PAPAIOEA
PALMERSTON
NORTH
CITY

PALMERSTON NORTH CITY COUNCIL

AGENDA

SUSTAINABILITY COMMITTEE

9AM, WEDNESDAY 7 JUNE 2023

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

MEMBERS

Brent Barrett (Chair)
Kaydee Zabelin (Deputy Chair)
Grant Smith (The Mayor)

Roly Fitzgerald	**Lorna Johnson**
Patrick Handcock (ONZM)	**Debi Marshall-Lobb**
Leonie Hapeta	**Karen Naylor**

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

Waid Crockett

Chief Executive | PALMERSTON NORTH CITY COUNCIL

Te Marae o Hine | 32 The Square
Private Bag 11034 | Palmerston North 4442 | New Zealand
pncc.govt.nz

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SUSTAINABILITY COMMITTEE MEETING

7 June 2023

ORDER OF BUSINESS

1. Karakia Timatanga

2. Apologies

3. 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.

4. 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.

5. 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.)

6. Confirmation of Minutes Page 7

"That the minutes of the Sustainability Committee meeting of 29 March 2023 Part I Public be confirmed as a true and correct record."

7. Desktop analysis of opportunities for solar power on Council owned buildings Page 11

Memorandum, presented by David Watson, Climate Change Analyst.

8. PNCC Organisational Emissions Inventory 2021/2022 Page 25

Memorandum, presented by David Watson, Climate Change Analyst.

9. Notes on the Taipei 2023 Net Zero/Smart Cities Summit Page 37

Memorandum, presented by Adam Jarvis, Principal Climate Change Advisor.

10. E-scooters - Review of Performance in Palmerston North 2021 - 2023 Page 57

Memorandum, presented by Peter Ridge, Senior Policy Analyst.

11. Summary of the changes announced for Aotearoa New Zealand's Waste System Page 69

Memorandum, presented by Bryce Hosking, Group Manager - Property and Resource Recovery, and Natasha Hickmott, Activities Manager - Resource Recovery and Sustainability.

12. Overview of regulatory and service provision options to minimise waste to landfill Page 77

Memorandum, presented by Peter Ridge, Senior Policy Analyst.

13. Wastewater Discharge Consent Project - Quarterly Update Page 87

Memorandum, presented by Mike Monaghan, Group Manager - Three Waters.

14. Opportunities for native species reintroductions in the Turitea Reserve Page 93

Memorandum, presented by Adam Jarvis, Principal Climate Change Advisor.

15. Committee Work Schedule - June 2023 Page 99

16. Karakia Whakamutunga

17. 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].

PALMERSTON NORTH CITY COUNCIL

Minutes of the Sustainability Committee Meeting Part I Public, held in the Council Chamber, First Floor, Civic Administration Building, 32 The Square, Palmerston North on 29 March 2023, commencing at 9.08am

Members Present: Councillors Brent Barrett (in the Chair), Kaydee Zabelin, Patrick Handcock, Leonie Hapeta, Lorna Johnson and Karen Naylor.

Non Members: Councillors Mark Arnott, Vaughan Dennison, Billy Meehan and Orphée Mickalad.

Apologies: The Mayor (Grant Smith) (absent on Council business) and Councillors Debi Marshall-Lobb (late arrival, on Council business), Roly Fitzgerald and Leonie Hapeta (early departure).

Councillor Leonie Hapeta left the meeting at 10.30am during consideration of clause 3. She entered the meeting again at 11.32am during consideration of clause 5. She was not present for clause 4.

Councillor Debi Marshall-Lobb entered the meeting at 11.15am during consideration of clause 3. She was not present for clauses 1 and 2.

Karakia Timatanga

Councillor Brent Barrett opened the meeting with karakia.

1-23 Apologies

Moved Brent Barrett, seconded Kaydee Zabelin.

The **COMMITTEE RESOLVED**

1. That the Committee receive the apologies.

Clause 1-23 above was carried 10 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Kaydee Zabelin, Patrick Handcock, Leonie Hapeta, Lorna Johnson, Karen Naylor, Mark Arnott, Vaughan Dennison, Billy Meehan and Orphée Mickalad.

Declaration of Interest

Councillor Karen Naylor declared an interest in Item 5: Annual Sector

Lead Report: Environment Network Manawatū Incorporated (clause 2) but said she would consider the item with an open mind.

REPORTS

2-23 Annual Sector Lead Report: Environment Network Manawatū Incorporated

Memorandum, presented by Stephanie Velvin, Community Development Manager.

Moved Brent Barrett, seconded Kaydee Zabelin.

The **COMMITTEE RESOLVED**

1. To receive the memorandum titled 'Annual Sector Lead Report: Environment Network Manawatū Incorporated' presented to the Sustainability Committee on 29 March 2023.

Clause 2-23 above was carried 10 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Kaydee Zabelin, Patrick Handcock, Leonie Hapeta, Lorna Johnson, Karen Naylor, Mark Arnott, Vaughan Dennison, Billy Meehan and Orphée Mickalad.

3-23 Further Analysis on the New Zealand Green Building Council Recommendations 1 & 5

Memorandum, presented by Jono Ferguson-Pye, City Planning Manager.

Elected Members requested that Officers engage with stakeholders to explore further the options available relating to incentivising green building in the city.

The meeting adjourned at 10.29am.
The meeting resumed at 11.05am.

Councillor Debi Marshall-Lobb entered the meeting at 10.15am.
Councillor Leonie Hapeta was not present when the meeting resumed.

Moved Brent Barrett, seconded Kaydee Zabelin.

The **COMMITTEE RESOLVED**

1. To receive the memorandum titled 'Further Analysis of New Zealand Green Building Council Recommendations 1 & 5' presented to the Sustainability Committee on 29 March 2023.

Clause 3.1-23 above was carried 10 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Kaydee Zabelin, Patrick Handcock, Lorna Johnson, Debi Marshall-Lobb, Karen Naylor, Mark Arnott, Vaughan Dennison, Billy Meehan and Orphée Mickalad.

Moved Lorna Johnson, seconded Patrick Handcock.

2. That the Chief Executive engages with stakeholders and provides Council with options to incentivise green building in the city.

Clause 3.2-23 above was carried 10 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Kaydee Zabelin, Patrick Handcock, Lorna Johnson, Debi Marshall-Lobb, Karen Naylor, Mark Arnott, Vaughan Dennison, Billy Meehan and Orphée Mickalad.

Moved Brent Barrett, seconded Kaydee Zabelin.

Note:
On a motion: 'That the Chief Executive engages with stakeholders and provides Council with an option for a fees and charges structure for 2024/25 which covers the cost of an applicant's Homestar, Greenstar, or other suitable green building certification, and is cost-neutral to Council', the mover and seconder withdrew the motion.

4-23 Wastewater Treatment Plant Discharge Consent Project - Quarterly Update

Memorandum, presented by Mike Monaghan, Group Manager – 3 Waters.

Moved Brent Barrett, seconded Kaydee Zabelin.

The **COMMITTEE RESOLVED**

1. To receive the report titled 'Wastewater Treatment Plant Discharge Consent Project - Quarterly Update' presented to the Sustainability Committee on 29 March 2023.

Clause 4-23 above was carried 10 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Kaydee Zabelin, Patrick Handcock, Lorna Johnson, Debi Marshall-Lobb, Karen Naylor, Mark Arnott, Vaughan Dennison, Billy Meehan and Orphée Mickalad.

5-23 Committee Work Schedule

Councillor Leonie Hapeta entered the meeting again at 11.32am.

Moved Brent Barrett, seconded Kaydee Zabelin.

The **COMMITTEE RESOLVED**

1. That the Sustainability Committee receive its Work Schedule dated March 2023.

Clause 5-23 above was carried 10 votes to 0, with 1 abstention, the voting being as follows:

For:
Councillors Brent Barrett, Kaydee Zabelin, Patrick Handcock, Lorna Johnson,

Debi Marshall-Lobb, Karen Naylor, Mark Arnott, Vaughan Dennison, Billy Meehan and Orphée Mickalad.

Abstained:
Councillor Leonie Hapeta.

Karakia Whakamutunga

Councillor Brent Barrett closed the meeting with karakia.

The meeting finished at 11.33am

Confirmed 7 June 2023

Chair

MEMORANDUM

TO: **Sustainability Committee**

MEETING DATE: **7 June 2023**

TITLE: **Desktop analysis of opportunities for solar power on Council owned buildings**

PRESENTED BY: **David Watson, Climate Change Analyst**

APPROVED BY: **David Murphy, Chief Planning Officer**

RECOMMENDATION TO SUSTAINABILITY COMMITTEE

1. **That the findings of the report titled 'Desktop analysis of opportunities for solar power on Council owned buildings' and further detailed investigations of opportunities for solar power on Council buildings be referred to the 2024-34 Long Term Plan process.**

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1. ISSUE

1.1 On 7 December 2022 Council resolved "*That the Chief Executive conduct a desktop analysis of opportunities for solar power on Council-owned buildings, and report to Council in time to inform the 2024/34 Long Term Plan*". This report provides the results of an initial desktop analysis of 14 Council owned buildings.

1.2 This information is based on a desktop study only and no site visits or structural investigations have been carried out. This means that additional capital expenditure may be required to complete these installations. It is also worth noting that no costings for maintenance of the panels has been produced.

1.3 The panels used in the assessment have a 25-year product and performance warranty. The average payback period for the systems analysed is 11 years with a range of 6 to 14 years. The cost to deliver all 14 projects would be ~$900,000 (assuming no change to cost or energy use), which would provide operational returns of up to $1.5 million (i.e. a net present benefit of $600,000). This financial saving is in addition to a calculated 57 tCO2e per year saving, approximately 1% of Council's non-landfill related carbon emissions. Over the 25-year life of the panels this equates to a 1429 tCO2e saving.

2. ANALYSIS METHODOLOGY

2.1 A long list was made of buildings under Council ownership where information was available on power consumption. These buildings were then viewed using aerial imagery to determine their roof area, structure and orientation. Buildings with identified issues relating to their roof structure were removed

from the list on the advice of the Property Team. This information was then passed to Harrison Solar who determined the number of panels that could reasonably fit on the selected roofs, provided a breakdown of solar generation potential for these panels and compared this to the predicted power needs of the buildings. This allowed an assessment of the likely output of a suitably sized system for each building.

2.2 Estimates for installing the appropriately sized systems were provided by a supplier. However, several factors could not be determined from desktop data alone. Potential issues include; any need for re-enforcement of roof structures to hold the additional weight of panels, additional cost from scaffolding or crane hire to access the roof, and additional wiring costs for older buildings. The long-term plans for these buildings is also relevant given the 25 year timescale of the project.

2.3 The output of the identified systems also requires further investigation as future weather patterns, predicted future energy consumption and maintenance costs all effect the financial viability of the systems. It is also worth noting that all the systems are designed to be generative and therefore will sell power back into the grid when they produce more than is consumed in the building. Approval will be required from Powerco for systems over 10kw to allow excess power generated to be put back into the grid.

2.4 A data table containing details of the input and system data, including costs and electricity generation potential, is provided in Attachment 1. Images of the selected shortlist buildings showing potential panel layouts are provided in Attachment 2.

3. NEXT STEPS

3.1 Further detailed investigations into the most promising buildings will be carried out over the next financial year (2023/24) and, if they are found to be viable candidates for solar, installation could then be funded through the Low Carbon Fund.

3.2 These projects can be used as a template for the creation of a Long-Term Plan programme that includes a more detailed series of investigations of all Council owned buildings to determine detailed costs and potential practical barriers on a case-by-case basis.

3.3 The investigative programme would then inform a capital budget to complete solar installations where these are found to be practicable and cost effective. This budget will either be funded through the Low Carbon Fund, a dedicated capital budget included in the Long-Term Plan, or as part of a future annual budget.

4. COMPLIANCE AND ADMINISTRATION

Does the Committee have delegated authority to decide?	**Yes**
Are the decisions significant?	**No**
If they are significant do they affect land or a body of water?	**No**
Can this decision only be made through a 10 Year Plan?	**No**
Does this decision require consultation through the Special Consultative procedure?	**No**
Is there funding in the current Annual Plan for these actions?	**No**
Are the recommendations inconsistent with any of Council's policies or plans?	**No**
The recommendations contribute to Goal 4: An Eco City	
The recommendations contribute to the achievement of action/actions in Climate Change The action is: Investigate options for further carbon reductions through the asset management process	
Contribution to strategic direction and to social, economic, environmental and cultural well-being	Investigation into potential options to reduce emissions through asset management.

ATTACHMENTS

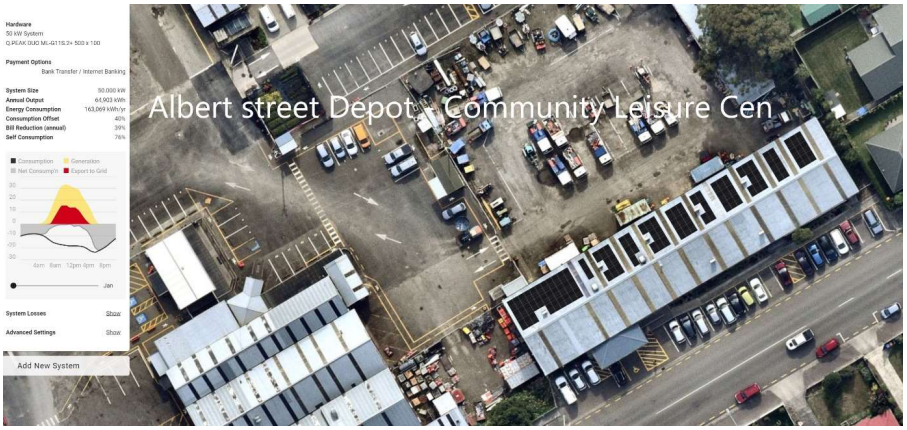
1. Solar Installation Data Tables ⇩
2. Potential Solar Panel Layouts ⇩

ATTACHMENT 1 – SOLAR INSTALLATION DATA TABLES

Site	Consumption	Emissions	Roof Area	Roof Type	Available Roof Area	Roof Orientation	Degrees from N
	kWh	tCO2e	m2		m2	degrees	
Albert St Depot (inc. PN Community Leisure Center)	163069	17.45158095	4247	Multi-unit	2350	29.7	30
Ashhurst Library	9830	1.052002776	258	Complex/Hipped	200	358.8	1
Ashhurst Pool	82376	8.815847476	929	Pitched	370	285.1	75
Ashhurst Village Valley Centre	18971	2.03026904	1220	Pitched/Angled	504	332.3	28
Awapuni Community Centre	10399	1.112896935	493	Pitched	200	63.3/272.2	63/87
Colquhoun Pavillion	10807	1.156560936	1281	Pitched/Flat	453	52.3 / 68	52/68
Fitzherbert Pavillion Rec Grounds	12959	1.386867139	273	Hipped	120	332	28
Freyberg Aquatic Centre	235748	25.22965925	1716	Uneven Pitched	1300	332.2	28
Hancock Community House	56000	5.993098216	821	Butterfly	800	333.3	27
Highbury Whanau Residential Centre	21412	2.291503911	1066	Curved	470	21	21
Kelvin Grove Community Centre	15510	1.659874167	470	Flat	380	63.1	63
Ladies Restrooms The Square	47402	5.072943601	437	Complex	200	332.9	27
Lido Aquatic Centre	1830297	195.877673	4327.2	Complex	2000	varies	
Te Manawa - Art Gallery	83357	8.920833714	4613	Complex	4000	332.5	28
TOTAL	2598137	278	22151	0	13347	2753	355
Average	185581	20	1582	#DIV/0!	953	250	32

Site	Approximate system size	Approximate installation cost	Estimated Output	Approximate OPEX saving	Approximate payback period	Total saving	Approximate Carbon Saving
	kw	inc GST	%	$	years	$	tCO2e/year
Albert St Depot (inc. PN Community Leisure Center)	50	$ 113,880.00	40%	$ 11,771.24	10	$ 180,401.02	6.9
Ashhurst Library	5	$ 18,662.00	73%	$ 1,306.75	14	$ 14,006.67	0.8
Ashhurst Pool	50	$ 86,242.00	100%	$ 14,940.26	6	$ 287,264.51	8.8
Ashhurst Village Valley Centre	15	$ 40,352.00	104%	$ 3,583.81	11	$ 49,243.13	2.1
Awapuni Community Centre	5	$ 18,412.00	82%	$ 1,553.95	12	$ 20,436.74	0.9
Colquhoun Pavillion	8.2	$ 23,097.00	100%	$ 1,951.87	12	$ 25,699.70	1.2
Fitzherbert Pavillion Rec Grounds	10	$ 28,752.00	98%	$ 2,298.28	13	$ 28,704.96	1.4
Freyberg Aquatic Centre	15	$ 41,502.00	8%	$ 3,570.38	12	$ 47,757.61	2.1
Hancock Community House	50	$ 97,105.00	101%	$ 10,297.64	9	$ 160,335.92	6.1
Highbury Whanau Residential Centre	15	$ 40,352.00	90%	$ 3,507.45	12	$ 47,334.25	2.1
Kelvin Grove Community Centre	10	$ 36,802.00	104%	$ 2,931.61	13	$ 36,488.27	1.7
Ladies Restrooms The Square	6	$ 22,232.00	21%	$ 1,772.13	13	$ 22,071.34	1.0
Lido Aquatic Centre	100	$ 199,597.00	7%	$ 24,183.79	8	$ 404,997.85	14.3
Te Manawa - Art Gallery	50	$ 127,750.00	87%	$ 13,167.76	10	$ 201,444.10	7.8
TOTAL	389.2	$ 894,737.00		$ 96,836.92		$ 1,526,186.07	57.1
Average	27.8	$ 63,909.79	73%	$ 6,916.92	11	$ 109,013.29	4.1

ATTACHMENT 2 – POTENTIAL SOLAR PANEL LAYOUTS




Hardware
37.5 kW System
Q.PEAK DUO ML-G11S.2+ 500 x 75
Tauro ECO 50-3-D x 1
Payment Options
Bank Transfer / Internet Banking
System Size 37.500 kW
Annual Output 46,528 kWh
Energy Consumption 82,376 kWh/yr
Consumption Offset 56%
Bill Reduction (annual) 52%
Self Consumption 61%
Consumption
Generation
Net Consump'n
Export to Grid
20
10
0
-10
-20
4am 8am 12pm 4pm 8pm
Jan
System Losses Show
Advanced Settings Show
Add New System
Ashhurst Pool


Hardware
14.94 kW System
Q.PEAK DUO M-G11S+ 415 x 36
Symo 15.0-3-M x 1
Payment Options
Bank Transfer / Internet Banking
System Size 14.940 kW
Annual Output 19,760 kWh
Energy Consumption 18,971 kWh/yr
Consumption Offset 104%
Bill Reduction (annual) 63%
Self Consumption 62%
Consumption
Generation
Net Consump'n
Export to Grid
10
5
0
-5
4am 8am 12pm 4pm 8pm
Jan
System Losses Show
Advanced Settings Show
Add New System
Ashhurst Village Valley Centre


Hardware
6.64 kW System
Q.PEAK DUO M-G11S+ 415 x 16
Payment Options
Bank Transfer / Internet Banking
System Size 6.640 kW
Annual Output 8,568 kWh
Energy Consumption 10,399 kWh/yr
Consumption Offset 82%
Bill Reduction (annual) 48%
Self Consumption 70%
Consumption
Generation
Net Consumption
Export to Grid
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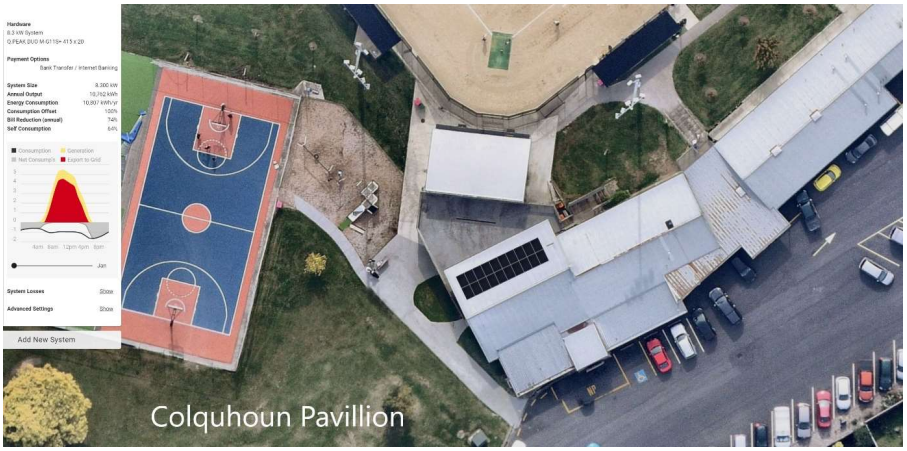
Jan
System Losses Show
Advanced Settings Show
Add New System
Awapuni Community Centre


Hardware
8.3 kW System
Q.PEAK DUO M-G11S+ 415 x 20
Payment Options
Bank Transfer / Internet Banking
System Size 8.300 kW
Annual Output 10,710 kWh
Energy Consumption 10,837 kWh/yr
Consumption Offset 100%
Bill Reduction (annual) 74%
Self Consumption 64%
Consumption
Generation
Net Consumption
Export to Grid
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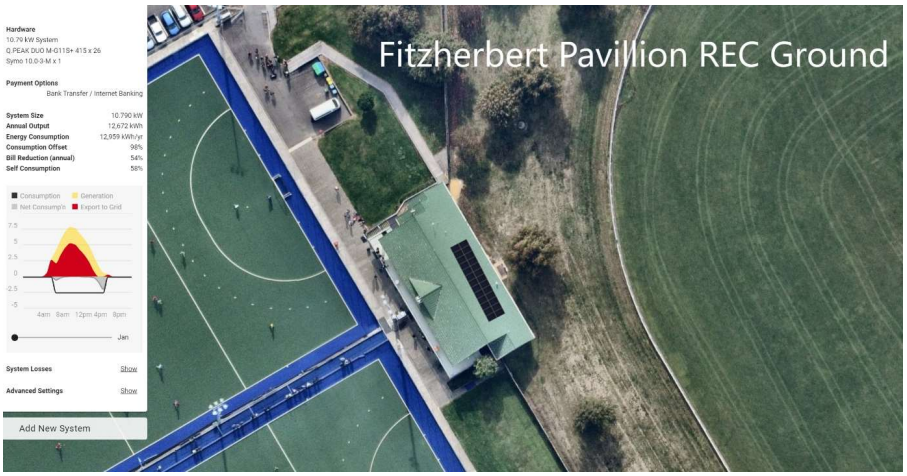
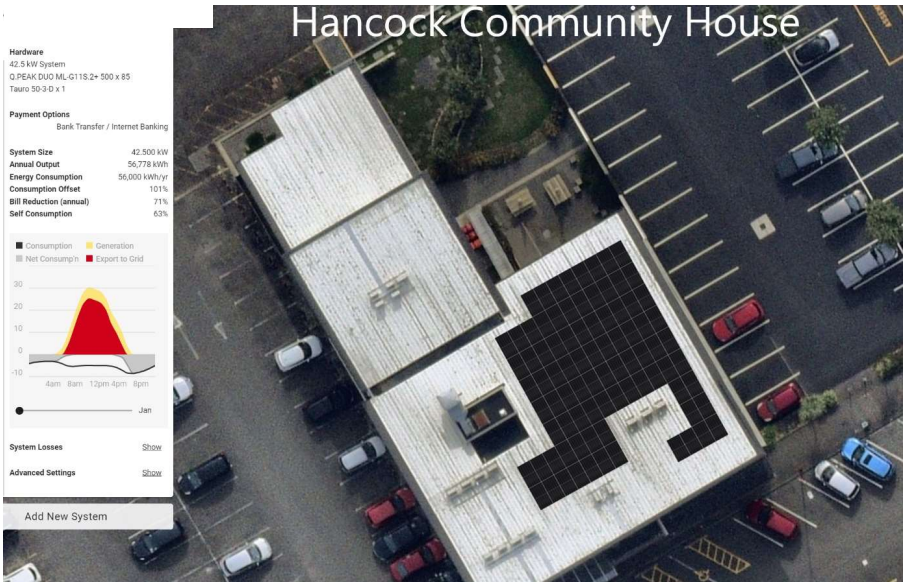
System Losses Show
Advanced Settings Show
Add New System
Colquhoun Pavillion


Hardware
10.79 kW System
Q.PEAK DUO M-G11S+ 415 x 26
Symo 10.0-3-M x 1
Payment Options
Bank Transfer / Internet Banking
System Size 10.790 kW
Annual Output 12,672 kWh
Energy Consumption 12,959 kWh/yr
Consumption Offset 98%
Bill Reduction (annual) 54%
Self Consumption 58%
Consumption
Generation
Net Consump'n
Export to Grid
7.5
5
2.5
0
-2.5
-5
4am 8am 12pm 4pm 8pm
Jan
System Losses Show
Advanced Settings Show
Add New System
Fitzherbert Pavillion REC Ground


Hardware
15.355 kW System
Q.PEAK DUO M-G11S+ 415 x 37
Symo 15.0-3-M x 1
Payment Options
Bank Transfer / Internet Banking
System Size 15.355 kW
Annual Output 19,686 kWh
Energy Consumption 235,748 kWh/yr
Consumption Offset 8%
Bill Reduction (annual) 8%
Self Consumption 95%
Consumption
Generation
Net Consump'n
Export to Grid
10
-10
-30
-50
-70
4am 8am 12pm 4pm 8pm
Jan
System Losses Show
Advanced Settings Show
Add New System
Freyberg Aquatic Centre


Hancock Community House
Hardware
42.5 kW System
Q.PEAK DUO ML-G11S.2+ 500 x 85
Tauro 50-3-D x 1
Payment Options
Bank Transfer / Internet Banking
System Size 42.500 kW
Annual Output 56,778 kWh
Energy Consumption 56,000 kWh/yr
Consumption Offset 101%
Bill Reduction (annual) 71%
Self Consumption 63%
Consumption
Generation
Net Consump'n
Export to Grid
30
20
10
0
-10
4am 8am 12pm 4pm 8pm
Jan
System Losses Show
Advanced Settings Show
Add New System


Highbury Whanau Res Centre
Hardware
14.94 kW System
Q.PEAK DUO M-G11S+ 415 x 36
Symo 15.0-3-M x 1
Payment Options
Bank Transfer / Internet Banking
System Size 14.940 kW
Annual Output 19,339 kWh
Energy Consumption 21,412 kWh/yr
Consumption Offset 90%
Bill Reduction (annual) 62%
Self Consumption 65%
Consumption
Generation
Net Consump'n
Export to Grid
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-5
-10
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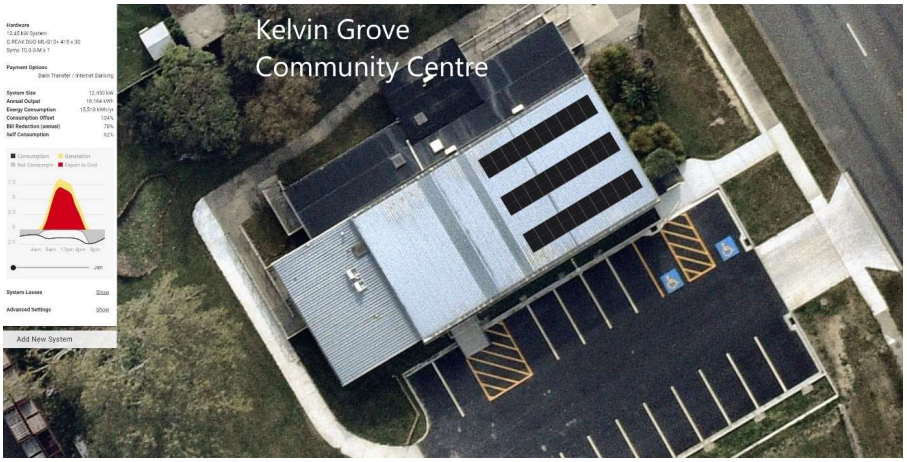
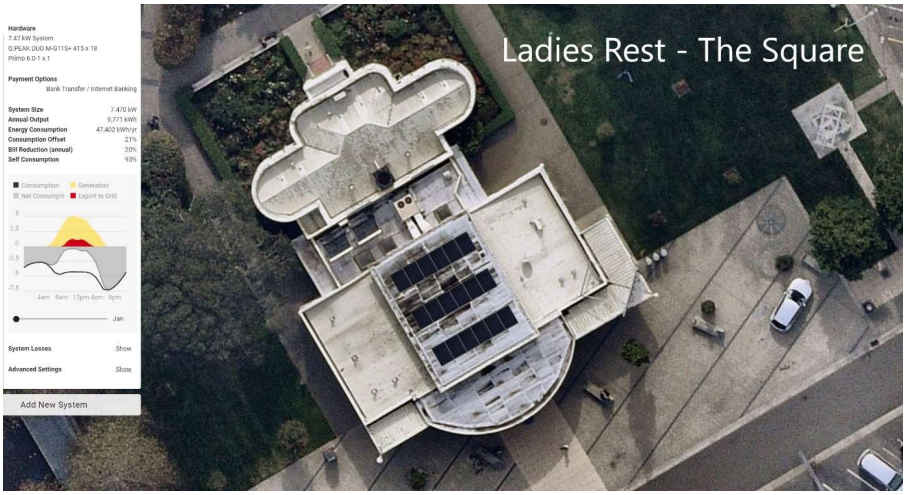
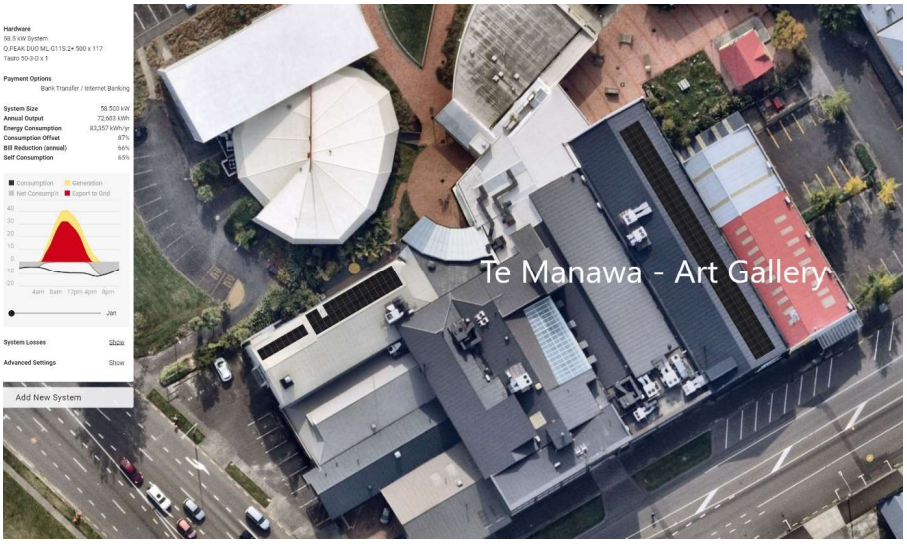
Jan
System Losses Show
Advanced Settings Show
Add New System


Kelvin Grove
Community Centre
Add New System


Hardware
7.47 kW System
Q.PEAK DUO M-G11S+ 415 x 18
Primo 6.0-1 x 1
Payment Options
Bank Transfer / Internet Banking
System Size 7.470 kW
Annual Output 9,771 kWh
Energy Consumption 47,402 kWh/yr
Consumption Offset 21%
Bill Reduction (annual) 20%
Self Consumption 93%
Consumption
Generation
Net Consumption
Export to Grid
4am 8am 12pm 4pm 8pm
Jan
System Losses Show
Advanced Settings Show
Add New System
Ladies Rest - The Square


Hardware
100 kW System
Q.PEAK DUO ML-G11S.2+ 500 x 200
Tauro ECO 100-3-0 x 1
Payment Options
Bank Transfer / Internet Banking
System Size 100.000 kW
Annual Output 130,347 kWh
Energy Consumption 1,830,297 kWh/yr
Consumption Offset 7%
Bill Reduction (annual) 7%
Self Consumption 97%
Consumption
Generation
Net Consumptn
Export to Grid
4am 8am 12pm 4pm 8pm
Jan
System Losses Show
Advanced Settings Show
Add New System
Lido Aquatic Centre


Hardware
58.5 kW System
Q.PEAK DUO ML-G11S.2+ 500 x 117
Tauro 50-3-0 x 1
Payment Options
Bank Transfer / Internet Banking
System Size 58.500 kW
Annual Output 72,603 kWh
Energy Consumption 83,357 kWh/yr
Consumption Offset 87%
Bill Reduction (annual) 66%
Self Consumption 65%
Consumption
Generation
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MEMORANDUM

TO: **Sustainability Committee**

MEETING DATE: **7 June 2023**

TITLE: **PNCC Organisational Emissions Inventory 2021/2022**

PRESENTED BY: **David Watson, Climate Change Analyst**

APPROVED BY: **David Murphy, Chief Planning Officer**

RECOMMENDATION TO SUSTAINABILITY COMMITTEE

1. **That the Committee note that as a result of Council actions, PNCC emissions have fallen from 26,444 tCO2e in 2015/16, to 19001 tCO2e in 2021/22 (a 28% reduction).**

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1. ISSUE

1.1 Through the Eco City Strategy 2021, Palmerston North City Council has set itself the target of a citywide 30% reduction in carbon emissions by 2031, compared to the 2015/16 baseline. Council has previously been tracking progress towards its emission reduction goals since establishing this baseline, through the 'Toitū Carbonreduce' programme. This programme has altered its parameters several times since Council joined and now includes compulsory elements that are at odds with the stated purpose of tracking and reliably comparing emissions over time. A decision was therefore taken to move from the Toitū programme to in-house carbon inventories going forwards.

1.2 The information provided below enumerates PNCC's corporate emissions (i.e. emissions resulting from Council activities) during the 2021/22 financial year.

1.3 This report and the associated source data are in the process of being independently audited and any changes resulting from that process will be provided to Committee members as they become available.

1.4 As a result of Council actions, PNCC emissions have fallen from 26,444 tCO2e in 2015/16, to 19001 tCO2e in 2021/22: a 28% reduction. Non-landfill related emissions fell from 6,719 tCO2e to 5765 tCO2e over the same period: a 14% reduction since 2015/16, but a 10% increase from the previous 2020/21 period.

1.5 As per officer guidance to the 21 September 2022 Environmental Sustainability Committee, the 2020/21 period was highly unusual due to the impact of COVID-19 lockdowns so year on year emission changes do not conform strictly to the overall trend; notably in parks and reserves (which includes sports pitches), Arena Operations, and staff travel (which includes international travel).

2. BACKGROUND

2.1 The PNCC Internal Emissions Report is compiled from usage and emissions data from the following emissions sources:

- Council stationary energy (electricity, natural gas) across all sites
- Wastewater processing emissions
- Vehicular fuel usage
- 'Small Plant Items' (e.g. chainsaws, leaf blowers, etc.) fuel usage
- Diesel use by Council pumps and generators
- Methane release from Awapuni and Ashhurst Landfills
- Gross waste tonnages collected from all sites
- Air travel
- Staff commuting and taxi travel
- Air-conditioning unit gas refills
- Fertilizer use

2.2 The emissions inventory uses the Ministry for the Environment's standard emissions factors and guidelines.

2.3 A time series of annual emissions from 2015/16 to 2021/22 is provided in Figures 1.1 to 1.3 and detailed in Table 1. An overview of PNCC's 2021/22 emissions broken down by source is provided in Figure 2.1 and 2.2 in order to show those areas that could be targeted for further reductions. A detailed breakdown of the 2021/22 inventory data is provided in Attachment 1.

2.4 Note: The inventory is presented in terms of 'carbon dioxide equivalent' or 'CO2e'. This is because other gases such as methane and nitrous oxide have different relative impacts per unit weight. For example, the refrigerant R-22, typically only released in very small volumes, has a global warming potential 12,000 greater than carbon dioxide. CO2e accounting allows for the global warming potential of different greenhouse gases to be compared with one another.

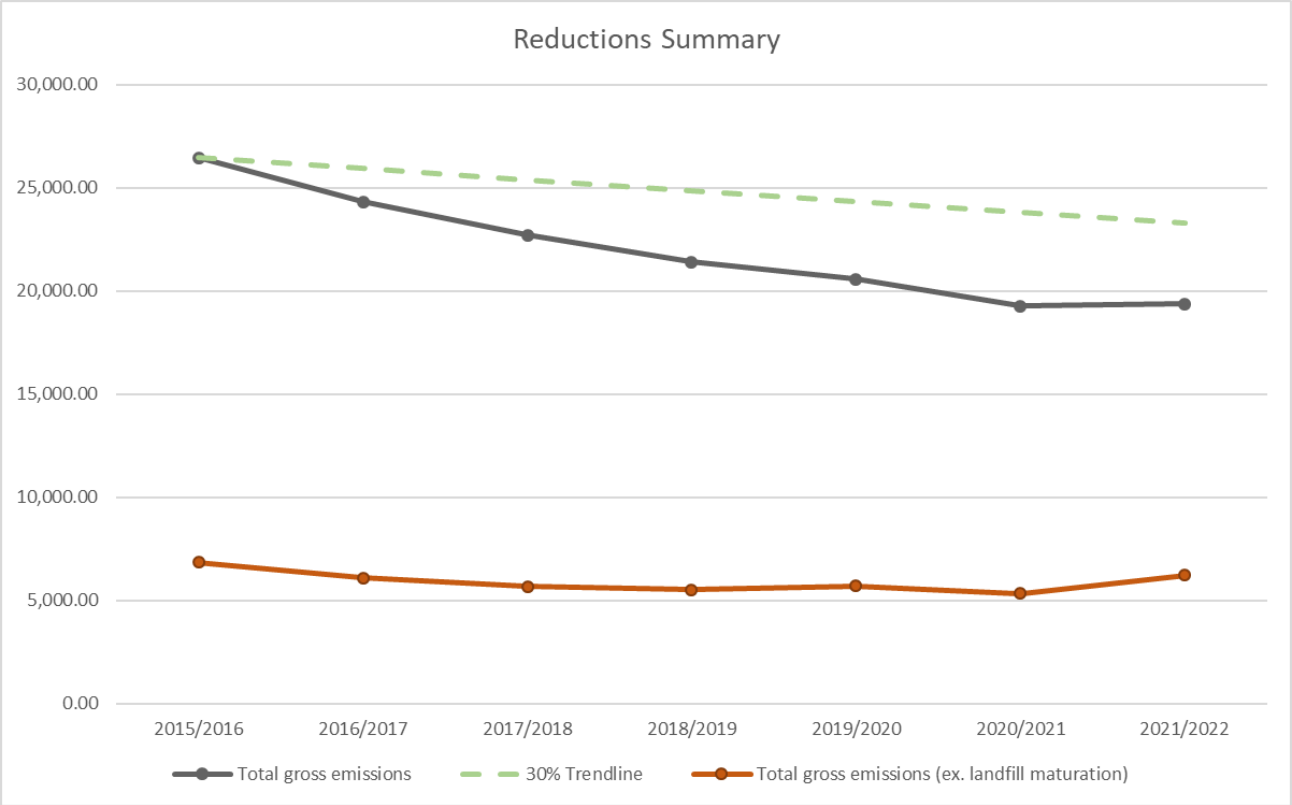

Figure 1.1 Organisational Reduction Summary

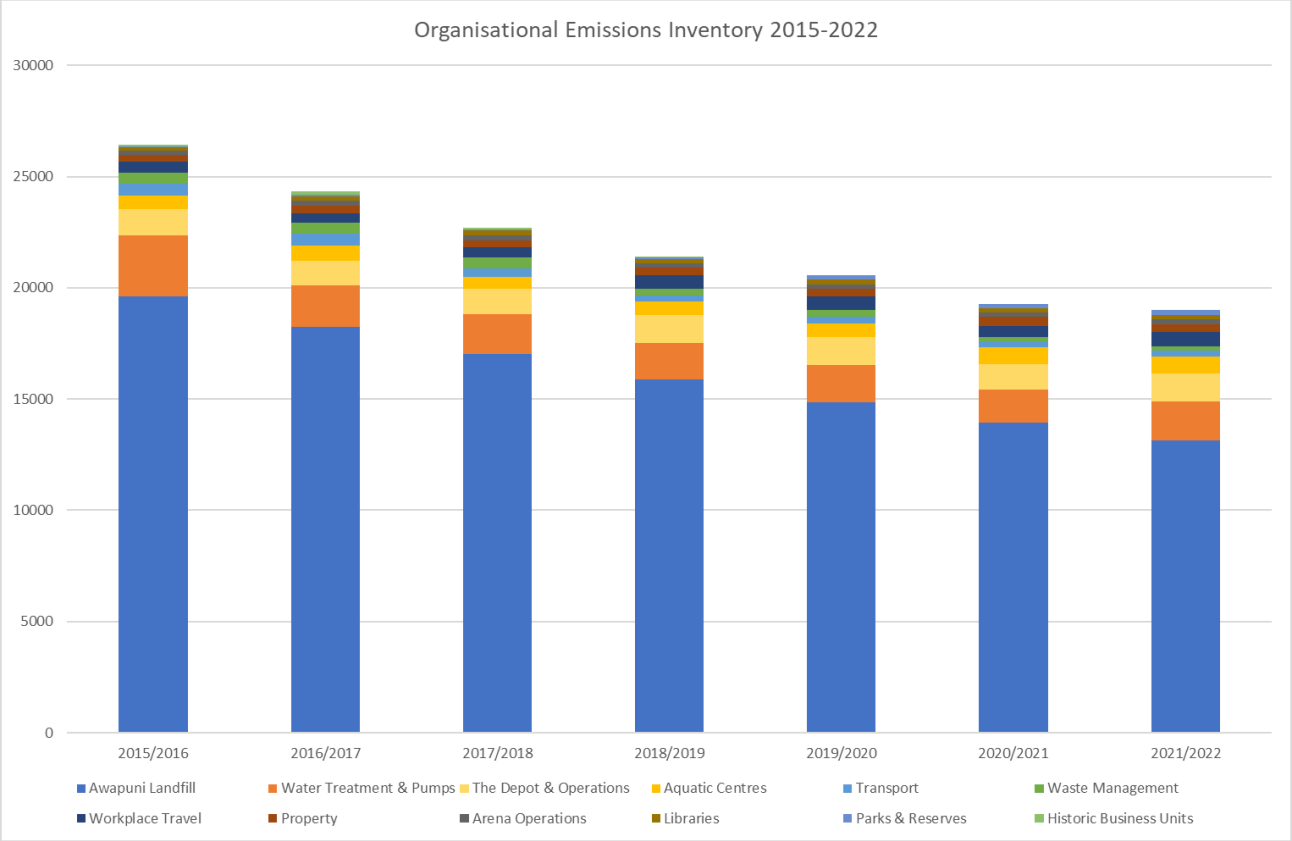

Figure 1.2 Organisational Emissions Series

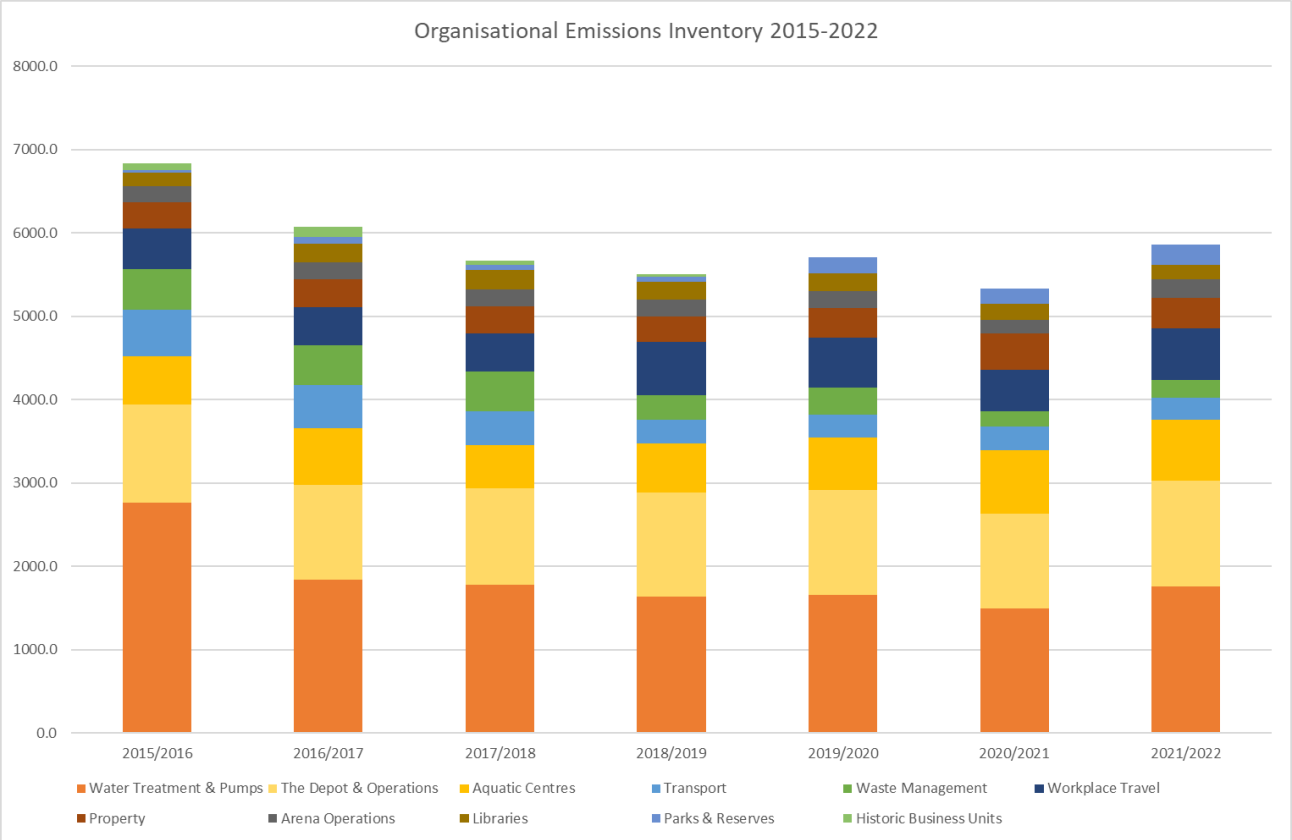

Figure 1.3 Organisational Emissions Series Excluding Landfill Emissions

Values	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Unit	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e	tCO2e
Awapuni Landfill	19609	18254	17021	15895	14866	13923	13139
Aquatic Centres	574.9	684.6	524.9	589.2	635.3	760.6	733.1
Arena Operations	192.9	205.7	206.5	205.8	199.3	162.2	220.4
Historic Business Units	81.6	122.0	52.5	34.9	0.0	0.0	0.0
Libraries	170.3	223.3	227.7	208.6	218.6	194.6	177.4
Parks & Reserves*	27.3	76.1	66.7	60.6	186.2	182.3	243.6
Property	313.6	335.5	324.5	308.0	357.3	439.7	364.6
The Depot & Operations	1185.5	1133.2	1150.8	1247.8	1258.9	1134.0	1267.4
Transport	561.3	514.0	402.2	281.8	271.2	286.2	267.3
Waste Management	488.5	483.4	476.5	302.6	326.3	188.0	211.7
Water Treatment & Pumps	2759.7	1838.8	1779.3	1635.2	1651.9	1494.3	1754.7
Workplace Travel	479.3	453.6	459.2	631.0	597.5	490.6	622.2
TOTAL	26444.0	24324.2	22691.8	21400.4	20568.5	19255.5	19001.6

Table 1 Organisational Emissions 2015/16 – 2021/22

*The 2019 - 2022 Parks and reserves data has been consolidated to include Historic Business Units.

Solid waste: Solid waste emissions are determined from a first order decay model based on the IPCC modelling approach. Changes in assumptions could change this number significantly.

Wastewater: Wastewater treatment emissions were determined using the measured flow quantity and quality data and the IPCC 2019 modelling approach. The model includes various inherent assumptions. Changes in assumptions could change this number significantly

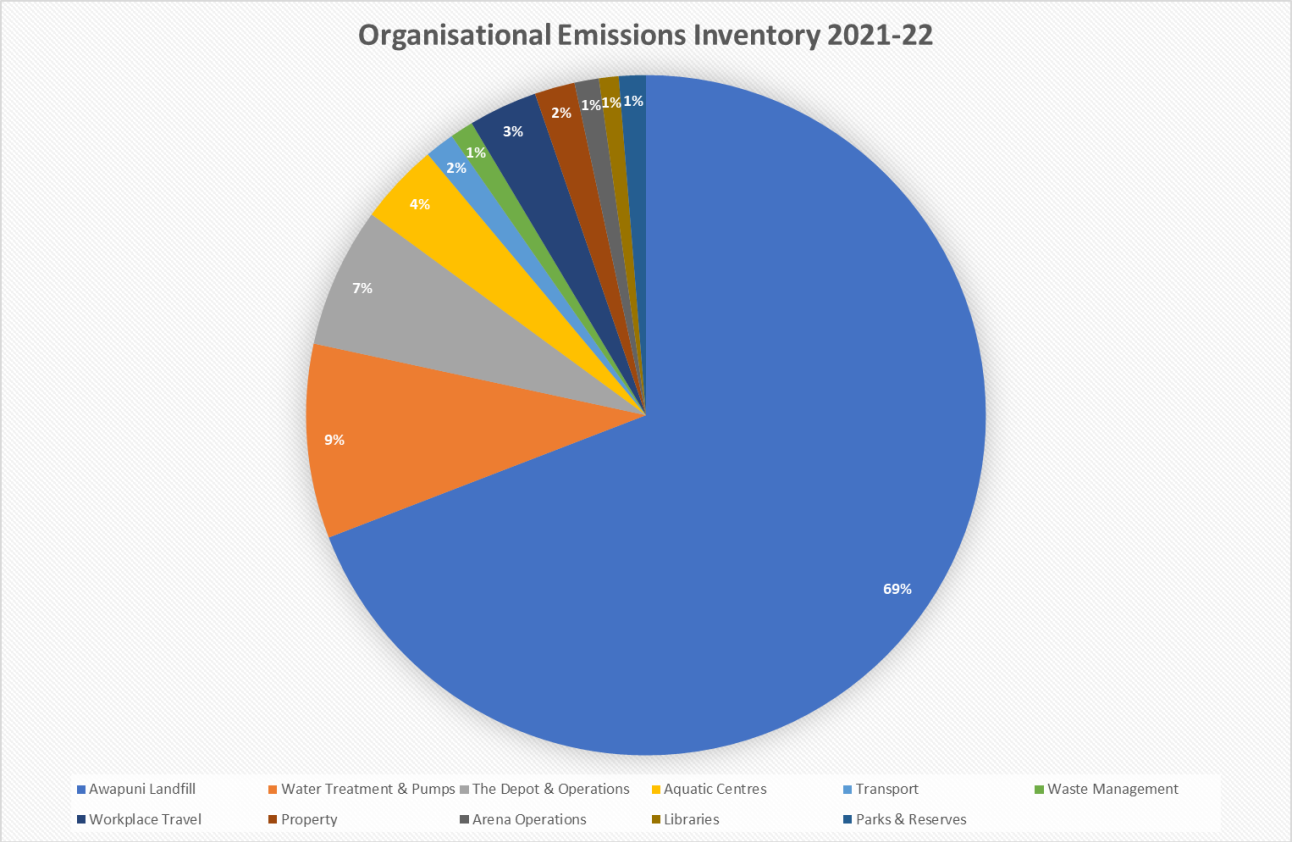

Figure 2.1 Organisational Emissions Summary

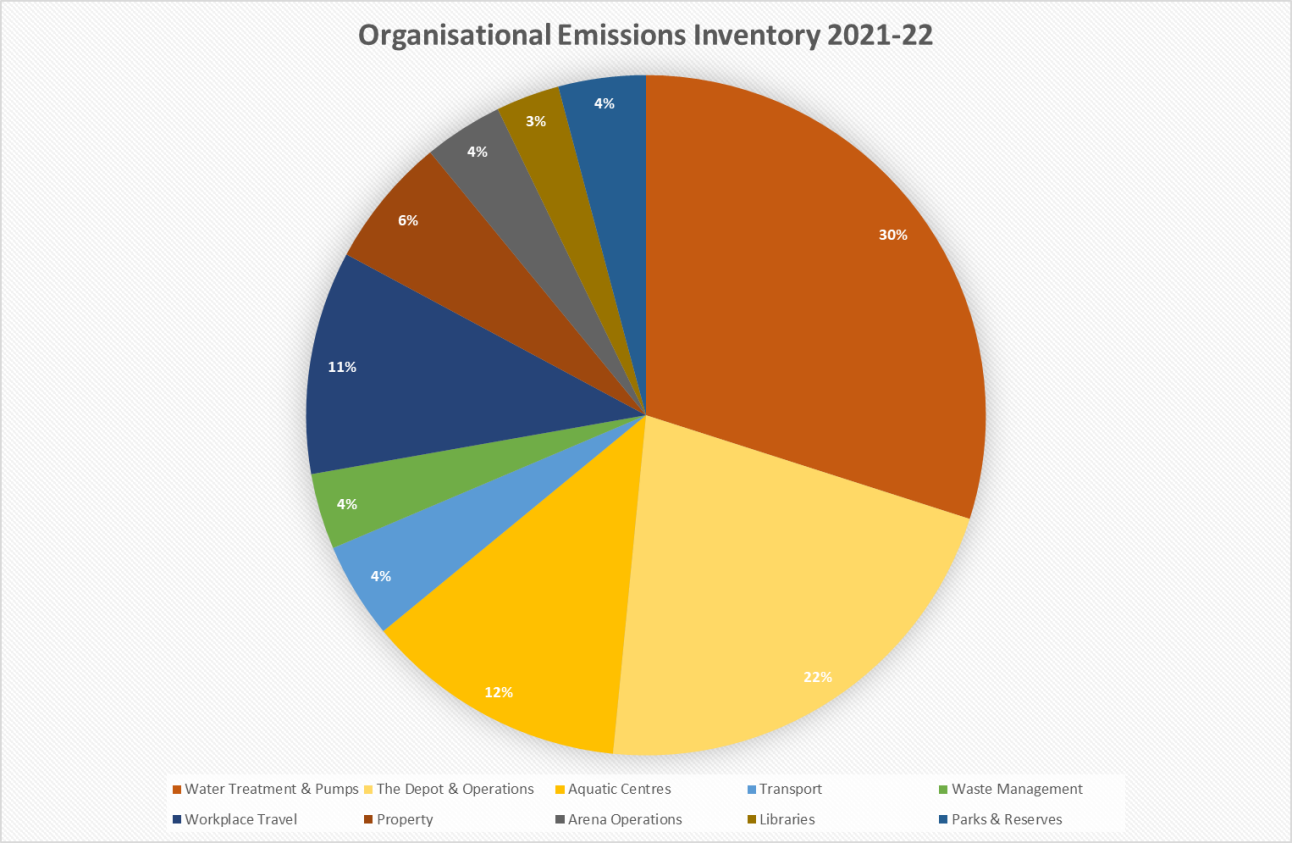

Figure 2.2 Organisational Emissions Summary Excluding Landfill Emissions

3. NEXT STEPS

3.1 The primary vehicle for the delivery of PNCC emission reductions next financial year is the $1,000,000/year 'Low Carbon Fund'. The fund is allocated each year towards the projects that will deliver the greatest operational emission reductions per net-present dollar spent (i.e. taking future cost savings into account), with a 30% weighting towards wider strategic benefits.

3.2 Given that most of the 'low hanging' emission reduction opportunities have been completed in previous years, and Council needs to take a more structured approach to further emission reductions. The establishment of the Low Carbon Fund will allow a more structured approach to future emissions reduction decision making, allowing for the more effective allocation of resources, and hence enabling more effective emission reduction projects overall.

3.3 Following guidance from Council, programmes and projects including more ambitious emissions reductions, projects that deliver emissions reductions efficiently (but not at zero net cost to Council) and projects with a role in influencing behaviour rather than directly targeting PNCC emissions will be put forward as part of Long Term Plan deliberations over the coming year.

3.4 To inform future capital investment and benchmark performance, Council will continue to collect corporate emissions data and report these annually.

3.5 Complete the audit of the 2021/2022 organisational emissions and update the relevant city dashboards and Council website material to include the audited results.

4. COMPLIANCE AND ADMINISTRATION

Does the Committee have delegated authority to decide?	**Yes**
Are the decisions significant?	**No**
If they are significant do they affect land or a body of water?	**No**
Can this decision only be made through a 10 Year Plan?	**No**
Does this decision require consultation through the Special Consultative procedure?	**No**
Is there funding in the current Annual Plan for these actions?	**Yes**
Are the recommendations inconsistent with any of Council's policies or plans?	**No**
The recommendations contribute to Goal 4: An Eco City	
The recommendations contribute to the achievement of action/actions in Climate Change The action is: the achievement of the Eco City Strategy goal of a 30% reduction in carbon emissions by 2031.	

Contribution to strategic direction and to social, economic, environmental and cultural well-being	The emissions inventory and management plan detail Council's progress on reducing its own internal corporate emissions in line with the Eco City Strategy goal.

ATTACHMENTS

1. Attachment 1: PNCC Organisational Emissions Inventory Data Table 2021/2022 ⇩

Business unit	Activity	Quantity	Data Uncertainty	Emission factor (tCO2e)/Unit	Emission factor uncertainty	Calculated emissions (tCO2e)
City Pound	Electricity	18575.00	2%	0.0001070	7%	1.987889274
Libraries/Ashhurst Library	Electricity	9830.00	2%	0.0001070	7%	1.052002776
Libraries/Awapuni Library	Electricity	16163.00	2%	0.0001070	7%	1.729757973
Libraries/City Library	Electricity	543046.00	2%	0.0001070	7%	58.11657168
Libraries/City Library	Natural Gas	536125.00	2%	0.0001947	0%	104.4081138
Libraries/Highbury Library	Electricity	10235.00	2%	0.0001070	7%	1.095345719
Libraries/Mobile Library	Diesel	1059.04	2%	0.0026939	0%	2.852929505
Libraries/Roslyn Library	Electricity	10680.00	2%	0.0001070	7%	1.142969445
Libraries/Youth Space	Electricity	28590.00	2%	0.0001070	7%	3.059690678
Libraries/Youth Space	Natural Gas	20381.00	2%	0.0001947	0%	3.969114978
Wildbase Recovery Centre	Electricity	50700.00	2%	0.0001070	7%	5.425894278
Logistics & Support/Depots	Electricity	163069.00	2%	0.0001070	7%	17.45158095
Logistics & Support/Depots	Natural Gas	11155.00	2%	0.0001947	0%	2.172389852
Logistics & Support/Nursery	Natural Gas	106195.00	2%	0.0001947	0%	20.68103455
Logistics & Support/Tankers	Diesel	76203.97	2%	0.0026939	0%	205.2845543
Logistics & Support/Tankers	Petrol	10569.32	2%	0.0024558	0%	25.95587293
Logistics & Support/Vehicles/Heavy Plant	Diesel	11811.62	2%	0.0026939	0%	31.81911845
Logistics & Support/Vehicles/Heavy Trucks	Diesel	142285.80	2%	0.0026939	0%	383.3012511
Logistics & Support/Vehicles/Leased Vehicles	Diesel	13409.99	2%	0.0026939	0%	36.1249397
Logistics & Support/Vehicles/Leased Vehicles	Petrol	20647.97	2%	0.0024558	0%	50.7067707
Logistics & Support/Vehicles/Light Trucks	Diesel	21965.24	2%	0.0026939	0%	59.17177943
Logistics & Support/Vehicles/Light Trucks	Petrol	20647.97	2%	0.0024558	0%	50.7067707
Logistics & Support/Vehicles/Light Plant	Diesel	1808.73	2%	0.0026939	0%	4.872506406
Logistics & Support/Vehicles/Medium Trucks	Diesel	32257.78	2%	0.0026939	0%	86.89867459

Logistics & Support/Vehicles/Mowers	Diesel	11063.74	2%	0.0026939	0%	29.80441748
Logistics & Support/Vehicles/Mowers	Petrol	3564.99	2%	0.0024558	0%	8.754813692
Logistics & Support/Vehicles/Pool Vehicles	Diesel	43855.77	2%	0.0026939	0%	118.1422989
Logistics & Support/Vehicles/Pool Vehicles	Petrol	23459.60	2%	0.0024558	0%	57.61150166
Logistics & Support/Vehicles/Quad Bikes	Petrol	2546.49	2%	0.0024558	0%	6.253606748
Logistics & Support/Vehicles/Tractors	Diesel	22102.03	2%	0.0026939	0%	59.54027564
Logistics & Support/Vehicles/Utility Vehicles	Diesel	2596.86	2%	0.0026939	0%	6.995636156
Logistics & Support/Vehicles/Utility Vehicles	Petrol	2107.78	2%	0.0024558	0%	5.176233651
Parks & Reserves/Aquatic Centres/Splashhurst	Electricity	483352.00	2%	0.0001070	7%	51.72814302
Parks & Reserves/Aquatic Centres/Splashhurst	Natural Gas	82376.00	2%	0.0001947	0%	16.04238337
Parks & Reserves/Aquatic Centres/Freyberg Aquatic Centre	Electricity	537790.00	2%	0.0001070	7%	57.5540766
Parks & Reserves/Aquatic Centres/Freyberg Aquatic Centre	Natural Gas	235748.00	2%	0.0001947	0%	45.91094244
Parks & Reserves/Aquatic Centres/Lido Aquatic Centre	Electricity	1919803.00	2%	0.0001070	7%	205.4565703
Parks & Reserves/Aquatic Centres/Lido Aquatic Centre	Natural Gas	1830297.00	2%	0.0001947	0%	356.4427279
Parks & Reserves/Cemeteries	Electricity	379394.00	2%	0.0001070	7%	40.6025983
Parks & Reserves/Cemeteries	Natural Gas	30401.00	2%	0.0001947	0%	5.920468302
Parks & Reserves/Citywide Reserves	Electricity	149882.00	2%	0.0001070	7%	16.04031334
Parks & Reserves/Citywide Reserves	Natural Gas	293361.00	2%	0.0001947	0%	57.13083456
Parks & Reserves/Local Reserves & Sportsfields	Electricity	10250.00	2%	0.0001070	7%	1.096951013
Parks & Reserves/Local Reserves & Sportsfields	Fertiliser use	9372.00	2%	0.0053970	40%	50.5806184
Local Reserves & Sportsfields	Natural Gas	175842.00	2%	0.0001947	0%	34.24449811
Property	HCFC-22	8.50	5%	1.8100000	0%	15.385
Property/Civic Administration Building	Electricity	592099.00	2%	0.0001070	7%	63.36620465
Property/Civic Administration Building	Natural Gas	1269586.40	2%	0.0001947	0%	247.2466707
Property/Community Centres	Electricity	41068.00	2%	0.0001070	7%	4.395081385
Property/Community Centres	Natural Gas	79559.00	2%	0.0001947	0%	15.49378434
Property/Public Toilets	Electricity	9828.00	2%	0.0001070	7%	1.051788737
Property/Public Toilets	Natural Gas	70344.00	2%	0.0001947	0%	13.69920141

Property/Social Housing Buildings	Electricity	37103.00	2%	0.0001070	7%	3.970748627
Three Waters/Stormwater Pump Stations	Electricity	109915.00	2%	0.0001070	7%	11.76306054
Three Waters/Wastewater Pump Stations	Electricity	305407.00	2%	0.0001070	7%	32.68453834
Three Waters/Wastewater Treatment	Electricity	2292369.00	2%	0.0001070	7%	245.3284386
Three Waters/Wastewater Treatment	Natural Gas	132265.00	2%	0.0001947	0%	25.75805861
Three Waters/Wastewater Treatment	Wastewater (precalculated)	1296.00	20%	1.0000000	0%	1296
Three Waters/Water Treatment & Pumps	Electricity	1337829.00	2%	0.0001070	7%	143.1739392
Transport/City Bus Terminal	Electricity	14790.00	2%	0.0001070	7%	1.582820047
Transport/Street Lighting	Electricity	2418436.00	2%	0.0001070	7%	258.8200799
Transport/Traffic Signals	Electricity	64827.00	2%	0.0001070	7%	6.937760322
Waste Management	Waste landfilled - LFGR Mixed	548.00	20%	0.2069400	40%	113.40312
Waste Management/Ashhurst Landfill	Waste to Landfill (precalculated)	83.00	20%	1	0%	83
Waste Management/Awapuni Landfill	CH4	0.00	20%	25	0%	0.025071983
Waste Management/Awapuni Landfill	N2O	0.05	20%	298	0%	14.94290202
Waste Management/Awapuni Landfill	Waste to Landfill (precalculated)	13139.00	20%	1	0%	13139
Waste Management/Waste Management Operations	Electricity	2755.00	2%	0.0001070	7%	0.294839028
Marketing & Communications/Arena Operations	Electricity	463905.00	2%	0.0001070	7%	49.64693264
Marketing & Communications/Arena Operations	Natural Gas	876869.00	2%	0.0001947	0%	170.7665905
Workplace Travel/Air Travel	Air travel domestic	91290.00	2%	0.0003059	40%	27.92499005
Workplace Travel/Hire Cars and Taxis	Taxi (hybrid)	291.00	2%	0.0001494	40%	0.04346958
Workplace Travel/Hire Cars and Taxis	Hire Car (petrol)	4584.00	2%	0.0002198	30%	1.007334
Workplace Travel/Staff Commuting	Air travel domestic	0.00	2%	0.0003059	40%	0
Workplace Travel/Staff Commuting	Bus travel (city)	189902.51	2%	0.0001360	41%	25.82674136
Workplace Travel/Staff Commuting	Car Medium hybrid	539045.25	2%	0.0001494	16%	80.52257945
Workplace Travel/Staff Commuting	Motorcycle	11876.34	2%	0.0001206	30%	1.432167841
Workplace Travel/Staff Commuting	Private Car average (diesel)	663381.96	2%	0.0002702	30%	179.2590732
Workplace Travel/Staff Commuting	Private Car default (petrol)	2593237.77	2%	0.0002647	30%	686.3263082

MEMORANDUM

TO: **Sustainability Committee**

MEETING DATE: **7 June 2023**

TITLE: **Notes on the Taipei 2023 Net Zero/Smart Cities Summit**

PRESENTED BY: **Adam Jarvis, Principal Climate Change Advisor**

APPROVED BY: **David Murphy, Chief Planning Officer**

RECOMMENDATION TO SUSTAINABILITY COMMITTEE

1. **That the Committee receive the memorandum titled 'Notes on the Taipei 2023 Net Zero/Smart Cities Summit' presented on 7 June 2023.**

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1. ISSUE

1.1 Council recently had the opportunity to send a small delegation to Taipei for the 2023 Net Zero/Smart Cities Summit. The delegation consisted of the Mayor, Chief Planning Officer, and Principal Climate Change Advisor, who were in Taipei for five days. The Mayor's flights, as well as hotel and conference fees for all three delegates were generously provided by the Taipei Computer Association. Additionally, delegations were assigned a 'receptionist', who acted as a guide, translator, and secretary throughout our visit. Our receptionist, Sandy, quickly proved herself invaluable.

1.2 Our itinerary consisted of a range of diplomatic and trade events, a full conference agenda, including a presentation from the Mayor to other delegates (attachment one) and a number of site tours including of Taipei City Hall's Data Visualisation Centre, Chunghwa's smart city training facility, Advantech's smart device headquarters, and a number of cultural sites. We also had the opportunity to explore the city with the former Taiwanese Ambassador to New Zealand, Bill Chen, which allowed us to see first-hand how the technologies showcased worked in practice, from their smart traffic lights to their highly efficient public transport systems. The delegation was able to make a number of lasting connections with other cities, which we hope to develop into a 'community of practice' to share ideas and lessons with.

1.3 From a 'Smart City' perspective, Taipei is a decade or more ahead of New Zealand, and much of the English-Speaking World. They have developed a clear model: rather than contracting to multiple vertically integrated suppliers which split data across different platforms: commodity sensors are deployed at scale, and transmit their data into an integrated cloud platform where data can be analysed, combined, and used as required. The approach

significantly reduces cost, and enables a range of new capabilities to address many long-standing local government problems.

2. BACKGROUND

2.1 Taipei has almost unparalleled knowledge of their city's dynamics. In transport for example, citywide data about the movement of cars, trucks, cyclists, pedestrians, MRT, and busses are all available 24/7. This knowledge, bolstered by predictive AI processing, informs all decision-making, from real-time dynamic crowd management to multi-decadal horizon planning.

2.2 One example shared with us was management of a large public event in a downtown area. City controllers could know exactly how many people were in attendance at any given time, and direct event staff, police, and additional public transport to particular areas. Data sets built up over time allowed the development of a bespoke AI which was able to make progressively more accurate predictions, greatly aiding future event management.

2.3 Deployment of public infrastructure also greatly benefited from Taipei's data. Whereas in New Zealand understanding of the performance of a facility tends to be limited to a single location at a single time (e.g. a manual cordon count conducted between 8 -10am), Taipei could understand exactly how a newly deployed cycleway for example performed over time, across the entire facility. If usage of a particular section consistently dropped at night, then city officers could identify and address an issue at that site (in this case, a lack of lighting) that New Zealand's monitoring approach would never have identified.

2.4 Another way Taipei leveraged their data collection was through networked control devices. Traffic lights were a particular highlight, with a control system that dynamically adjusted phase timers based on live traffic data in order to maximise traffic flow, or even create a 'green wave' for emergency vehicles to assist their movement when attending an emergency.

2.5 While Taipei's sensors do not identify individuals, or collect personal identity data, the scale at which data is collected in Taipei creates a new set of privacy concerns where enough information is gathered that it would be theoretically possible to identify a particular individual and track their movements through the city. While it would be virtually impossible to do this manually, it's an increasing possibility in the age of AI-assisted data management. Impressively, Taipei City had already acknowledged this risk and allocates considerable resources to further anonymise their data, even going so far as to invest in the prevention of future reverse engineering.

2.6 The delegation was able to make a number of connections with other cities and potential partners, potentially spanning both technical and economic collaborations.

2.7 One such connection was with City of Leuven, Belgium. Following the conference, we were able to arrange an officer-level exchange between our two Councils. Leuven provided a fascinating exemplar of the power of 'smart cities', detailing their approach to solving an issue of chronic noise complaints. Leuven has a large university with a student population half the size of the permanent population of the town of ~100,000. Students usually walk into town to enjoy the nightlife, which caters well for them, but create noise issues for families when congregating in residential areas on their way to/from the bars. Leuven installed a set of audio sensors along key routes, and conducted a series of A/B tests with different proposed interventions, enabling feedback as to the effectiveness of each intervention relative to the 'control' route where no intervention was made. This process revealed many proposals to be ineffective. However, Leuven city officers eventually hit upon the idea of networking their street lighting to the audio monitors. By subtly dimming the lights after pedestrian noise levels reached a certain threshold, they were able to nudge the students to move on, essentially solving the noise complaint problem without any need for human intervention.

2.8 A consistent theme throughout the summit was the idea that, as far ahead as Taipei are in terms of the scale of their work, even they are only scratching the surface of the possibilities of a data-driven city, as Leuven's innovations show. Many of the technological advancements of the recent decades, from social media to AI, have been built on a process of rapid iterations informed by data. With the advent of cheap sensing and AI data processing, cities now have the opportunity to be the next frontier of data-driven innovation.

2.9 The trip to Taipei also presented a number of economic development opportunities. As part of the conference we met with Advantech, a leading brand in 'Internet of Things' systems, who indicated they were looking to establish a New Zealand manufacturing centre. Advantech also have a base in Kunshan, one of our existing international city partnerships. This may provide an opportunity for the City to leverage our mutual connection with Kunshan, should Advantech decide to establish a manufacturing centre in New Zealand.

2.10 The delegation also connected with the City of Ryde in Sydney, who are developing the Macquarie Park Innovation District, which has many areas of common interest across science, technology, research and innovation. Separately, both KiwiRail and Martinus have expressed a desire to support Council visiting the Moorebank multimodal logistics park in Sydney, which has many parallels with Te Utanganui, the Central New Zealand Distribution Hub. Should the Moorebank visit happen, it may also provide an opportunity to visit the Macquarie Park Innovation District and connect with the City of Ryde.

2.11 A selection of photos taken during the visit is included as attachment two.

3. NEXT STEPS

3.1 Continue to execute on the digital strategy to make data accessible, shareable, and actionable for all stakeholders, with appropriate data governance to protect privacy, sensitive information, etc.

3.2 Expand and improve our digital platform to enable 'smart city' technology to be deployed and made use of at scale. Ensure all sensors from CCTV cameras to water quality instruments are networked into our platform, rather than a vertically integrated third party.

3.3 Follow up on connections made while in Taipei. Explore the economic opportunities highlighted above, and maximise transfer of 'smart city' knowledge to avoid 'reinventing the wheel' wherever possible.

3.4 Develop informal partnerships with other cities to enable the testing & sharing of ideas and lessons on the journey towards a smarter city.

4. COMPLIANCE AND ADMINISTRATION

Does the Committee have delegated authority to decide?	**Yes**
Are the decisions significant?	**No**
If they are significant do they affect land or a body of water?	**No**
Can this decision only be made through a 10 Year Plan?	**No**
Does this decision require consultation through the Special Consultative procedure?	**No**
Is there funding in the current Annual Plan for these actions?	**Yes**
Are the recommendations inconsistent with any of Council's policies or plans?	**No**
The recommendations contribute to Goal 4: An Eco City	
The recommendations contribute to the achievement of action/actions in Climate Change The action is: Investigate options for further carbon reductions through the asset management process	
Contribution to strategic direction and to social, economic, environmental and cultural well-being	Learning from best practice optimisations and efficiency improvements through 'smart city' practices, improving monitoring, reducing costs, and improving transport efficiency and thereby reducing carbon emissions.

ATTACHMENTS

1. Mayoral Taipei Presentation
2. Taipei Delegation Photos

Palmerston North: Smart Innovation

Smart City Summit and Expo - Taipei 2023

Our foundations

1. Strategy

Improving community outcomes by using data better.

2. Talent

Recruit talent and build internal capacity.

3. Data collection

Making it easy for end-users to collect, store, analyse and integrate data in the cloud.

4. Policy

Balancing openness, privacy and risk into our process & procurement.

5. Delivery

Deliver solutions quickly and flexibly that delight customers, which can then scale.

Progress to date

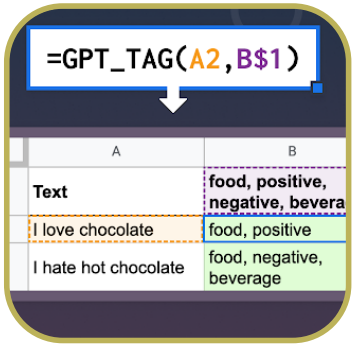
- First city in NZ to have full 5G access for mobile & broadband
- Significant renewable energy generation
- Developed digital twin model of city
- Completed computer vision traffic monitoring trials
- Partnering with universities to create new models and public value

Current Experiments

Processing streaming audio to monitor endangered native species

Scaling monitoring using scalable commercial edge processors & cameras

Using LLMs to quickly process public text submissions



Img2Img to enable deeper public engagement with urban design

Upcoming Projects

- Scale current environmental monitoring (traffic, playground usage, etc.), and incorporate into decision making processes
- Fine-tuning LLMs on Council policies to enable the public to receive instant feedback on their queries, building consent applications, etc.
- Use generative AI to improve story-telling capabilities
- Predictive AI on our expanded datasets to enable earlier weather warnings, manage traffic flows, improve activity forecasting

Contact Details

We'd love to talk more!

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PNCC Taipei Delegation

Smart City Summit and Expo – March 2023

ITEM 9 - ATTACHMENT 2

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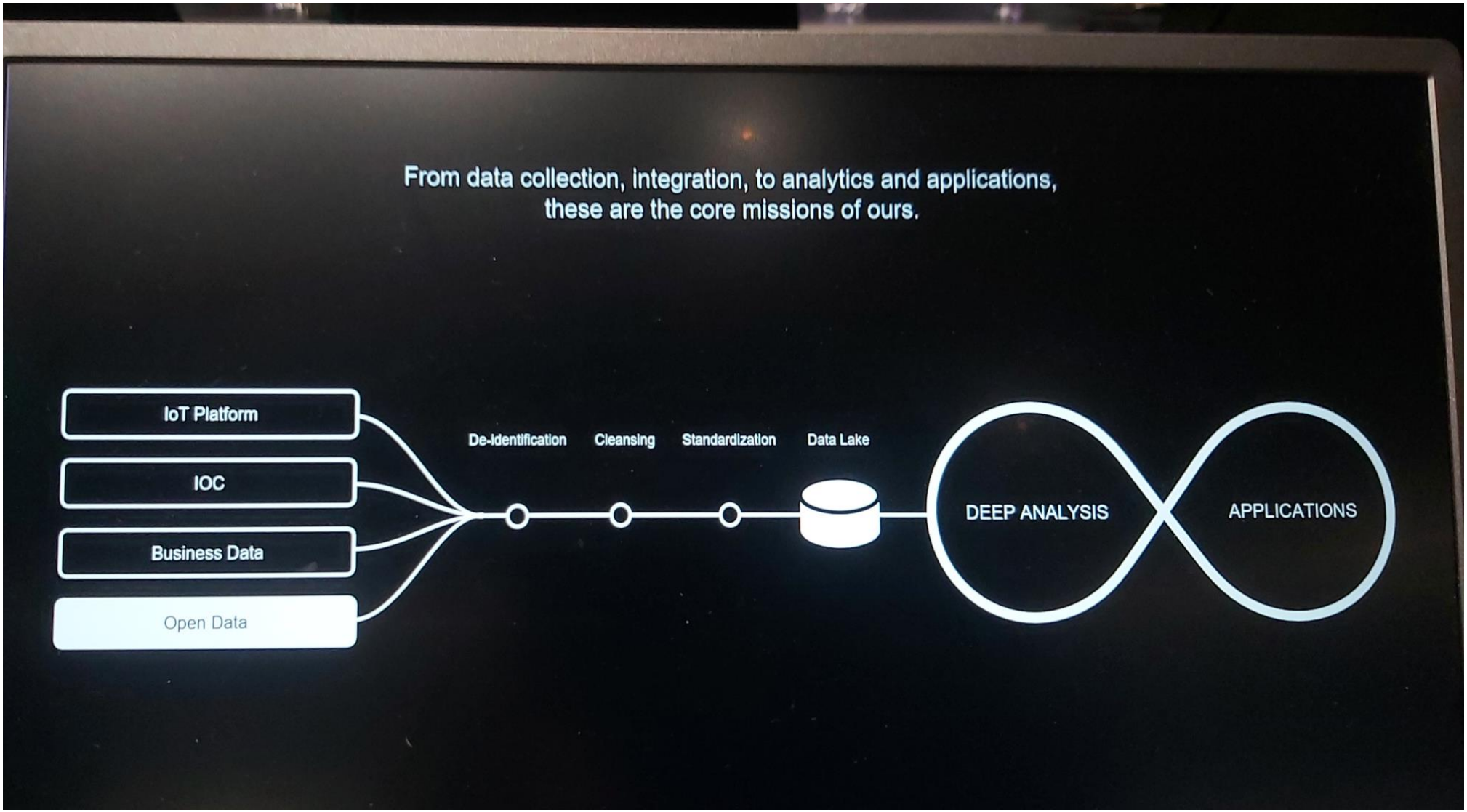
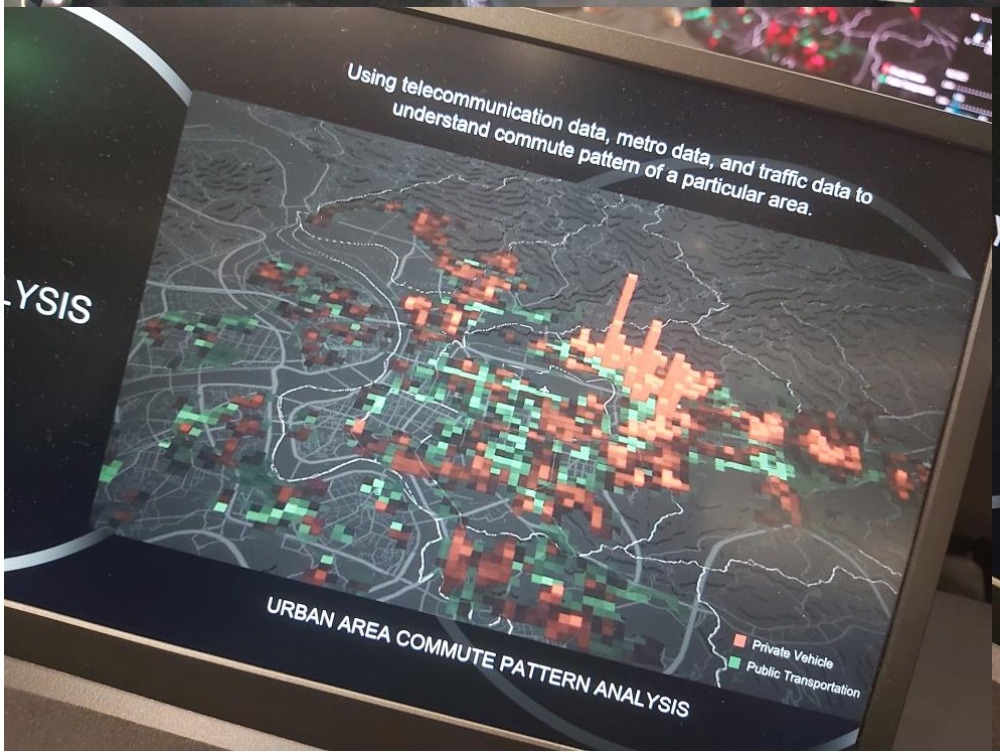


ITEM 9 - ATTACHMENT 2



ITEM 9 - ATTACHMENT 2

MEMORANDUM

TO: **Sustainability Committee**

MEETING DATE: **7 June 2023**

TITLE: **E-scooters - Review of Performance in Palmerston North 2021 - 2023**

PRESENTED BY: **Peter Ridge, Senior Policy Analyst**

APPROVED BY: **David Murphy, Chief Planning Officer**

RECOMMENDATION TO SUSTAINABILITY COMMITTEE

1. **That the Committee note that no change will be made to the current method of regulating e-scooter operators (the Mobile Trading Permit in the Signs and Use of Public Places Bylaw).**

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1. ISSUE

The Council considered a report in April 2022 that proposed to amend the Sign and Use of Public Places Bylaw, by creating a licensing system for e-scooters (public hire and shared micromobility services). The Council did not approve that proposal, and instead asked the Chief Executive to "report back in a year's time with more data and look at consulting then."

This memorandum provides the Committee with a report outlining the range of data collected by officers between November 2021 (when e-scooters were first permitted in Palmerston North) and March 2023.

The issues that prompted the initial report in April 2022 were primarily concerns over how to manage a potentially unrestricted number of operators and an overly large e-scooter fleet, which have not materialised in the past 12 months. The data collected shows that no issues have arisen to justify a significant change in the regulatory approach. The number of operators has remained stable, and the size of the e-scooter fleet has been managed by operators responding to demand.

Therefore, officers recommend that the Committee notes that no change will be made to the current regulatory approach. While officers will maintain a watching brief, we do not recommend undertaking any further work on a new licensing system for e-scooters.

2. BACKGROUND

E-scooters have been available as a shared micromobility service for hire in Palmerston North since November 2021. Three operators were each granted a Mobile Trading Permit under the Signs and Use of Public Places Bylaw which permits them to make their e-scooters available in public places for hire by the public. These permits include conditions relating to operating hours, restricted zones for parking, speed restrictions in specified areas, and performance conditions relating to resolving complaints.

3. DATA REPORTING

The report attached to this memo (attachment one) provides a summary of the key data collected about the operation of e-scooters in Palmerston North. The report covers:

- Analysis of complaints received by Council
- Damage to public places
- Injuries and incidents
- Key performance measures
- Outcomes of initial compliance audit

The report concludes that e-scooters are being operated well in Palmerston North. While some safety concerns remain, particularly around the sharp increase in the number of e-scooter-related injury claims lodged with ACC, this is not unexpected and remains a very small fraction of the number of trips completed on e-scooters.

The initial high volume of requests for service received by Council in the initial months have fallen substantially, and the average number of calls to Council about e-scooter issues has fallen to just over four requests per month.

Our compliance audit found that e-scooter operators have reasonably good levels of compliance with the permit conditions and have shown a commitment to work with Council to address issues when raised.

On this basis, the attached report concludes that there is little evidence to justify a significant change to the way e-scooters are regulated, and that the status quo should remain.

4. NEXT STEPS

The issuing of mobile trading permits under the Signs and Use of Public Places Bylaw is an operational matter. The Chief Customer Officer has delegated authority to issue permits under the Bylaw and can set conditions for those permits.

The acting Chief Customer Officer has indicated their intention to renew the existing permits for a period of three years and will continue to monitor any issues that may arise in relation to e-scooters as a public hire and shared micromobility service.

5. COMPLIANCE AND ADMINISTRATION

Does the Committee have delegated authority to decide? If Yes quote relevant clause(s) from Delegations Manual	**Yes**
Are the decisions significant?	**No**
If they are significant do they affect land or a body of water?	**No**
Can this decision only be made through a 10 Year Plan?	**No**
Does this decision require consultation through the Special Consultative procedure?	**No**
Is there funding in the current Annual Plan for these actions?	**No**
Are the recommendations inconsistent with any of Council's policies or plans?	**No**
The recommendations contribute to Goal 1: An Innovative and Growing City	
The recommendations contribute to the achievement of action/actions in Transport The action is: No specific action but contributes to the Transport Plan's objective of encouraging "more people to choose modes of transport other than motor vehicles." The recommendation also contributes to the identified priority in the Safe Communities Plan, "A city where people feel safe and are safe."	
Contribution to strategic direction and to social, economic, environmental and cultural well-being	The data outlined in the report shows the performance of e-scooter operations in Palmerston North, and the extent of safety concerns. The relatively small number of issues suggests that the current regulatory approach is striking an appropriate balance between enabling a new mode of transport for our city, while also ensuring our city is a place where people feel safe and are safe.

ATTACHMENTS

1. Review of e-scooter operations in Palmerston North November 2021 - March 2023 ⇩

E-scooters as a public hire and shared micromobility service

Review of performance in Palmerston North November 2021 – March 2023

May 2023

1

Introduction

The Council issued permits to three e-scooter operators in 2021, allowing them to place e-scooters in public places for hire. These e-scooters became available for hire on 1 November 2021. Initially, each operator was permitted to deploy a maximum of 200 e-scooters. This limit was removed in April 2022. At the same time, the Council requested a report back in 12 months on the operation of e-scooters.

This report provides an overview of the performance of e-scooter operators in Palmerston North. The following matters are covered:

- Analysis of complaints received by Council
- Damage to public places
- Injuries and incidents
- Performance against key performance measures
- Outcomes of initial compliance audit

Analysis of complaints received by Council

Between November 2021 and March 2023, we received 177 requests for service related to e-scooters. The following is a breakdown of the type of requests we received:

Type of request/issue	Number
Parking	118
Unsafe riding	25
Near miss	8
Abandoned in water	5
Nuisance	5
Collision	4
Vandalism	4
Abandoned in tree	2
Objections to e-scooters	2
User accident	2
Information request	1
Poor customer service	1

Table 1 - number of e-scooter-related requests to Council Nov 2021 - Mar 2023

Two-thirds of all these requests related to poor parking or e-scooters being left to cause a hazard or nuisance. Unsafe riding, accidents involving e-scooters, and near misses made up 22 percent of the requests we received.

Requests relating to parking were referred to the operators as they are responsible for responding to complaints about parking, and resolving instances of hazardous or inconsiderate parking.

Requests relating to inappropriate use of e-scooters on footpaths, such as unsafe riding, near misses, or collisions or other accidents were referred to the Police. The Police have responsibility for enforcing the Road User Rule in relation to vehicles on footpaths, including e-scooters.

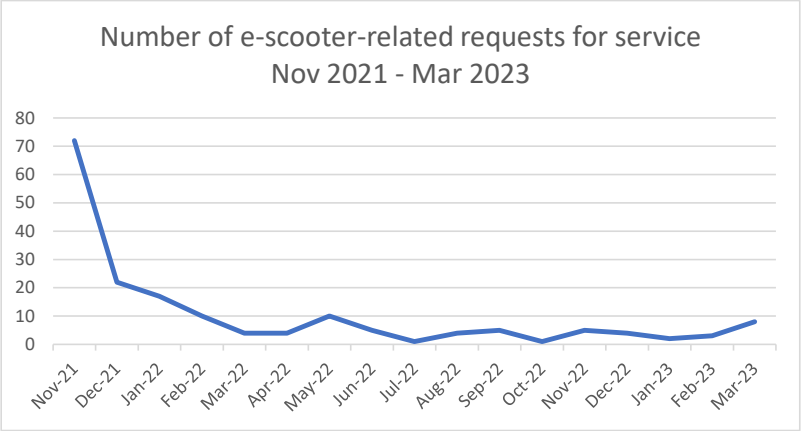

Chart 1 - number of e-scooter related requests to Council by month, Nov 2021 - Mar 2023

The number of requests per month dropped significantly after the first month, and has been relatively low for the past 12 months, with an average of just over 4 requests for service each month. This pattern is consistent with other cities who have had e-scooters introduced to their city.

Damage to public places

There have been three recorded incidents of e-scooters being used to vandalise public places. The first involved children riding e-scooters down a hill in Robert Park and letting them roll into the stream, or skidding on the path causing damage. The second involved riders using e-scooters to make skid marks on He Ara Kotahi. The third involved e-scooter riders damaging the steps outside the City Library on George Street.

In addition to these recorded incidents, officers are also aware of e-scooters being used to make skid marks in public toilets and in the children's pool in the Esplanade. Our cleaning teams are tasked with responding to these incidents.

Injuries and incidents

NZ Police

Police do not collect data coded specifcally to capture incidents involving e-scooters. However, some data was made available to PNCC officers for viewing only, based on a keyword search for "e-scooter" or "scooter" for the period from November 2021 until March 2023. This data was made available on the basis of reporting only general themes or trends, rather than specific incidents.

Police data recorded 17 incidents involving e-scooters between November 2021 and March 2023. The table below shows a breakdown of this number by the type of incident, based on the description of the incident on the record sheet.

Type of incident	Number
Collision – vehicle + e-scooter	8
Unsafe riding	3
Theft – involving an e-scooter	2
Vandalism – with an e-scooter	2
Vandalism – to an e-scooter	1
Collision – e-scooter + pedestrian	1

Table 2 - number of e-scooter-related incidents reported to NZ Police, Nov 2021 - Mar 2023

While details of specific incidents cannot be revealed, some general themes can be identified. Nearly half of these incidents involve a collision between a motor vehicle and an e-scooter, in all but one of those incidents the police report did not record anything other than minor injuries.

The availability of e-scooters on the streets makes them targets for vandalism – either as tools used to vandalise other property, or as objects of vandalism itself. However, the number of recorded incidents is quite small.

Amongst some categories – such as unsafe riding, or theft involving an e-scooter, an element of juvenile offending is involved. While data on the resolution of these incidents is not clear, the incident reports reveal that some resolutions – involving prosecution and sentencing, or referrals to Youth Aid – do occur, where sufficient evidence is available.

In general terms, police data does not show a significant increase in offending or undesirable behaviour as a result of e-scooters being made available for hire in Palmerston North. Though any incidents of this nature are unwelcome, the rate of these recorded incidents equates to an average of one per month.

ACC

ACC report the number of claims involving e-scooters for Palmerston North. These figures do not distinguish between rented or privately-owned e-scooters.

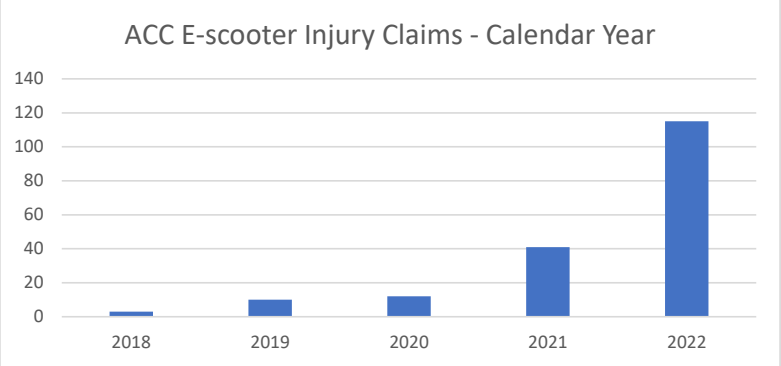

Chart 2 - number of e-scooter-related injury claims to ACC for calendar years 2018 - 2022

A breakdown of injury type or serverity was not provided. However ACC noted that there were no fatal or serious injuries recorded for Palmerston North. All recorded injuries were minor, including:

- Ankle
- Knee
- Head
- Hand/wrist
- Elbow
- Upper/lower arm
- Shoulder/clavicle

There were a total of 177 claims for e-scooter related injuries between November 2021 and March 2023 (the period in which e-scooters were permitted to operate for hire).

Emergency Department – PN Hospital

Data was requested from Te Whatu Ora Te Pae Hauora o Ruahine o Tararua MidCentral with regards to admissions to the emergency department for injuries involving e-scooters. However, we were unable to access any data on emergency department admissions in time for inclusion in this report.

Key performance measures

Usage and uptake

As of March 2023, Palmerston North has the third largest fleet of e-scooters in the country, with an average of 595 active e-scooters, ahead of Wellington with 556[1]. The three operators were initially capped at 200 e-scooters each. This cap was lifted in May 2022, and the operators have since been free to operate as many scooters as they see fit. As at time of writing, Flamingo had 296 vehicles available, Beam had 231, and Lime had 179.

The average number of trips per day is 900, which places Palmerston North 4th amongst the 11 cities and towns with publicly-rented e-scooters. Since the introduction of e-scooters in November 2021, the average number of trips has declined from an initial peak of over 1200 trips per day, settling to a low of just over 600 in June 2022. This was likely due to a combination of factors including Covid-19-related restrictions and the impact of weather conditions throughout autumn and winter. Since July 2022, the average number of trips per day has increased to 900 per day in March 2023.

Riders in Palmerston North have travelled a total of 921,600 kms since e-scooters became available in November 2021, the fourth highest total distance travelled amongst 11 cities. This is a third higher than cities such as Hamilton and Dunedin, where e-scooters have been operating for longer.

Safety and operation

The permit issued to each operator sets four performance measures, and requests data from each operator reporting on performance against those measures. The four measures are:

1. Number of e-scooters reported to operators that are parked or left to cause a hazard or nuisance (Minimum requirement – 90% responded to within 60 minutes)
    a. Percentage of those reported incidents responded to later than 60 mins
2. Number of e-scooters reported to operators that are parking incorrectly but not causing a hazard (Minimum requirement – 90% responded to within 2 hours)
    a. Percentage of those reported incidents responded to later than 2 hours.
3. Number of e-scooters reported to operator as unsafe or faulty (Minimum requirement – 100% unsafe or faulty e-scooters immediately deactivated, removed with 48 hours)
    a. Percentage of those reported incidents not immediately deactivated.
    b. Perecentage of those reported incidents not resolved within 48 hours.
4. Number of e-scooters reported to operator as being found outside the defined area of operation (Minimum requirement – 90% of e-scooters reported as being outside the area of operation relocated within 24 hours of report)
    a. Percentage of those reported incidents not resolved within 24 hours of report.

[1] Data on usage and uptake collated from RideReport, a reporting service paid for by Waka Kotahi which collects data from all three e-scooter operators. The data is available via the public dashboard Palmerston North | Micromobility Dashboard (ridereport.com).

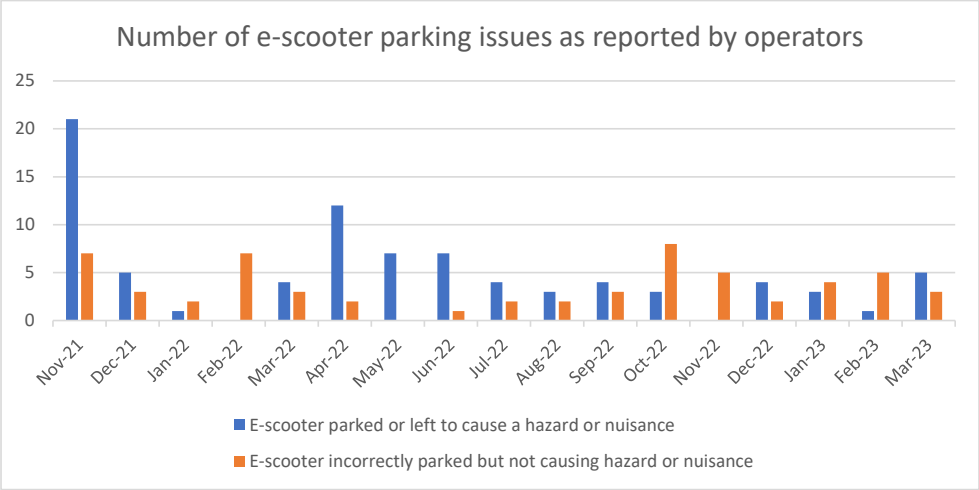

Chart 3 - number of e-scooter parking issues as reported by operators, Nov 2021 - Mar 2023

The chart above shows the number of e-scooters parked or left to cause a hazard or nuisance, and e-scooters incorrectly parked but not causing a hazard or nuisance. These data are reported by the operators themselves.

Compliance with the performance targets has been generally good. One operator has failed to meet the performance target four out of the 17 months. All operators have been compliant with the performance target since October 2022.

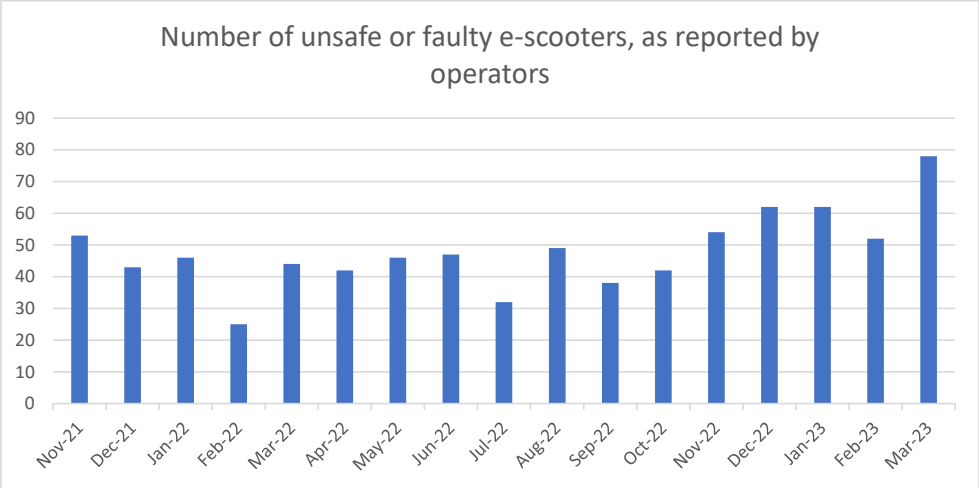

Chart 4 - number of unsafe or faulty e-scooters reported by operators, by month Nov 2021 - Mar 2023

The chart above shows the number of unsafe or faulty e-scooters. These are reports made to the operators, typically from users. The nature or severity of the fault is not known. The performance target is for the identified e-scooter to be immediately deactivated upon receipt of the report, so that the e-scooter cannot be activated or used. Removal from the public place must occur within two days. Operators report that they are fully compliant with this performance target, with all faulty

e-scooters being immediately deactivated upon notification, and either removed within 48 hours or the fault resolved.

Operators provided data on the number of e-scooters found outside the defined area of operation, however the numbers were too small to present in a chart. Operators reported a total of four e-scooters being found outside the defined area of operation over the 17 months in the reporting period.

Outcomes of initial compliance audit

Staff conducted an assessment of compliance by e-scooter operators against the primary conditions of their mobile trading in public places permit. The purposes of this assessment was to:

- determine whether operators are meeting the required conditions for operating e-scooters in Palmerston North;
- collect data on performance for reporting purposes to elected members; and
- identify areas for improvement amongst operators to ensure a high standard of safety is being maintained.

The audit was undertaken over several days in December 2022 to assess compliance with permit conditions. These tests included:

1. Whether the areas of operation designated in the permit were correctly mapped and applied by the operator. Staff activated a scooter and attempted to perform the action that is restricted in the identified locations.
2. Whether the hours of operation were complied with. Staff attempted to activate a scooter outside the hours of operation.
3. Whether the cognitive test is being applied after 9pm on Friday and Saturday nights. Staff attempted to activate a scooter after 9pm, and observed the nature of the test.
4. Placement of e-scooters. Staff assessed a random sample of user parking in five different locations. Staff also assessed operators deployment of scooters at minimum deployment locations.
5. Whether the operators are providing safety information/public education campaigns at least once every three months. The period examined was from 16 October 2022 until 16 January 2023.

	Beam	Flamingo	Lime
Areas of operation	Partly	Partly	Partly
Hours of operation	Pass	Pass	Pass
Cognitive test	Pass	Partly	Fail
Placement of e-scooters	Pass	Pass	Pass
Public education and safety campaigns	Pass	Pass	Fail

Table 3 - results of compliance audit of e-scooter operators, Dec 2022

The results of the audit showed generally good levels of compliance with the conditions of the permit. All operators showed some faults with the application of geofencing boundaries, most notably around CET Fly Palmy Arena. These faults have been discussed with the operators and work is underway to correct the mapping of these boundaries to ensure consistent application of those boundaries.

Spot testing of parking and deployment showed generally good compliance with requirements for deployment. While some instances of poor parking by users were noted during the audit, the methodology used was unable to determine whether the operators would have responded to complaints about poor parking in the required time in those instances. Assessment of compliance with key measures for parking is considered under the complaints analysis section above.

A desktop review of public education campaigns and safety events found that most operators undertook some events during the audit period. One operator did not undertake any events outside of promotion of safety within their own app. This has been raised with the operator and they have committed to improving this in the future.

The cognitive test was introduced as a pre-requisite for extending operating hours to 11pm. The cognitive test is required to be activated on all e-scooter apps after 9pm on Friday and Saturday nights, to deter users from riding while intoxicated. Two operators have implemented this but one operator had not. This was raised with the operator and they have since activated the cognitive test from 9pm on Friday and Saturday nights.

Conclusion and next steps

While the data presented in this report does not offer a perfect picture of the impact of e-scooters in Palmerston North, they do show a fairly comprehensive view. Usage and uptake of e-scooters is strong, which shows demand for a shared micromobility service, and that it is meeting a transport need within the community. Operators are generally complying well with the conditions of their permit, and show a commitment to working constructively with Council to improve safety and reduce nuisance to the public. The current permit system provides a mechanism for those improvements to be implemented.

The data shows that the rate of injuries reported to ACC have increased. This is not unexpected with the introduction of a new mode of transport. The significant increase in usage has been matched by an increase in the number of claims for ACC for injuries related to e-scooters. While any number of injuries is undesirable, they represent a very small fraction of the number of trips completed on e-scooters over the same time period.

The number of complaints to Council was very high for the first month after they were introduced to Palmerston North, which was expected based on the experience of other cities. As people became more familiar with e-scooters, and behaviours of users improved, the number of requests for service dropped to a much low level, and they have remained low for the past 12 months.

Based on the data collected, there is little evidence to justify a significant change to the way e-scooter operators are regulated. The current permit system is providing an effective means of setting conditions on operators, and they are working constructively with Council to address issues that arise.

Council staff will continue to regulate e-scooter operators via the mobile trading permit system provided in the Signs and Use of Public Places Bylaw.

MEMORANDUM

TO: **Sustainability Committee**

MEETING DATE: **7 June 2023**

TITLE: **Summary of the changes announced for Aotearoa New Zealand's Waste System**

PRESENTED BY: **Bryce Hosking, Group Manager - Property and Resource Recovery, and Natasha Hickmott, Activities Manager - Resource Recovery and Sustainability**

APPROVED BY: **Bryce Hosking, Acting Chief Infrastructure Officer**

RECOMMENDATION TO SUSTAINABILITY COMMITTEE

1. That the Committee receive the memorandum titled "Summary of the changes announced for Aotearoa New Zealand's Waste System" presented on 7 June 2023.

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1. ISSUE

1.1 In late March 2023, Ministry for the Environment (MfE) announced significant changes that fundamentally change the way we make, use, recycle and dispose of things.

1.2 The announcement comprised three (3) initiatives:

1. A new waste strategy (refer section 3 of this report).
2. Improved household recycling and food scraps collections (refer section 4).
3. New and more comprehensive waste legislation (refer section 6).

1.3 Palmerston North City Council (PNCC) will be reviewing its Waste Management and Minimisation Plan (WMMP) as part of the 2024-34 Long Term Plan (LTP). As the new initiatives above will need to be considered as part of the WMMP, this memorandum provides a summary of the announced changes from MfE.

2. BACKGROUND

2.1 Over the past few years, the MfE have been working through several work programmes to reshape the way councils view and manage waste and have shifted the focus to a more sustainable and resilient future.

2.2 MfE consulted on a proposal for a new waste strategy in 2021. During 2022 MfE consulted on three (3) connected proposals to lift performance of national recycling and help build a circular, climate-friendly economy. The three (3) proposals were:

- A Container Return Scheme (CRS).
- Improvements to household kerbside recycling.
- Separation of business food waste.

2.3 PNCC provided comprehensive submissions on all the above during the respective consultation periods.

2.4 In March 2023 it was also announced that a CRS would not be implemented at this time but would be reconsidered in the future.

3. TE RAUTAKI PARA | THE NEW WASTE STRATEGY

3.1 The national waste strategy provides a holistic view on waste management and provides a high-level road map for the next few decades of how New Zealand is going to transition to a low emission, low waste, circular society.

3.2 The Waste Strategy will be implemented through three (3) phases:

- Phase 1 (Now to 2030): Embedding circular thinking into our systems.
- Phase 2 (2030-2040): Expanding to make circular normal.
- Phase 3 (2040- 2050): Helping others do the same.

3.3 Phase 1 will ensure the foundations are in place to implement the changes required, focusing on activities at the top of the waste hierarchy, particularly:

- Using fewer products and extending the life of those that are used
- Reducing emissions, and
- Remediating contaminated land.

3.4 The future phases are then based on the circular economy being embedded in society and focus on expanding opportunities to minimise residual waste and realising efficiencies.

3.5 Importantly the Waste Strategy also sets minimum targets to be achieved in Phase 1 by 2030 for all waste, not just kerbside collection. These are:

- Waste Generation: Reduce the amount of material entering the waste management system by 10% per person.
- Waste Disposal: Reduce the amount of material that needs final disposal by 30% per person.
- Waste Emissions: Reduce the biogenic methane emissions from waste by at least 30%.

3.6 The waste strategy will be supported with various, more detailed action and investment plans (AIP's) which will be collaboratively developed with councils. The AIP's will then govern planning and activity across central and local government.

4. IMPROVING HOUSEHOLD RECYCLING AND FOOD SCRAPS COLLECTION

4.1 Key changes are being introduced to support a low-emissions, low-waste circular economy:

- Standardising what items can be accepted in kerbside collections.
- Requiring councils to establish food scraps collections in urban areas, and
- Introducing minimum diversion standards and reporting requirements.

Standardising what items can be accepted in kerbside collections

4.2 From 1 February 2024, all councils across Aotearoa must accept the same materials in their household collections (refer Figure 1 below).

Figure 1. Materials accepted in kerbside recycling collection from February 2024

4.3 From 1 February 2024, councils across Aotearoa will no longer be able to collect certain items in kerbside collections (refer Figure 2).

Excluded materials
Plastics numbers 3, 4, 6, and 7
Aerosols
Liquid Paper Board
Aluminum foil
Min and max item size thresholds
Lids
Items likely to be contaminated (toothpaste tubes, plant pots, etc.)

Figure 2. Materials not accepted in kerbside recycling collections from February 2024

4.4 Then from 2027 all urban areas (with a population of over 1000 people) will need to be covered by a council-run recycling collection.

4.5 PNCC generally complies with the requirements outlined in 4.2, 4.3 and 4.4 above already. Most notably PNCC implemented changes in early 2021 when plastics 3, 4, 6 and 7 were removed from being accepted into the recycling service. That said, Council will need to make some minor adjustments, namely no longer accepting lids and aerosols in our kerbside collections.

4.6 It is important to note that while some items are no longer able to be accepted through a kerbside service, they can still be accepted at our recycling drop off points (RDOPs), for example liquid paperboard.

Food scraps collections

4.7 By 2030, kerbside food scraps collections will need be available to households in all urban areas. For councils with suitable food processing facilities with capacity within 150km, this service will need to be in place by 2027. PNCC does not have a processing facility within 150km, so has until 2030.

4.8 For clarity, even if a facility were established in the region prior to 2030, Council would still have until 2030 to introduce a kerbside food scraps collection.

4.9 PNCC is currently undertaking a trial to understand what a kerbside food scraps collection service would look like, and officers have investigated food scraps processing options and have started conversations with neighbouring councils to collaborate on identifying the most appropriate food processing systems.

4.10 As with the kerbside recycling, there will be prescribed requirements for the materials collected in a kerbside food scraps system, including materials to be excluded, and materials where councils will be given some discretion. For

example, councils have the option to incorporate green waste collections into a kerbside organics service.

Minimum diversion standards and reporting requirements

4.11 MfE is also introducing minimum waste diversion standards for councils and requiring waste companies to collect and report more of their waste data.

4.12 All councils will need to meet an increasing minimum standard for the quantity of kerbside household waste diverted from landfill. Of the total household waste placed at kerbside, councils will need to divert:

- 30% by 2026
- 40% by 2028
- 50% by 2030

4.13 Officers have requested more detailed information on how the minimum performance standards were calculated as these may be difficult to achieve, particularly as the performance standards is for kerbside household collections only, whilst food scraps collection would count towards this, it does not include other diversion initiatives Council offers. For example, materials collected at our recycling drop off points, and the standards also exclude green waste, even if this is collected kerbside.

4.14 Importantly, MfE have indicated that the Waste Levy funds councils receive will not be given to councils that do not meet these performance standards, so it is important to understand how they have been calculated.

5. WASTE LEGISLATION REFORM

5.1 In addition to all the above, new waste legislation is being developed to replace the current Waste Minimisation Act 2008 and the Litter Act 1979.

5.2 This new legislation will support delivery of the initiatives above including the waste strategy and waste elements of the emissions reduction plan. New legislation will allow government to fix the gaps in the current legislation, give effect to the new waste strategy and enable Aotearoa to catch up with the rest of the world.

5.3 Cabinet has made decisions on the content of the new legislation with a draft bill expected to be introduced into the house in late 2023, or early 2024. The bill will be consulted on during the select committee process, with the aim to have new legislation enacted in 2025.

5.4 The new legislation will also detail any changes to how the waste levy funding is distributed to councils. Currently this is distributed based on population. The only requirement to receiving the funding is having a current Waste Management and Minimisation Plan (WMMP). MfE have indicated that this could change to be conditional upon meeting the newly set out performance standards.

6. SUMMARY OF CHANGES – TIMEFRAME

6.1 A summary of the changes and their new timelines are in Figure 3 below.

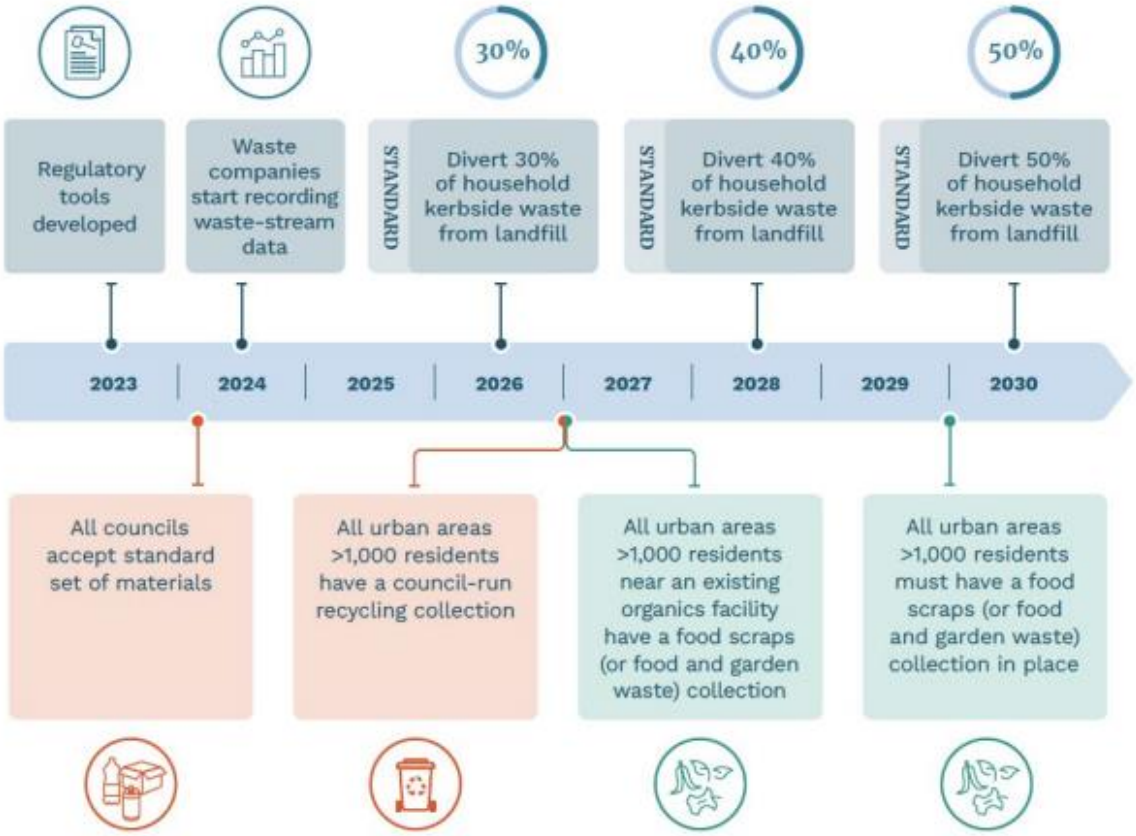

Figure 3. Implementation timeline

7. CONCLUSION AND NEXT STEPS

7.1 Council is in a good position to respond to the immediate required changes around standardisation of materials collected in kerbside recycling, with minor amendments to the bylaw/administration manual required. Long-term changes such as a kerbside food scraps collection, will require more investigation and investment.

7.2 Officers will know more detail about kerbside standardisation, meeting the key performance indicators and how the waste levy is distributed as further information is provided. We expect details of the standardisation of materials, including guidance, to be released in mid-2023, with draft legislation to be introduced late in 2023 or early 2024.

7.3 Additionally, MfE will develop a national behaviour change campaign which will help councils with the implementation of the changes.

8. COMPLIANCE AND ADMINISTRATION

Does the Committee have delegated authority to decide?	**Yes**
Are the decisions significant?	**No**
If they are significant do, they affect land or a body of water?	**No**
Can this decision only be made through a 10 Year Plan?	**No**
Does this decision require consultation through the Special Consultative procedure?	**No**
Is there funding in the current Annual Plan for these actions?	**No**
Are the recommendations inconsistent with any of Council's policies or plans?	**No**
The recommendations contribute to Goal 4: An Eco City	
The recommendations contribute to the achievement of action/actions in Resource Recovery This memo is intended to inform the Elected Members to assist with good decision making	
Contribution to strategic direction and to social, economic, environmental, and cultural well-being	This memo provides Elected Members with a summary of the recent announcements relating to the Resource Recovery Activity.

ATTACHMENTS

Nil

MEMORANDUM

TO: **Sustainability Committee**

MEETING DATE: **7 June 2023**

TITLE: **Overview of regulatory and service provision options to minimise waste to landfill**

PRESENTED BY: **Peter Ridge, Senior Policy Analyst**

APPROVED BY: **David Murphy, Chief Planning Officer**

RECOMMENDATION TO SUSTAINABILITY COMMITTEE

1. **That the Committee receive the memorandum titled "Overview of regulatory and service provision options to minimise waste to landfill" presented on 7 June 2023.**

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1. ISSUE

1.1 This memorandum outlines the regulatory and service provision options for minimising waste to landfill, in response to a resolution of the Planning and Strategy Committee in August 2021. The purpose of this memorandum is to inform work that will be completed in the coming months on the Waste Management and Minimisation Plan, in advance of drafting a replacement Resource Recovery Plan[1].

2. BACKGROUND

2.1 In August 2021 the Planning and Strategy Committee passed the following resolution:

"That prior to consulting on the draft Waste Management & Minimisation Bylaw, the Chief Executive report to Planning & Strategy Committee on:

(1) how licensing, regulatory and service provision options can be used to cost-effectively minimise waste to landfill, and

[1] The Resource Recovery Plan being developed as part of the new strategic framework for the 2024-34 Long Term Plan will also serve as the new Waste Management and Minimisation Plan (WMMP). Amalgamating these two documents into a single document will ensure that decisions made about our waste management and minimisation goals are aligned to our broader strategic outcomes and are factored into planning and programme budgets in the LTP.

(2) how Council provision of waste and recycling services influences our commercial sector licensing and regulatory options to minimise waste to landfill.

3. REGULATORY OPTIONS TO MINIMISE WASTE TO LANDFILL

3.1 The information requested in the Committee's resolution has been broken into two sections. The first examines how licensing, regulatory, and service provision options can be used to cost-effectively minimise waste to landfill. The second examines the extent to which Council's waste and recycling service provision influences our commercial sector licensing and regulatory options to minimise waste to landfill.

Context

3.2 Ascertaining a complete picture of the amount of waste generated in the City is a complex process. Council's collection service accounts for a portion of the waste stream, while commercial waste collectors make up the balance. Many of those collectors are wary of sharing their data directly with Council, and so this data is collected on our behalf by a consultant, and the information aggregated to give a reasonably complete snapshot in time of the amount of waste generated in the City.

3.3 This waste assessment is undertaken in advance of the development of the Waste Management and Minimisation Plan; for intervening years, the data is estimated by extrapolating the proportions from the previous waste assessment and applying it to the amounts of waste transferred through the Matthews Ave Transfer Station. However, there are additional factors (for instance, waste which is not transferred to Matthews Ave, essentially "exported" out of the district to other transfer stations or landfills) which makes it difficult to ascertain with confidence whether the total proportion of waste being sent to landfill is falling (i.e. minimising waste to landfill).

3.4 Palmerston North City Council is unique within local government as the only Council which directly operates both a kerbside waste collection service and a kerbside recycling collection. Most other Councils rate for these services and then contract an external service provider to deliver these services to their residents. Some do not provide any services at all and leave it to the private market to meet waste and recycling collection needs.

3.5 The Ministry for the Environment published its Waste Strategy in March 2023, which sets out new obligations for local government. These obligations will be introduced through a mix of new regulatory instruments and legislation over the next two years. They include a requirement to meet national targets for diverting waste from landfill, introducing a kerbside food waste collection, and setting minimum requirements for kerbside recycling collections. Councils which do not currently provide a kerbside recycling collection must provide such a service by 2027. The provision of this service can be via a contract which is paid for via rates, or it can be a direct service provision (as in the case of PNCC).

How licensing, regulatory, and service provision options can be used to cost-effectively minimise waste to landfill

3.6 The question asks how different mechanisms can be used to cost-effectively minimise waste to landfill. The first of these, licensing, is part of a regulatory system, so essentially there are two mechanisms being considered:

Mechanism 1: Influence through service provision;

Mechanism 2: Influence through a regulatory approach (which includes licensing).

Mechanism 1: Influence through service provision

3.7 There are several ways that service provision can be used to cost-effectively minimise waste to landfill, whether provided directly (as we currently do) or provided via a contracted service. Tools include:

- price setting,
- setting conditions, and
- service design and coverage.

Price setting

3.8 Council, as a provider of a kerbside waste collection service, can set the price it charges for a rubbish bag. The cost for a single 60L rubbish bag will increase from $2.75 to $2.90 from 1 July 2023.2 The kerbside recycling service is included in the rates paid by the property owner. There is no additional charge to use the recycling service, which is essentially "zero additional cost" to the end user. This system, looked at in isolation, acts as an incentive to divert waste from the rubbish bag (which costs for each bag used) into the recycling bin (at no additional cost).

3.9 However, the presence of commercial waste collectors can distort these price signals. A commercial waste collector offers different service types (such as wheelie bins) which often present a lower cost per unit than Council rubbish bags (for example, a 240L bin collected fortnightly may cost as little as $9.50 per fortnight, or equivalent to $2.38 per 60L). Householders have the ability, therefore, to opt out of using the Council service and to select an alternative service if they are looking to achieve maximum value from their expenditure on waste disposal.

3.10 Prices can be set on a "pay as you throw" basis (PAYT) or can be set on a rates-funded basis (like the current practice for the kerbside recycling collection). This report doesn't examine the benefits and disadvantages of either approach; a full analysis would be appropriate when developing specific proposals or services. This report instead simply notes that as a

[2] The Council decided to set the price of the 60L rubbish bag below the level required by the Revenue and Financing Policy, recognizing the impact of a more significant price increase on many households.

service provider the Council has the power to set prices, and through setting those prices the Council can influence behaviour when it comes to minimising waste to landfill.

3.11 Setting the price point to maximise waste diversion also needs to take into account other factors, such as the extent to which different parts of the community are more sensitive to price changes. Lower-income households may be more susceptible to price changes than higher-income households. Time-poverty may also be a factor in whether people have the capacity to sort material from their waste into a recycling collection.

Setting conditions

3.12 The conditions that we set for use of the kerbside waste and recycling services can affect the rates of waste minimisation. These conditions could include the types of waste that are accepted in a rubbish bag, the types of materials that can be placed in a recycling collection, and the condition of those materials (i.e. whether they are washed, labels removed, etc). We can also set conditions such as the size of the bags or bins provided, where they are to be placed for collection, and penalties for non-compliance.

3.13 Where the conditions are extremely strict or complex, they may discourage positive behaviours. Conversely, conditions which are too broad or loose may result in contamination of recycling collections which then need to be sent to landfill. Overly strict conditions may also increase the complexity of the collection and sorting process, which may increase the cost of the service, which may in turn discourage more use of that recycling service.

3.14 Setting conditions, therefore, is a balancing act between ensuring that recycling and waste collections have few barriers to their use, but are still effective in minimising waste being sent to landfill.

Service design and coverage

3.15 As a service provider, Council has the ability to design a service that meets its needs and achieves the outcomes it desires, such as minimising waste to landfill. That design can include aspects of the service such as the type of receptacle used, the geographical coverage of the service, and the frequency of the service.

3.16 The current kerbside waste collection service relies on prepaid rubbish bags which come in two sizes – 60L and 40L. The decision to use a prepaid bag system or a wheelie bin service can impact on how effective waste minimisation efforts may be. A larger wheelie bin could encourage households to place more waste in the bin than they might otherwise place in a bag. However, the fixed size of the bin may also place an overall limit on how much waste is disposed of, compared to bags which allow for as much waste to be disposed as the household is prepared to pay for (through the purchase of prepaid bags).

3.17 The geographical extent of the service can have an effect on waste minimisation goals. More widely available services may reach more households and potentially increase uptake of the service. But the same service may also be more expensive when extended into challenging locations that cost more for collection vehicles to access.

3.18 The frequency of a service can strike a balance between cost to provide the service, and its overall effectiveness. Currently, the Council collects waste weekly; a fortnightly collection may be cheaper to provide, but if waste is left to accumulate, it may become a hazard, or result in litter or fly tipping. Frequency of the service is therefore another factor when it comes to designing the service, that can affect the effectiveness of minimising waste to landfill.

3.19 Taking these factors, and others, into account when designing a service and its coverage, give the Council a range of tools for influencing the amount of waste which is sent to landfill.

Mechanism 2: Regulatory approach (including licensing)

3.20 The use of regulatory tools is a necessary part of the system for minimising waste to landfill. We use regulatory tools (such as the Waste Management and Minimisation Bylaw) to set conditions for use of our services, and to impose penalties for those that do not comply with those conditions.

a) Contract conditions

3.21 Where a service is provided via a contract, rather than directly by the Council, then the regulatory tool is the contract signed between the Council and the service provider. Through that contract conditions and performance measures are set for the provider. Failure to meet those measures or conditions can result in the Council taking action as permitted by that contract (for instance, financial penalties, or review of the contract).

3.22 The use of conditions as a regulatory tool isn't confined to contracts. For instance, when Council directly provides a service (such as a kerbside collection or a resource drop-off point) we can set conditions for the use of that service through our bylaw. We also set conditions for waste minimisation at events held on Council land. This condition provides a mechanism to influence third-parties to minimise waste to landfill.

b) Licensing systems

3.23 The use of licensing in waste management is provided for in the Waste Minimisation Act 2008. Section 56 (3) provides for the licensing of persons who carry out the collection and transportation of waste. Our bylaw can specify conditions to be set as conditions of licence, including requiring each licensee to provide a performance bond or security for the performance of the work licensed, and to provide data to the Council on the quantity, composition, and destination of wate collected and transported by the licensee.

3.24 The Act is unclear about whether the Council has the power to set other conditions via a licensing system. Typically, legislation which is generally empowering will note that the conditions are indicative rather than exclusive. However, Kapiti Coast District Council's Solid Waste Bylaw 2021 includes conditions for licensed waste collectors governing the minimum collection frequency, requirements for approved waste receptacles, and requirements to collect litter within a specified distance of an approved receptacle. This indicates there is a potential scope of licence conditions under the Act.

Analysis

3.25 Providing a service, whether directly or via a contracted provider, gives Council the ability to influence how people manage their waste. Whether via price signals, the scope or complexity of the service, or the type of service, the Council can configure the service to encourage people to put more recyclable material into recycling collections and minimise the amount which is sent to landfill.

3.26 Regulatory tools can support service provision through the imposition of conditions which reinforce the outcomes that Council is trying to achieve. The current licensing provisions within the Waste Minimisation Act 2008 are somewhat limited, with an emphasis on data collection, but there may be scope to use licensing tools to stipulate requirements around the frequency or timing of collections and minimum standards for waste receptacles. Such a licensing system, with conditions around minimum standards for collection, could potentially lead to greater consistency of services across the waste sector in Palmerston North. However the uncertainty regarding the licensing powers in the Waste Minimisation Act 2008, coupled with the pending introduction of new legislation and likely new licensing requirements, make it difficult to conclude how effective licensing commercial waste collectors could be in terms of minimising waste to landfill.

To what extent does Council's waste and recycling service provision influence our commercial sector licensing and regulatory options to minimise waste to landfill?

3.27 Palmerston North is an outlier within local government, as the only local authority which directly provides a kerbside waste and recycling collection service. In most other local authorities the service is provided by a third party operating under a contract from the Council, which is funded by rates. In some areas, the Council does not provide the service or contract for its provision, and residents and businesses are able to make private arrangements for the collection of waste and/or recycling.

3.28 The Committee resolution, by asking how Council's waste and recycling service provision influences our commercial sector licensing and regulatory options, presupposes that being both a service provider and a regulator in the waste sector influences the options we have as a regulator. However, it isn't necessarily the case that being both provider and regulator influences our options. Therefore we have reframed the question to ask "to what extent

does our position as a service provider influence our options as a regulator to minimise waste to landfill", before looking at the ways in which our current approach to waste management and minimisation may affect our options for minimising waste to landfill.

Regulatory separation

3.29 Regulatory models typically identify a need to separate policy and regulatory functions from service delivery. This is principally to avoid the perception that an organisation which both sets the rules and operates under those rules is able to gain an unfair advantage. The advantage could be in setting rules to favour its service delivery method, or to disadvantage competitors, or through having undue influence over the enforcement of any compliance with those rules.

3.30 In practical terms, many organisations operate as both regulator and provider, and there are established processes for minimising the perception of advantage within that organisation. For example, Waka Kotahi operates as the regulator for land transport, and sets rules for establishing and reviewing speed limits. Waka Kotahi is also a road controlling authority, responsible for using those same rules to set the speed limits on state highways. The single organisation manages the perception of advantage by establishing separate units within Waka Kotahi to manage the regulatory and planning roles.

3.31 Within the Council, we have a role as a regulator for land use (via the District Plan), and as a landowner we sometimes have need to seek resource consent for use of that land. In those circumstances, we navigate the relationships of regulator and regulated party by ensuring separation of the roles in different units. Decision-making when the rules are set (by Council) is conducted transparently in public meetings, and decisions made when applying the rules are public records and subject to the Local Government Official Information and Meetings Act 1987.

3.32 There is a clear and established precedent for managing and navigating the relationships of regulator and service provider within government organisations. This holds true regardless of whether the service is provided directly by the organisation or delivered by a third party under contract.

3.33 As a service provider, the nature of that service is determined wholly by the organisation operating within the parameters available to it. For instance, whether the waste collection service uses prepaid bags or a wheelie bin; the frequency and coverage of collection; permitted or excluded items from the collection; and the cost recovery structure. The same applies if the organisation was contracting out the delivery of that service to a third party. The parameters for that service would be stipulated in the tender documents, and the final contract would set out the requirements and performance standards to be met.

3.34 If there are advantages to the organisation from being both regulator and service provider, then the same advantages apply to the organisation from

being both regulator and contracting the provision of that service to another provider. Therefore, it doesn't automatically hold true that Council's provision of waste and recycling collection services influences our ability to be a regulator.

Limits on licensing and other regulatory options

3.35 While we have established that being both regulator and service provider (whether provided directly or via a contract) does not necessarily influence our options to license and regulate the commercial sector to minimise waste to landfill, there are some limits on our options. However, these limits are related more to the complexity of licensing systems than the fact that the Council is also operating as a service provider.

3.36 The ability to licence commercial waste collectors was introduced to the Waste Management and Minimisation Bylaw in 2017, however a licensing system has yet to be introduced in Palmerston North. While we have done some initial engagement with the commercial sector, there is resistance from some collectors to providing the requested data on waste composition. The argument from those collectors is that the data is commercially sensitive, and that providing the data to Council (who is also a service provider) would give the Council an unfair advantage within the market. Similar issues have arisen elsewhere in the country when licensing systems have been proposed, showing that this issue is not unique to Palmerston North as a direct service provider.

3.37 Councils in the Bay of Plenty and Waikato regions have been working together to develop a regional approach to licensing, making use of an independent platform and a neutral third-party to act as the licensing agent and for data collection. While details of this approach are still scarce, it points to a potential solution to concerns within the commercial waste sector about commercial sensitivity.

3.38 Another limit to our regulatory options is with the legislation that permits licensing. The Waste Minimisation Act 2008 permits licensing systems to be included in bylaws (as we have already done), but it limits what conditions may be permitted in a licence. The Act specifically mentions conditions relating to the collection of data and setting a performance bond, but the ability to impose requirements on collectors to meet performance targets for diverting waste from landfill is not listed. Other Councils have used licensing provisions to set minimum requirements for the delivery of services (such as minimum or maximum sizes of bins, days or times of collection, or requiring both a waste and recycling collection to be offered).

3.39 The introduction of a new national Waste Strategy, and the imminent introduction of new legislation to replace the Waste Minimisation Act 2008, is likely to affect some of these identified limits on licensing and regulatory options. The Government has indicated its intent to require licensing of waste collectors, which may be delivered nationally rather than by each individual local authority. Such a national approach may supplant any local licensing

approaches. The setting of targets for waste diversion will place a greater emphasis on data collection, which is likely to require a similar standardised approach. However, there is still great uncertainty about the details of these new requirements; more detail is expected in the next 6-12 months.

4. CONCLUSION

4.1 Council currently provides kerbside collection services for waste and recycling, alongside the private sector which provides kerbside waste collection services.

4.2 Council has a range of options to influence diversion of waste from landfill. As a service provider, Council can use price, service conditions, and even the type of service to encourage and maximise waste diversion.

4.3 Council also has the power, through the Waste Management and Minimisation Bylaw, to licence commercial waste collectors. Such a licensing system can include requirements to provide data on the composition of the waste collected. This data would assist the Council to better understand the nature of the waste stream in the city and help it to plan for meeting waste diversion targets. However, due to the complexity of developing a licensing system, this system has not yet been implemented.

4.4 While a licensing system remains an option for Council, the release of the government's Te Rautaki Para Waste Strategy 2023 signals significant change to the waste and resource recovery sector over the coming years. New legislation will be introduced to Parliament either late 2023 or early 2024. This will include new requirements around provision of recycling services, standardisation of materials accepted in recycling collections, and provision of a food scraps collection. The Ministry for the Environment has also signalled changes to licensing and data provision. Though details are yet to be provided, early indications are that these requirements will be delivered nationally rather than locally.

4.5 The development of the Resource Recovery Plan as part of the Council's strategic framework for the 2024-34 Long Term Plan will precede much of the change that is foreshadowed in the national Waste Strategy. Given this timing, it seems prudent to avoid making significant changes to regulatory systems in advance of forthcoming change which may impose different requirements.

5. COMPLIANCE AND ADMINISTRATION

Does the Committee have delegated authority to decide? If Yes quote relevant clause(s) from Delegations Manual	**Yes**
Are the decisions significant?	**No**
If they are significant do they affect land or a body of water?	**No**
Can this decision only be made through a 10 Year Plan?	**No**

Does this decision require consultation through the Special Consultative procedure?	**No**
Is there funding in the current Annual Plan for these actions?	**Yes**
Are the recommendations inconsistent with any of Council's policies or plans?	**No**
The recommendations contribute to Goal 4: An Eco City	
The recommendations contribute to the achievement of action/actions in Resource Recovery The action is: no specific action. See next section.	
Contribution to strategic direction and to social, economic, environmental and cultural well-being	This memorandum does not address any specific action in the Resource Recovery Plan. However, this memorandum will provide information for elected members to consider in advance of decisions on the development of the new Resource Recovery Plan, and the development of a replacement Waste Management and Minimisation Bylaw in 2024.

ATTACHMENTS

Nil

MEMORANDUM

TO: **Sustainability Committee**

MEETING DATE: **7 June 2023**

TITLE: **Wastewater Discharge Consent Project - Quarterly Update**

PRESENTED BY: **Mike Monaghan, Group Manager - Three Waters**

APPROVED BY: **Bryce Hosking, Acting Chief Infrastructure Officer**

RECOMMENDATION TO SUSTAINABILITY COMMITTEE

1. **That the Committee receive the report titled 'Wastewater Treatment Plant Discharge Consent Project – Quarterly Update' presented on 7 June 2023.**

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1. ISSUE

1.1 The Wastewater Discharge Consent Project Team (Project Team) completed the concept design and development of the resource consent application to Horizons Regional Council (Horizons) in late 2022. This was the culmination of four years of work developing the Best Practicable Option which comprises highly treated wastewater being discharged to the Manawatū river or to land.

1.2 Quarterly updates for the project were requested by Council. This report provides an update on the project for the 3-month period from February 2023 to May 2023.

2. BACKGROUND

2.1 The Wastewater Discharge Consent application was lodged with Horizons Regional Council on 19 December 2022, with the initial processing timeframe for assessing completeness of the application being 10 February 2023. This assessment of completeness is in accordance with section 88 of the Resource Management Act 1991 (RMA). This timeframe was agreed to reflect the complexity of the application, the number of public holidays and anniversary days occurring between lodgement and the statutory timeframe.

2.2 In February 2023 Horizons requested a further extension to assess if the application meets section 88. This extension was requested to allow Horizons additional time to review the land discharge technical assessments. Palmerston North City Council (Council) agreed to the additional extension and a decision regarding section 88 was due on the 31 March 2023.

3. UPDATE SINCE LAST QUARTERLY REPORT

Decision from Horizons Regional Council on accepting the consent application

3.1 On 31 March 2023 Horizons informed Council that the consent application had been rejected under Section 88 of the RMA. Horizons cited in their correspondence to Council that the application did not include sufficient information. This was a disappointing outcome for the Project Team given the extensive work that went into the consent application preparation.

3.2 The consent application programme was driven by the need to satisfy the requirements of Condition 23C of the existing consent, which required a consent application to be lodged for the discharge consent for the Wastewater Treatment Plant (WWTP). The decision to reject the consent application means that this condition is unfulfilled.

3.3 Members of the Project Team met with Horizons on 6 April 2023 to discuss the rejection of the application and the implication of the decision on compliance with Condition 23C. This was a proactive discussion with both parties committing to continue to move forward constructively to work towards the long-term goal of improving the health of the Manawatū River.

3.4 Following this meeting, representatives from the Project Team including Land Discharge and Groundwater specialists met with Horizons Planning and Technical Team. The purpose of this meeting was to better understand the questions Horizons' advisors had raised in their responses to Council. A further meeting is planned to occur in May 2023 to discuss Council's comments on section 88.

Objection by Palmerston North City Council to the Horizons Section 88 decision

3.5 Following discussions with the Project Team, Council staff and external legal advisors, a decision was made to formally object to Horizons section 88 decision. An objection to the section 88 decision is made under the RMA if the applicant (Council) disagrees with the decision of the regulator (Horizons).

3.6 The objection was deemed necessary for Council to assert the position that the consent application that was submitted was sufficient to be accepted under section 88. Council will continue to work constructively with Horizons on the consent application despite the objection. This matter has been discussed with Horizons Group Manager Strategy & Regulation.

3.7 Horizons have 20 working days from the date of receipt of the Objection to respond to Council on their decision. This response is due on 24 May 2023 and is unknown at the time of writing this paper. An update will be provided at the Committee meeting on 7 June.

4. WORK CONTINUING SINCE LODGEMENT

4.1 Work continues in parallel workstreams. An overview of these is outlined below.

Iwi Engagement

- Rangitāne – Discussions with the technical lead.
- Te Tūmatakahuki – A meeting was held with the Mayor, Chief Executive, Group Manager – Three Waters and representatives from Te Tūmatakahuki on 11 May 2023.
- Ngāti Whakatere – discussions with key contacts on preparation of a Cultural Impact Assessment.

4.2 All Iwi Groups have been advised that Horizons have rejected the application and that Council have objected to this decision.

Project Reference Group

4.3 The Project Reference Group were disbanded late last year in line with the Terms of Reference established for the group. This group have been kept informed with the key updates on the application by the Project Team.

River Monitoring- Summer flow monitoring and mixing study

4.4 The mixing study, which was due to take place over the summer, has been delayed due to abnormal weather patterns creating high unseasonal flows in the Manawatū River. It was anticipated that this testing would be completed in March or April, however the wet weather conditions have not improved over autumn.

Wastewater Treatment Plant Testing

4.5 Seasonal Emerging Organic Contaminants testing has been undertaken at the Wastewater Treatment Plant.

Biosolids Strategy

4.6 Previous work identified that the Awapuni Landfill has limited capacity for future disposal of biosolids from the Wastewater Treatment Plant. Additional work has commenced on the Biosolids Strategy. The focus has been on matters identified in the Biosolids Strategy Development Report that relate to (1) current biosolids disposal and (2) progressing future short and medium-term disposal options for biosolids from the treatment plant.

Property

4.7 The Project Team continues to investigate property to receive the land discharge, as this is a fundamental part of the consent application. A specific property team have been identified and meet regularly to progress this workstream. Since the March 2023 update the following has been progressed:

- Continuing to look at two Pilot Sites within the Area of Interest (AOI)
- A Property Strategy has been drafted to outline the process to acquire land within the AOI. Officers have been reviewing the process to acquire land with priority being a willing buyer/ willing seller.
- Multi-Criteria Assessment (MCA) has been drafted to support site selection within the AOI. This work will support the Property Strategy.

5. BUDGET

5.1 Officers are conscious that the application rejection has caused project delays. In 2022/23, the programme of work had a total budget of $6.1M, which was anticipated to cover the cost of land investigations and monitoring and moving onto section 92 requests.

5.2 At the date of writing, $2.82M has been spent in 2022/23, of this $2.6M to the time of submission, and $220K since.

5.3 Although work is progressing, determination of a budget is difficult until Council has an outcome on the section 88 objection.

5.4 2023/24 budgetary requirements will be discussed as part of the Annual Plan process.

6. COMPLIANCE AND ADMINISTRATION

Does the Committee have delegated authority to decide?	**Yes**
Are the decisions significant?	**No**
If they are significant do, they affect land or a body of water?	**No**
Can this decision only be made through a 10 Year Plan?	**No**
Does this decision require consultation through the Special Consultative procedure?	**No**
Is there funding in the current Annual Plan for these actions?	**Yes**
Are the recommendations inconsistent with any of Council's policies or plans?	**No**
The recommendations contribute to Goal 4: An Eco City	
The recommendations contribute to the achievement of action/actions in Waters	

The action is: Lodge resource consent application for future discharge of the Wastewater Treatment Plant.	
Contribution to strategic direction and to social, economic, environmental, and cultural well-being	Lodging for resource consent allows Council to continue to provide its wastewater services and allows for future proofing of the City.

ATTACHMENTS

Nil

MEMORANDUM

TO: **Sustainability Committee**

MEETING DATE: **7 June 2023**

TITLE: **Opportunities for native species reintroductions in the Turitea Reserve**

PRESENTED BY: **Adam Jarvis, Principal Climate Change Advisor**

APPROVED BY: **David Murphy, Chief Planning Officer**

RECOMMENDATION TO SUSTAINABILITY COMMITTEE

1. **That the Committee receive the memorandum titled 'Opportunities for native species reintroductions in the Turitea Reserve' presented to the Sustainability Committee on 7 June 2023.**

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1. ISSUE

1.1 This memorandum follows a memorandum titled Update on Turitea Translocations presented to the 18 May 2022 Environmental Sustainability Committee. The May 2022 report provided an initial response to the following resolution of the 17 November 2021 Environmental Sustainability Committee:

'The Chief Executive report to the Environmental Sustainability Committee on opportunities for native species re-introductions in the Turitea Reserve area.'

1.2 The success of the predator control operation enabled the opportunity to begin reintroduction of locally extinct native species. Following an extensive permitting/consultation process and several delays due to Covid-19, forty toutouwai (North Island Robins) were successfully re-introduced to the Turitea Reserve in April 2021. Though initially faring well, larger than expected dispersal of individuals (i.e. individuals scattered over too wide an area) combined with an explosion in rat numbers during the first breeding season put the future survival of the population at risk.

1.3 Council subsequently enhanced its regular predator control work by conducting a special predator control operation across winter to early spring in 2022. This operation delivered exceptional results, and eliminated 100% of rats within the target area. A rat-free environment was maintained around known toutouwai nesting sites for the entirety of their breeding season. Fledgling success increased by 250%, but off a relatively low base. Expert advice is that the sustainability of the population is still in doubt, and that the situation remains critical. At time of writing, Council is preparing a follow-up

special control operation in order to give the toutouwai every chance of another successful season.

1.4 Regarding opportunities for the reintroductions of further species, all advice Council has received from translocation experts, the Department of Conversation (DOC), and Mana Whenua has been that it is premature to be actively pursuing any novel reintroductions while the status of the toutouwai remains in doubt. However, advice solicited from recovery groups suggest the habitat in the Turitea is likely ideal for the future reintroduction of kōkako and/or kiwi, should pest predators be able to be maintained at present levels.

2. BACKGROUND

2.1 Council has a long-standing commitment to a restoration of the biodiversity values Turitea Reserve and surrounding area. Extensive predator control operations in the reserve have been ongoing since 2003. As the programme has developed, possums have been almost entirely eliminated from the reserve, while other pest predators (rats, mustelids) are managed at low average levels. This work has enabled a tenfold or more increase in the abundance of key native species within the reserve.

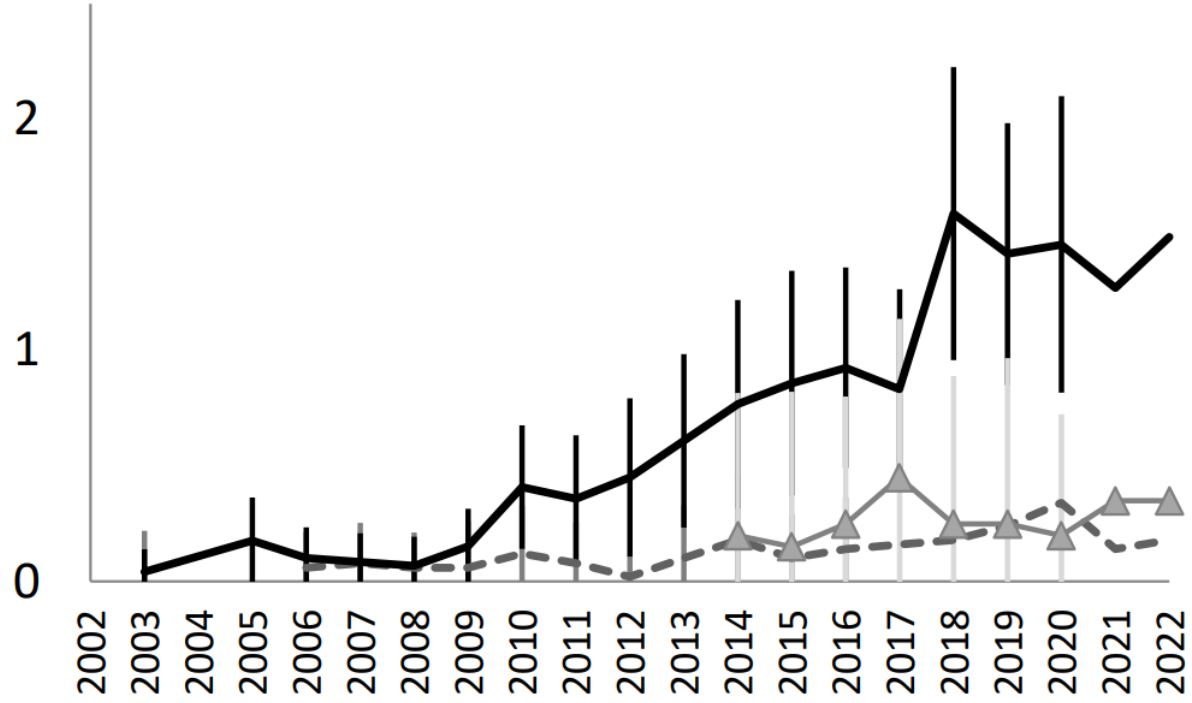

Figure 1 - Kereru Abundance (observations per 5min count). Dashed/Triangle trendlines track abundance at uncontrolled sites nearby

2.2 Conditions in the Turitea Reserve created the opportunity for the reintroduction of locally extinct native species. Given the conditions at the reserve, and their abundance at other sites nearby, toutouwai were identified as the best place to start. Council then engaged in a lengthy process of

consultation in partnership with Rangitāne. This involved discussions with numerous source sites, national experts, source-site mana whenua, and the Department of Conservation. After several years work, Council received a permit from DOC for the reintroduction of 40 toutouwai, with an option for a follow-up translocation of up to 40 birds by mid-2024. The translocation is only able to be conducted during a narrow window in Autumn, and was delayed due to Covid-19, before being successfully conducted in April 2021 in partnership with Rangitāne, Bushy Park Tarapuruhi, Massey University, Parker Conservation, Pukaha Mt Bruce, Daniel Ritchie Contracting, and with the help of numerous volunteers.

2.3 While the translocated birds initially did well, greater than expected dispersion of the 40 birds across the large site, which extends into the Tararua Forest Park, meant many birds did not become productive members of the nascent population. Unfortunately, the first breeding season coincided with a large nationwide increase in rat numbers, which monitoring revealed reached over twice the long-term average. These factors combined to create a very poor breeding season, with only 11 birds successfully fledging, meaning the population was destined for long-term decline unless numbers were to improve dramatically.

2.4 Council subsequently engaged in a supplemental predator control operation involving many diphacinone poison 'strikers' deployed by hand across approx. 400ha, encapsulating the 'core' area where toutouwai were observed to have been breeding, and a large 'buffer' zone. The operation proved to be highly successful, with nationally leading results. Rat numbers were reduced to zero across the operation site, and remained at zero in the core area throughout the 2022/23 breeding season.

2.5 Rat numbers are slowly increasing due to re-encroachment from the surrounding farmland and the adjacent Tararua Forest Park, which has not received any predator control funding since before the Turitea project first began in 2003. A further control operation is consequently required in 2023 in order to maintain low/zero rat numbers through the upcoming breeding season. Council has been slowly deploying, as funding allows, a new generation of 'AT220' self-resetting traps, which are proving up to five times more effective per trap night than the existing 'DOC200' traps, or the previously trialled Goodnature 'A24' model. Evidence from other control sites such as in Taranaki and Northland suggests these traps will enable predator numbers to be sustainably maintained at very low levels once deployed in sufficient numbers.

2.6 Members of the Kiwi Recovery Group and Kōkako Recovery Group have each expressed enthusiasm about the potential for a future reintroduction of these species into Turitea, but have each reiterated the need for Council to successfully stabilise the toutouwai population before this could be properly considered. This sentiment has also been shared with us by Rangitāne.

2.7 Council has begun modernising its monitoring regime through cloud-based image recognition AI, enabling a more comprehensive monitoring regime at

lower cost than the current system periodic deployment of tracking tunnels, which is very labour intensive and limited in its ability to provide year-round monitoring across multiple target species. Such a system, once deployed, will not only reduce costs and enable adaptive management, but will also make it significantly easier for Council to assemble the body of evidence that the respective recovery groups will require in order to support an application to translocate kiwi or kōkako. In either case, given the status of these species such a translocation would be significantly more costly than the toutouwai translocation, and would require dedicated funding.

3. NEXT STEPS

3.1 Conduct a follow-up predator control operation winter to early spring 2023, maintaining pest predators at as low a level as possible in order to give the toutouwai every opportunity for another successful breeding season.

3.2 Assuming breeding season is successful, conduct the permitted follow-up translocation of toutouwai to improve the robustness and genetic diversity of the Turitea population.

3.3 Continue to improve Turitea monitoring practices through AI image recognition software (within existing budgets) to enable more comprehensive monitoring of pest predators at lower cost. This will enable an 'adaptive management' approach, allowing Council to target predator control operations as required, instead of the current 'proactive approach'. This system will also create the body of evidence required to support the future translocation of kiwi and/or kōkako.

3.4 Should the population of toutouwai stabilise within the reserve, while pest-predator monitoring continues to show favourable conditions for a future translocation of kiwi and/or kōkako, Council can begin to actively pursue these opportunities. Elected Members can expect an opportunities report in 2024, which would include projected funding requirements.

4. COMPLIANCE AND ADMINISTRATION

Does the Committee have delegated authority to decide?	**Yes**
Are the decisions significant?	**No**
If they are significant do they affect land or a body of water?	**No**
Can this decision only be made through a 10 Year Plan?	**No**
Does this decision require consultation through the Special Consultative procedure?	**No**
Is there funding in the current Annual Plan for these actions?	**Yes**
Are the recommendations inconsistent with any of Council's policies or plans?	**No**
The recommendations contribute to Goal 4: An Eco City	

The recommendations contribute to the achievement of action/actions in Environmental Sustainability The action is: Monitor toutouwai reintroduction and develop a plan for further translocations	
Contribution to strategic direction and to social, economic, environmental and cultural well-being	Memo provides update on toutouwai translocation, plus preliminary advice regarding future translocations. Species reintroduction improves environmental well-being by improving biodiversity outcomes at the Turitea Reserve.

ATTACHMENTS

Nil

COMMITTEE WORK SCHEDULE

TO: Sustainability Committee

MEETING DATE: 7 June 2023

TITLE: Committee Work Schedule - June 2023

RECOMMENDATION TO SUSTAINABILITY COMMITTEE

1. That the Sustainability Committee receive its Work Schedule dated June 2023.

COMMITTEE WORK SCHEDULE – JUNE 2023					
	Estimated Report Date	Subject	Officer Responsible	Current Position	Date of Instruction & Clause number
~~1.~~	~~7 June 2023~~	~~Opportunities for native species re-introductions in the Turitea Reserve area~~	~~Chief Planning Officer~~		~~17 November 2021 Clause 38.21~~
~~2.~~	~~7 June 2023~~	~~PNCC Organisational Emissions Inventory 2021/22~~	~~Chief Planning Officer~~		~~Climate change plan ongoing action #1~~
~~3.~~	~~7 June 2023~~	~~Desktop analysis of opportunities for solar power on Council-owned buildings~~	~~Chief Planning Officer~~		~~Council 7 December 2022 Clause 174.2~~
~~4.~~	~~7 June 2023~~	~~Wastewater Discharge Consent Project - Quarterly Update~~	~~Chief Infrastructure Officer~~		~~11 May 2022 Clause 26.22~~
~~5.~~	~~7 June 2023~~	~~Licensing, Regulatory and Service Provision Tools for Waste Minimisation, and~~	~~Chief Planning Officer/ Chief Infrastructure Officer~~	~~Deferred - internal resourcing shortages~~	~~11 August 2021 Clause 24.5.21~~

		~~Impact Council Service Provision has on Commercial Sector~~			
6.	~~7 June 2023~~ 16 August 2023	Citywide Emissions Inventory 2022	Chief Planning Officer	Deferred - external data delayed	Climate change plan ongoing action #3
7.	~~29 March~~ 16 August 2023	Update on the Regional Climate Change Committee	Chief Planning Officer	Delayed to allow progress report on the Regional Climate Change Action Plan	Climate change plan ongoing action #1
8.	16 August 2023	Options to incentivise green building in the city	Chief Planning Officer		29 March 2023 Clause 3.2
9.	16 August 2023	PNCC Zero Carbon Feasibility Study - options emissions reductions scenarios	Chief Planning Officer		Environmental Sustainability Committee 21 September 2022 Clause 22-22
10.	16 August 2023	Waste Management and Minimisation Plan 2019 - Annual Progress report	Chief Infrastructure Officer		9 September 2020 Clause 17-20
11.	16 August 2023	Low Carbon Roadmap - options to achieve the city-wide goal of 30% reduction in emissions by 2031	Chief Planning Officer		30 March 2022 Clause 6-22
12.	16 August 2023	Low Carbon Fund – Annual Report 2023	Chief Planning Officer		Committee of Council 9 June 2021 Clause 28.18-21

13.	11 October 2023	Wastewater Discharge Consent Project - Quarterly Update	Chief Infrastructure Officer		11 May 2022 Clause 26-22
14.	18 December 2023	Wastewater Discharge Consent Project - Quarterly Update - **Present to Council**	Chief Infrastructure Officer		11 May 2022 Clause 26-22
15.	June 2024	Environmental Sustainability Report 2023	Assistant Chief Executive		Terms of Reference
16.	March 2024	Waste Management and Minimisation Plan	Chief Infrastructure Officer	Aligned with LTP process	Terms of reference