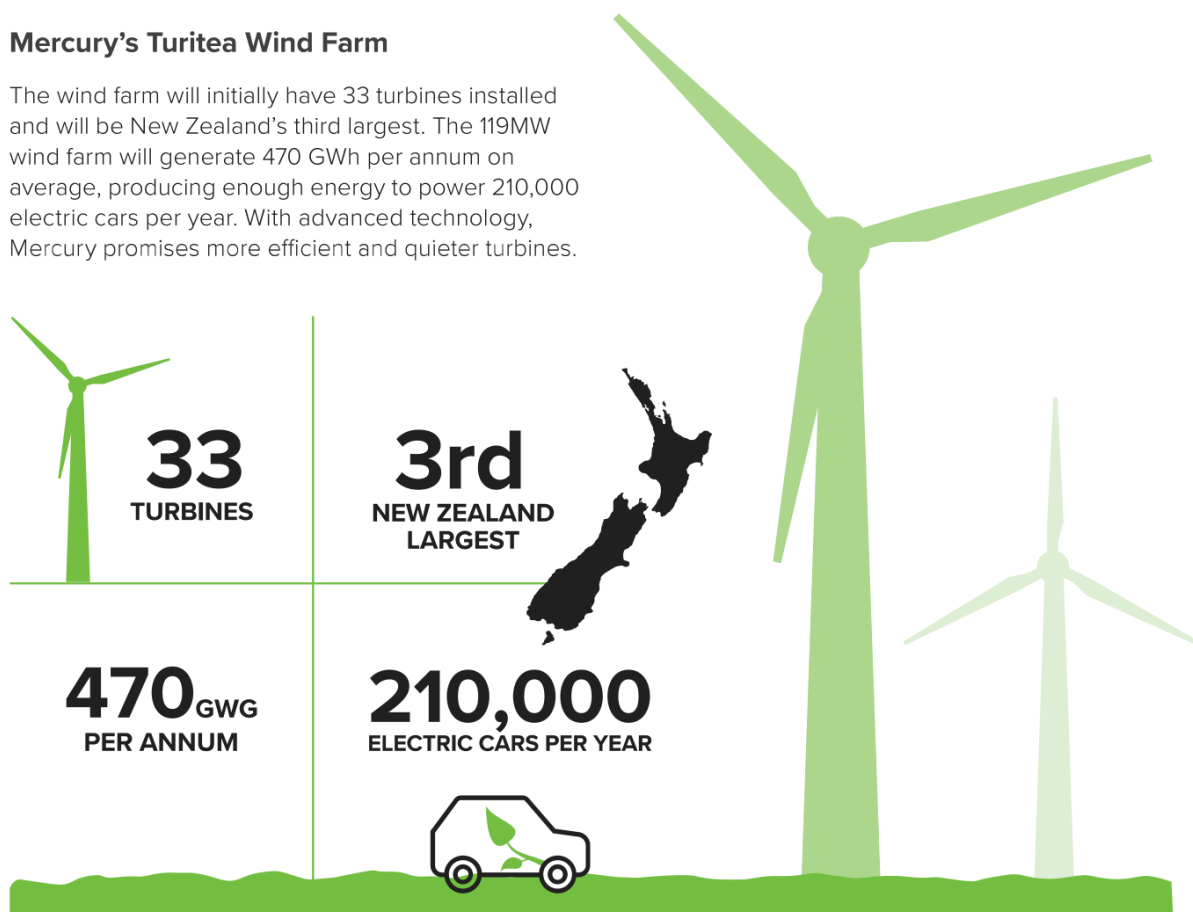
CASE STUDY DRAWING MAJOR INVESTMENT AND INNOVATION IN CLEAN ENERGY - TURITEA WINDFARM

Palmy's landscape and location contribute to New Zealand's sustainable, low emissions future and has attracted multi-million-dollar investments from two energy companies – Mercury and Meridian Energy. Construction is underway on Mercury's Turitea Wind Farm in the Tararua Ranges to the east of the City.

The wind resource in Palmerston North and the Tararua Ranges is world-class. It's why the wind industry is gravitating here, to unlock this resource and integrate it as part of low carbon, renewable energy future for New Zealand – something the region can be proud of contributing to.

Mercury's Turitea Wind Farm

The wind farm will initially have 33 turbines installed and will be New Zealand's third largest. The 119MW wind farm will generate 470 GWh per annum on average, producing enough energy to power 210,000 electric cars per year. With advanced technology, Mercury promises more efficient and quieter turbines.



Construction is underway on Mercury's Turitea Wind Farm in the Tararua Ranges to the east of the City.

Construction started in August 2019 and is planned to be operating in 2021. Mercury's Resource Consent provides for a further 27 turbines to be installed later the Puketoi range to the east. The estimated \$256 million project supports the opening-up of a further \$750 million investment opportunity in wind energy development.

In 2004, Meridian constructed 55 turbines near Saddle Road, 10 kilometres from the city centre, and near the Manawatū Gorge. The Gorge creates a wind tunnel that consistently creates high wind speeds. Known as the Te Apiti wind farm, these turbines generate enough electricity to meet the annual electricity needs of approximately 45,000 people.

“Dennis Radich, Mercury's generation development manager said, “As was reflected to us by Peter Cowling, the Australia/ New Zealand head of global wind energy company Vestas: ‘If it's natural gas you want, you go to Kuwait; if it's quality wind you want, then you come here.’”



CASE STUDY COUNCIL FACILITIES

Energy-efficient and sustainable options are always considered when refurbishments and renewal work is undertaken within council-owned facilities.

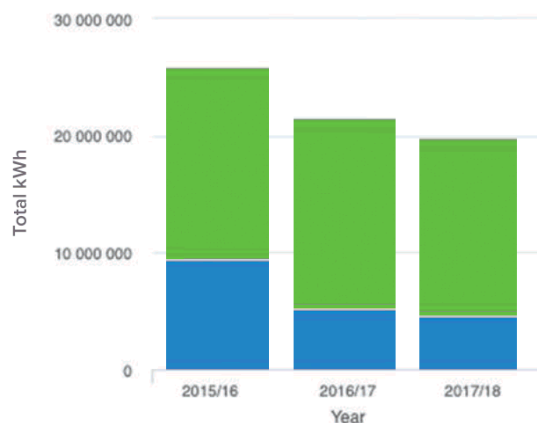
These include, but are not limited to, LED lighting, energy-star efficiency heat pumps and HVAC units and energy-efficient hot water cylinders.

The Papaioea Place Social Housing Redevelopment replaced 50 old units with 78 new fully insulated, energy-efficient units each with good heating

provision that meets the 4-Star Lifemark Accreditation rating.

There is also an annual renewal programme that oversees the progressive upgrade to convert existing lighting to LEDs, including bringing light levels up to standard where appropriate within all our facilities. This has happened in the Civic Administration Building, including the third floor, the Council Chamber and within the Linkspan and Missoula Room areas.

Total energy use by Council facilities (kWh) (2015-2018)



Source: Palmerston North City Council and reported by Smart Power.

This measure refers to the use of electricity and natural gas by facilities directly controlled by Council. The measure includes facilities where the operation is contracted to a third party (Hancock Community House, swimming pools and the CAB café). Facilities managed by CCOs (the Regent Theatre, the Globe Theatre, Te Manawa, and CEDA) are excluded from this measure. The graph shows that total electricity and natural gas use has decreased from 25,944,931 kWh in 2015/16 to 19,824,494 in 2017/18 (a decrease of 23.6%).

■ Total electricity use (kWh) ■ Total natural gas use (kWh)

CASE STUDY ECO-DESIGN ADVISORY SERVICE

We're one of seven Councils in New Zealand to have an Eco-Design Advisor (EDA). Their role is to improve the comfort and health of residents by providing free independent advice on home performance. Their advice can range from new builds and significant renovations, to behaviour change and simple retrofits.

The service could be a conversation around a table or a comprehensive on-site home assessment. Our Eco-Design Advisor offers free advice to Palmy residents, architects, designers and builders on sustainable design and energy options for homes. Design decisions that will impact the most in the performance of your home are the ones made early in the design process.

The award-winning service was established in 2006.

Moisture content in houses can be an issue and keeping condensation under control are two common problems. Our Eco-Design advisor can help with these issues with some simple solutions. If you're building a new home or want help with options for improving your home or reviewing your house plans, then customised advice for individual houses, family needs and budgets is available.

EDAs work closely with EECA, BRANZ, MBIE, and Consumer NZ to provide the best available information to homeowners, landlords, tenants and the building industry.



CUSTOMER FEEDBACK

Here are some of the comments we've received from people who have used this service.

“ As a result of Nelson's visit, we have replaced 13 recessed downlights with LEDs, and had a thick blanket of insulation installed in our roof. The difference in warmth is quite noticeable.”

“ Nelson's delivery is certainly one of passion and enthusiasm. His content is something everyone can relate to.”

WASTE

MINIMISING WASTE TO LANDFILL

In 2017, we carried out a city-wide waste assessment to identify where we can most effectively target waste reduction measures. This assessment found Palmy sent 45,000 tonnes of waste to landfill, of which half could potentially have been composted, reused or recycled.

Following the waste assessment, Council adopted a Waste Management and Minimisation Plan (WMMP) in June 2019 to fulfil its legal obligations to “promote effective and efficient waste management and

minimisation”. The WMMP covers all solid waste and diverted material in the city, whether it is managed by the Council or not.

We are committed to providing kerbside solid waste collection services on a user-pays basis, alongside rates-funded kerbside recycling.

The purpose of these activities is to minimise the amount of waste going to landfill and to encourage reduction, re-use and recycling.



Where we are now

We currently provide a range of waste management services to the city through a combination of rates and user fees. Whilst overall waste has increased as our city grows - landfill diversion rates could be improved.

We currently produce around 840 tonnes of waste each year which is sent to landfill, and there is considerable opportunity to divert more into recycling, compost or develop further options for repurposing.

Currently those living and working in Palmerston North have access to a range of options to manage their waste:



Council's weekly user-pays rubbish bags, and private company wheelie bin services



Green waste and other organic waste composting at drop offs.



Council's kerbside recycling service and recycling drop off points.



E-waste services at drop offs.



Council's collection of food waste from inner-city commercial customers.



Various other specialised services such as medical waste collection and treatment.

Where we want to be

Looking to the future we aim to increase the proportion of waste diverted from landfill from 38% to 48% by 2025. This can be tackled in several ways. We plan to reduce the gross volume of waste produced city-wide and reduce our own organisational waste. We will divert more away from landfill into recycling, composting and increase recycling services in the growing north-west section of the city. We will also investigate options for sustainably recycling materials for which there

is currently no option but to send to landfill and implement these when feasible.

Our goals and objectives mean we want a community committed to minimising waste sent to landfill. A community that considers, and where appropriate implements new initiatives and innovative ways to assist in reducing, reusing and recycling wastes to minimise environmental harm and protect public health.



WHAT HAPPENS WITH OUR WASTE

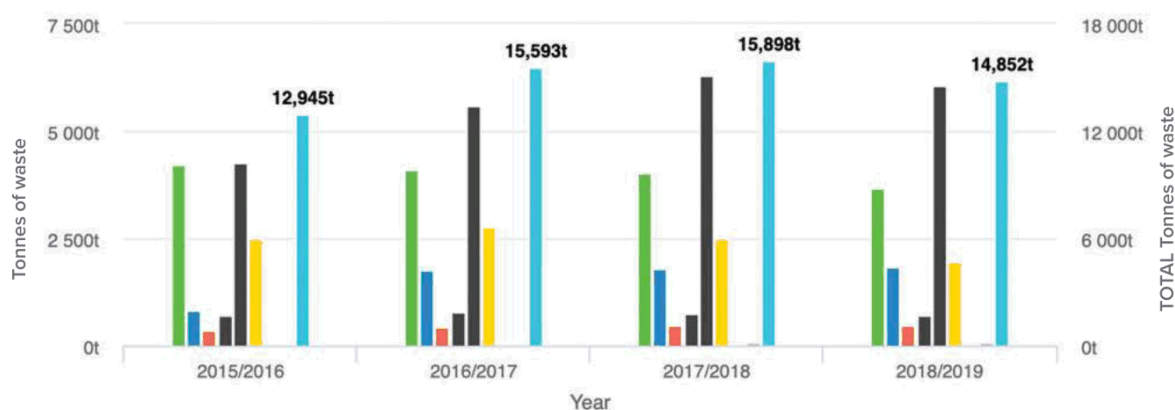
KEY FACTS

- Palmy diverted 28,000 tonnes of material in 2017 and sent just over 45,000 tonnes of waste to landfill. Half of this waste could potentially have been composted, reused or recycled and whilst we have got better, we have a long way to go.
- Kerbside rubbish accounts for a third of Palmy's waste, with construction, demolition, industrial and commercial operators accounting for the rest.
- We provide a user-pays rubbish bag collection service. While many households use a private wheelie bin company residents who use 240L wheelie bins send far more material to landfill that could have been repurposed than those who use bags and/or smaller bins.

MEASURES

These measures indicate we can recycle more and divert less to landfill. Conservative estimates indicate a quarter or more landfill can be recycled. Continuing education to increase awareness is necessary to make the public aware of this fact, and then create behavioural change.

Waste (tonnes) diverted through kerbside recycling and drop-off facilities in Palmerston North (2015/16 - 2018/19)

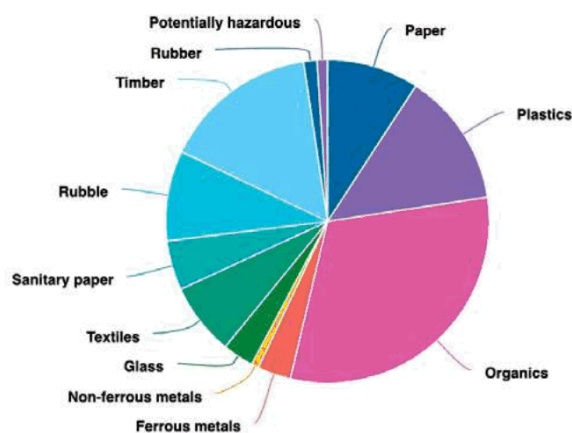


Source: Palmerston North City Council

The graph above shows that the amount of material diverted through kerbside collections and drop-off points decreased over the past year. However, overall, the amount of waste diverted has increased over the last three years, with a significant net increase between 2015/16 and 2018/19. Total waste diverted is shown on the right-hand axis. This graph does not show waste controlled by private companies.



Composition of waste to landfill in Palmerston North (tonnes) (2017)



Source: Palmerston North City Council Waste Assessment (2018)

This chart shows the composition of the estimated 45,540 tonnes of Palmerston North waste that went to landfill in 2017. The Waste Assessment (2018) is the source of this data, and will be updated again in the near future.

Palmy's waste offers lots of opportunity and it has a number of initiatives to reduce waste to landfill. We can do better in reducing landfill waste by recycling, reusing or composting more.

E-Waste Recycling

Our Ferguson Street Recycling Centre manages electronic and electrical waste (e-waste) recycling programmes. E-waste collected is processed by a contractor and it is either re-used or recycled in an ethical and environmentally friendly way. No items are sent to landfill, except where there is no viable market for the product.

E-Waste Re-purposing

Our e-waste recycler responsibly disposes of our decommissioned electronic equipment. We target to have 30% (consisting of refurbished high-end equipment) donated for community use under the Digital Wings programme. Our relationship with recycler, RemarkIT and the Digital Wings programme aligns with our commitment to a sustainable circular economy for New Zealand while contributing to a thriving community sector.

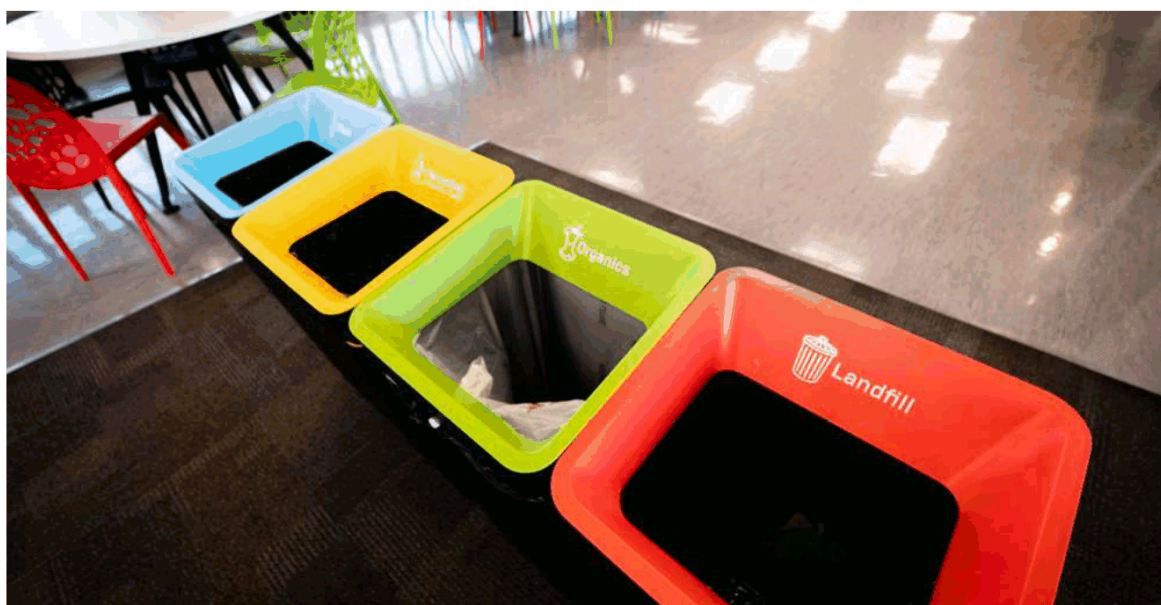
Zero-waste events

Events held on Council land or with Council funding aim to be zero waste. Event organisers are expected to take reasonable steps to minimise waste generation, such as food vendors reducing the amount of packaging used. Non-recyclable materials such as foil or foil-lined packaging, polystyrene or styrofoam containers or cups, wax-lined paper cups or Tetra packs are avoided.

Event organisers also take reasonable steps to encourage recycling opportunities for materials used, such as ensuring packaging, single-use beverage cups and utensils are 100 per cent compostable. Where the use of compostable

materials is not practicable, food packaging should be made from recyclable or reusable materials. Event attendees also are made aware of the opportunities to recycle packaging.

This effort diverts recyclables and food waste from landfill as part of our approach to waste minimisation. Four differently coloured bins are made available at all events to receive recyclables, plastic, cans, glass, organic food waste, and rubbish/landfill. Feedback on cross-contamination is given to event organisers to ensure proper recycling practises are incorporated into their events and suggestion on how to make improvements, if necessary.



CASE STUDY REDUCING COUNCIL WASTE AND INCREASING RECYCLING

We have an internal Bin the Bin process – where there are no individual office bins and staff separate their waste into different centrally located categorised bins: - landfill, organics, glass, plastic, recyclables and paper. Staff have adjusted well to the new system.

‘Bin the Bin’ has reduced waste sent to landfill by 63%. This change has meant the new average

waste to landfill is 75kgs compared to the previous average of 200kgs.

Subsequently, there have been a few smaller recycling initiatives that individual floors have developed for recycling such as coffee capsules, batteries and not using takeaway food containers reducing waste further.

CASE STUDY MORE THAN THREE TONNES OF CHEMICALS SAVED FROM LANDFILL IN ONE DAY

The free hazardous household waste drop-off event held in June 2019 attracted 198 registrations (compared to 81 the year before).

It's the second time we've hosted the event and this year more than double the number of residents handed over their old chemicals. Old bottles of DDT and sodium chlorate and paraquat, which are old weed killers were some of the items handed in. It's great that these items are now out of people's

homes and safely disposed of. These chemicals are often used outside and can be a risk for the freshwater animals and plant life in our waterways.

This event diverted over three tonnes of waste from landfill. This included 1049kg of household hazardous chemicals for pools, gardens and automotive waste. These were all sent for proper disposal. There was motor oil, collected and recycled and as well as a large range of batteries.



“It’s great that these items are now out of people’s homes and being safely disposed of. These chemicals are often used outside and can be a risk for the freshwater animals and plant life in our waterways.”



WHAT CAN BE RECYCLED?

Check out the Guru's Guide on our website for the latest pncc.govt.nz/gurusguide

CASE STUDY SMART BINS FOR A SMART CITY

In 2019 we installed three solar compacting smart bins around Palmy as part of a trial to see whether they were more effective and efficient than our other bins.

We installed three bins – one each at Milverton Park, the Square, and the Skate Park.

The large red bins can hold up to 1,920 litres of material, compared to the 60 litres our normal park bins can deal with.

A solar panel on the top of the bin provides the power for the compaction, with a sensor which

sends notifications to our team on the bin's status – such as fill level.

When the bins are getting full an alert is sent to Council to say it's time to empty them.

The three parks were chosen for the trial because they cater for very different groups of people and we want to see whether they're used differently.

We're continuing to monitor their performance, and how our residents find them, before making a call on whether to install further bins in the city.



TRANSPORT

Palmy has an excellent record of facilitating daily car journeys. We've provided additional capacity for cars; however, we've been less successful in providing facilities for walking, cycling and public transport. While the car will continue to be an important mode of transport; walking, cycling, and public transport are where the biggest changes are needed.



Where we are heading

Our goal is to have more people walking, cycling, and using public transport. Our transport system needs to cater to the lowest level of mobility and physical capability, so everyone feels comfortable walking or cycling about the city. We've made good progress with off-road walking and cycling facilities, and we generally have good footpath coverage.

However, we need to consider how we treat and prioritise space for pedestrians and cyclists at pinch-points, intersections, and crossings, particularly as our urban areas intensify.

Delivery of the Regional Freight Ring Road by Waka Kotahi NZ Transport Agency as part of the Palmerston North Integrated Transport Investment Project will help enable us to transform our urban transport network to better provide for walking, cycling and public transport.

We've made good progress in public transport in some areas. Like walking and cycling, public transport has many benefits - it reduces congestion, carbon emissions and can increase people's mobility. The free bus service for Massey University and other tertiary institutions is well-supported and

has reduced congestion on Fitzherbert Avenue.

The Square – Te Marae o Hine is the city's inter-regional terminal, and having passengers dropped off in a high-quality and central public space is working well. We need to consider providing more shelter at this location.

Horizons Regional Council provides the urban bus service. The benefits of investing in greater frequency on existing routes, or greater coverage, need to be carefully considered. The current urban terminal at Main Street is near capacity, and the design is problematic and so our City Centre Streetscape Plan includes a concept design for a new urban terminal.

Where we are now

Palmy is very easy to get around. It is relatively flat with good off-road walking and cycling facilities, footpath cover especially in town, an extensive shared path network, and cool urban cycleways. Our town planning of old and the way city is set out provides great flexibility and a choice of different routes for cyclists, pedestrians and in vehicles.

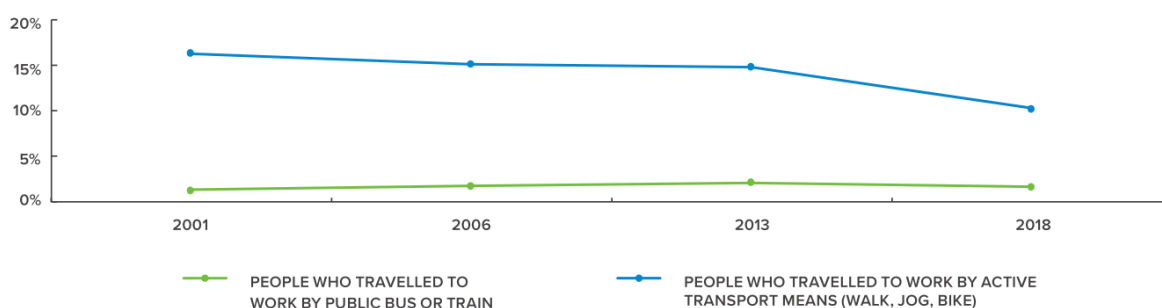
Yet as Palmy grows we spread out and people are reliant on motor vehicles for longer commute and transport. This is giving rise to an increasing population of commutes and larger trucks on our roads as we distribute more freight.

Public transport patronage has traditionally been low and declining, yet the recent introduction of new services has slowed this drop off. People waiting for buses are exposed to the weather in places and this can be a disincentive to using public transport in gnarly weather.

We can do better to support the lack of street furniture and amenities for the comfort and convenience of people walking, cycling as well as those busing. These factors coupled our low-cost parking may be encouraging the use of private motor vehicles.

This picture whilst fair presents lots of opportunity to further improve and to continue advocating for the ring road around the city taking freight trucks off our city streets and making our city safer for all and becoming more sustainable.

People in Palmerston North travelling to work by public or active transport (2001, 2006, 2013 and 2018)



Source: New Zealand Census

This graph illustrates the percentage of people (age 15+ years) who used public or active transport to travel to work on census day or (in 2018) who usually travel that way. In 2018 the large majority of people aged 15+ (76.8%) said they usually travel to work by car, truck, van, motor cycle or power cycle (either as a driver or passenger). The graph shows that public transport rates have remained very small, while active transport rates have steadily decreased.

Where we want to be

We want to have a strong culture of walking, cycling and using public transport for commuting and the city to score highly in city liveability assessments.

To have a transport system that has resilient and reliable surfaces for people with accessibility and mobility needs.

Safe, resilient and reliable travel routes, conditions and interconnected intermodal transportation that prioritise active public transport users.

Our primary cycle routes clearly defined and easy to use, and motor vehicle use, and parking have minimal effect on active and public transport.

Palmy has secure facilities and amenities available in key locations for pedestrians and cyclists to store bikes and packages, repair bikes, rest and shelter.

Have a resilient shared pathway around the city linking to Ashhurst, Railway Road to Bunnythorpe-Feilding, Linton and Longburn with interconnections to the road network.



CASE STUDY INNOVATING STREETS FOR PEOPLE

Palmy will be leading the way in how its agile streetscape changes are tested and confirmed. We're a partner with Waka Kotahi - New Zealand Transport Agency on their Innovating Streets for People Programme. The programme will accelerate our efforts to create safer and smarter streets for people by providing resources and advice for quick-build street pilots.

Palmy has received funding for a variety of street pilots including:

- Regular street closure trials to support inner-city place streets.
- Co-designed slow speed improvements to suburban business areas to make it a more enjoyable and identifiable local shopping centre to spend time.
- Separated and parking protected cycleway trials to test the validity of these types of cycleway facilities in Palmy.
- Slow speed improvements in the city centre to enhance the level of comfort and safety for people to spend time on the street.

These improvements will enhance the level of active transport in these trial areas to create more accessible places.

The lessons gained from these pilots can be scaled to other areas of the City and the elements used to pilot these quick-build projects can also be repurposed for future pilots. The speed of the piloting streetscape changes allows for quicker safety improvements with the additional benefits of:

- Reducing the risk of a streetscape design.
- Increasing opportunities for public engagement on future permanent works.
- Gaining a more accurate understanding of the right interventions required for a particular street or intersection.

CASE STUDY TE AHU A TURANGA SHARED PATH

The Waka Kotahi - NZTA Te Ahu a Turanga (Manawatū-Tararua Highway) project will replace the existing Saddle Road connection over the Ruahine Ranges with a new road by 2025.

The Saddle Road has been used as the primary route to connect the Manawatū and Tararua regions since the Manawatū Gorge section of the SH3 Napier Road was closed permanently in July 2017 following several large slips and its long history of instability.

The \$630m+ project includes two roundabouts, a new bridge over the river, other large structures, and a shared path providing walk/cycle users a safe 'off-road' route between Ashhurst and Woodville. Also, there will also be large-scale amenity improvements, including native planting near the road and the wider area along with a new park at the western end of the new bridge.

The shared path will connect into our existing shared path network at the Ashhurst Domain and at the Manawatū River to provide safe and easy access to Ashhurst to the north, and the City to the west, in time when the final section of the river pathway is completed.

Although not directly part of the Te Ahu a Turanga project, Waka Kotahi has also committed to constructing a 'clip-on' structure to the northern side of the Ashhurst Bridge and an 'on-road' shared path extension to the Ashhurst Domain entrance.

When Waka Kotahi originally applied for a notice of requirement under the Resource Management Act

1991 to designate the road corridor in late 2018, they did not include a shared path or any commitment to providing safe route across the Ashhurst Bridge as part of the project. However, we strongly recommended a shared path be included in the project design from pre-application engagement and later through a combination of submissions and expert evidence provided as part of the designation process. This was based on strong guidance to do so from policy documents across all levels of government.

This culminated in Council representative appearing at the Hearing held in March/April 2019 and addressing the panel of independent commissioners on the importance of providing a safe, accessible and connected shared path in the context of government direction to do so. Alongside similar concerns raised by over 700 public submitters, and strong guidance from the panel itself, at the end of the Hearing Waka Kotahi changed their position. They agreed to provide the shared path, as well as a \$1m fund available for connecting walkways, and the 'clip-on' to Ashhurst Bridge and shared path extension to Ashhurst Domain.

These works will provide a huge improvement to safe walk/cycle accessibility into the Te Apiti area. In time they will be viewed as a legacy of our active involvement in evidence-based championing of the benefits and ultimately Waka Kotahi's openness to listening to Council and public feedback and adapting their position.



APPENDIX 1:

A REGIONAL APPROACH TO CLIMATE CHANGE

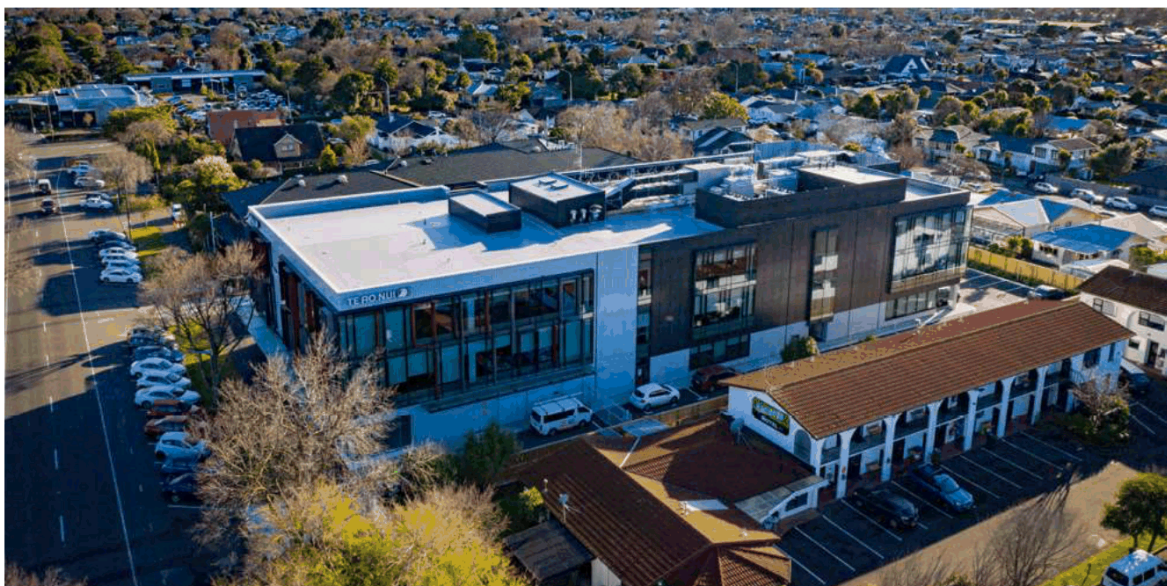
The eight Councils in the Manawātū-Whanganui Region are all signatories to the Local Government Declaration on Climate Change.

In September 2019, all regional Mayors signed a Memorandum of Understanding regarding climate change and have sought agreement from their respective Councils to include 'climate change' in their next Triennial Agreement.

The Memorandum outlines how all Councils in the region recognise the urgent need to address the challenge presented by climate change.

As a party to this Memorandum, we have along, with the other Councils undertaken to:

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



APPENDIX 2:

OUR PLANS

These plans enable us on our journey to become an eco city.

Three Waters Plan

Improving the mauri of the Manawātū River and its tributaries while safeguarding drinking water supply. It focuses on mitigating the effects of urban stormwater and investigating the best practical option for reducing the impact of wastewater discharge.

Waste Plan

How we intend to reduce waste within our organisation and support waste minimisation in the wider community.

Energy Plan

How we become more energy efficient. It includes energy audits of our facilities and implementation of the resulting recommendations. It will also detail how we intend to make more immediate energy-efficiency improvements.

Biodiversity Plan

How the ranges will relate to the City by green corridors alongside city streams, and how native wildlife will be protected within the urban area. Planting of the stream banks will also go some way towards improving water quality.

Sustainable Practices Plan

Outlines how we will foster more sustainable practices within and outside Council, including efforts to reduce waste and encourage more sustainable buildings.

APPLYING SMART CITY PRACTICES

Within each of these plans we undertake a range of practices to support the eco city concept.

- We monitor packages to track energy use, carbon emissions, and water quality.
- We promote a 'citizen science' approach, giving a platform for residents to contribute to biodiversity monitoring meaningfully.
- We incorporate technology such as LED lighting and electric vehicles to improve efficiency, reduce carbon emissions and improve air quality.
- We make better use of waste, including composting organic matter, rather than sending valuable resources to landfill.

USING SUSTAINABLE PRACTICES

Within each of these plans when applicable we undertake a range of sustainable practices to support the eco city concept.

- We make greater use of water-sensitive design, guided by the city-wide stormwater management plan.

- We support riparian planting of gullies and urban streams to promote biodiversity and improve water quality and amenity.

- We support monitoring and systematic carbon emission reduction.

WORKING WITH OUR STRATEGIC PARTNERS

We cannot do this alone, and partners are critical to our success. We value:

- The Manawatū River accord because it provides a holistic approach across many parties to supporting and growing the love of our awa.
- Horizons Regional Council as we work together on some of the large infrastructure projects and initiatives important to the region.
- Businesses as they realise opportunities to invest in the city's biodiversity while supporting businesses to reduce emissions and improve sustainability.

- Mid-Central District Health Board, Massey University, and other public institutions as we share knowledge and strengthen the market for sustainable procurement options.
- Others such as central government - Ministry for the Environment, Department of Conservation, and Linton Army as key stakeholders in the city and the broader Manawatū.
- The city's environmental community as they give life to the aspirations of the community and provide guidance.

APPENDIX 3:

WATER

Water Quality Tables – Manawatū River (Feb 2020)

This data is from a single monitoring site used as a proxy for river health because it is the southern-most point of reference and considers discharges from the city's wastewater treatment plant.

A cultural monitoring framework (Hei Manga Oranga) is being developed. This will provide a wider body of water quality data across the city's waterways (not just the Manawatū River), including cultural health.

E. Coli	Clarity	Turbidity	Nitrogen	Phosphorus
Five-year median: 240 n/100ml	Five-year median: 0.75 metres	Five- year median: 8.995 NTU	Five- year median: 0.983 g/m3	Five- year median: 0.023 g/m3

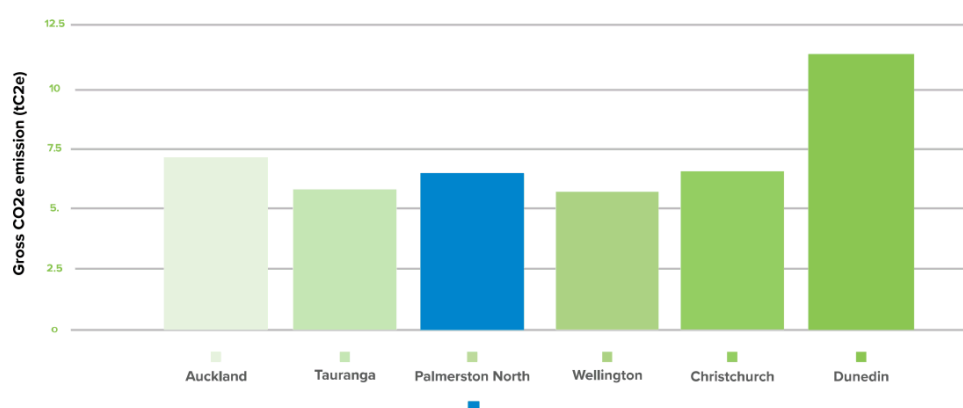
River Water Quality is the responsibility of Horizons Regional council

Data Source: Land Air Water Aotearoa (LAWA)

APPENDIX 4:

CARBON EMISSIONS - HOW DO WE COMPARE PER CAPITA?

Per capita CO2e emissions for Palmerston North and selected other New Zealand cities (2016/2017)



The data for 2016/2017 shows Palmy had similar per capita levels of CO2e emissions to Christchurch. However, city comparisons are difficult to make, as emissions are attributed to the city of origin even where the industry has a wider impact. For example, 50% of Dunedin's emissions are agricultural, and a significant proportion of Auckland's emissions are associated with the cement industry.



COMMITTEE WORK SCHEDULE

TO: Environmental Sustainability Committee

MEETING DATE: 9 December 2020

TITLE: Committee Work Schedule

RECOMMENDATION(S) TO ENVIRONMENTAL SUSTAINABILITY COMMITTEE

1. That the Environmental Sustainability Committee receive its Work Schedule dated December 2020.

ATTACHMENTS

1. Committee Work Schedule - December 2020 [↓](#) 

ENVIRONMENTAL SUSTAINABILITY COMMITTEE

COMMITTEE WORK SCHEDULE – DECEMBER 2020

Item No.	Estimated Report Date	Subject	Officer Responsible	Current Position	Date of Instruction/ Point of Origin
1.	September 2020 2021	Waste Management and Minimisation Plan, including percentage waste diversion from landfill, and on total tonnes of waste sent to landfill	Chief Infrastructure Officer		Planning & Strategy clause 46 5 June 2019 9 September 2020 clause 17.2
2.	2021	Environmental Sustainability Review 2021	General Manager – Marketing & Communications		
3.	2021	Report on options, including education, to reduce non-recyclable plastic waste to landfill, which could be delivered to the community alongside any change in PNCC plastic recycling services	Chief Infrastructure Officer		Council clause 136 25 November 2020