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PALMERSTON NORTH CITY COUNCIL

AGENDA

ENVIRONMENTAL SUSTAINABILITY COMMITTEE

9AM, WEDNESDAY 15 SEPTEMBER 2021

CONFERENCE & FUNCTION CENTRE

354 MAIN STREET, PALMERSTON NORTH

MEMBERS

Brent Barrett (Chairperson)
Zulfiqar Butt (Deputy Chairperson)
Grant Smith (The Mayor)

Vaughan Dennison	**Orphée Mickalad**
Renee Dingwall	**Karen Naylor**
Lorna Johnson	**Aleisha Rutherford**
Billy Meehan	**Peter Te Rangi**

AGENDA ITEMS, IF NOT ATTACHED, CAN BE VIEWED AT

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

Heather Shotter

Chief Executive | PALMERSTON NORTH CITY COUNCIL

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

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ENVIRONMENTAL SUSTAINABILITY COMMITTEE MEETING

15 September 2021

ORDER OF BUSINESS

NOTE: The Environmental Sustainability Committee meeting coincides with an extraordinary meeting of the Council. Business will be conducted in the following order:

- Council
- Environmental Sustainability Committee

Prior to the commencement of the Environmental Sustainability Committee meeting, the newly appointed Member will be invited to make a Declaration of Office

1. Apologies

2. Notification of Additional Items

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

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

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

3. Declarations of Interest (if any)

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

4. Public Comment

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

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

5. Confirmation of Minutes Page 7

"That the minutes of the Environmental Sustainability Committee meeting of 19 May 2021 Part I Public be confirmed as a true and correct record."

6. Progress Towards Actions in the Waste Management and Minimisation Plan 2019 Page 13

Memorandum, presented by Mike Monaghan, Manager - Water Operations.

7. PNCC Organisational Emissions Inventory and Management Plan Page 21

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

8. Committee Work Schedule - September 2021 Page 61

9. 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 Environmental Sustainability Committee Meeting Part I Public, held in the Council Chamber, First Floor, Civic Administration Building, 32 The Square, Palmerston North on 19 May 2021, commencing at 9.00am.

Members Present: Councillors Brent Barrett (in the Chair), Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Lorna Johnson, Billy Meehan, Orphée Mickalad, Karen Naylor and Aleisha Rutherford.

Non Members: Councillors Susan Baty, Rachel Bowen, Lew Findlay QSM, Patrick Handcock ONZM, Leonie Hapeta and Bruno Petrenas.

Apologies: The Mayor (Grant Smith) (absent on Council business) and Councillor Vaughan Dennison (early departure).

Councillor Vaughan Dennison left the meeting at 10.09am during consideration of clause 27. He entered the meeting again at 11.05am after consideration of clause 28. He was not present for clauses 27 and 28 inclusive.

24-21 Apologies

Moved Brent Barrett, seconded Zulfiqar Butt.

The **COMMITTEE RESOLVED**

1. That the Committee receive the apologies.

Clause 24-21 above was carried 15 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Lew Findlay QSM, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Orphée Mickalad, Karen Naylor, Bruno Petrenas and Aleisha Rutherford.

25-21 Public Comment

Ms Beth Tolley and Mr Philip McConkey made public comment regarding the need to reduce greenhouse gas emissions and treat climate change as a real and urgent issue. They complimented Council on the changes they had already made but encouraged Council to take some bold and innovative steps to progress climate change projects. They urged Councillors to start thinking of Palmerston North as more of a cycling and pedestrian city with more frequent and accessible public transport.

The major concern shared by the presenters was the amount of time it is taking Council to initiate and progress climate change ideas and

projects and the reasons behind the delays.

Moved Brent Barrett, seconded Zulfiqar Butt.

The **COMMITTEE RESOLVED**

1. That the public comment from Beth Tolley and Philip McConkey be received for information.

Clause 25-21 above was carried 15 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Lew Findlay QSM, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Orphée Mickalad, Karen Naylor, Bruno Petrenas and Aleisha Rutherford.

26-21 Presentation - Enviroschools Programme

Ms Sarah Williams, Environmental Educator for Horizons Regional Council and Ms Niki Burtenshaw, Teacher Aide for Monrad Intermediate School made a presentation regarding the Enviroschools programme being promoted and introduced to kindergartens and schools throughout the city.

Enviroschools is a project where children and young people plan, design and implement their own sustainability projects as part of a long-term 'action-learning process' – the children become ambassadors for change, in both their families and their community. Each school has its own facilitator and tailor the programme for their own individual needs and circumstances.

Hundreds of environmental projects have been completed and progressed throughout Palmerston North and the Manawatu.

Niki Burtenshaw outlined the Enviroschools journey being undertaken at Monrad Intermediate as follows:

- Programme has had a huge impact on students, staff and community and the project aligns with and reinforces their existing school values.
- Resource availability that is incorporated throughout the project is of an extremely high standard. National handbook distributed contains inspirational stories and innovative project ideas.
- Educational benefits include knowledge, practical skills and creative innovation.

Moved Aleisha Rutherford, seconded Renee Dingwall.

The **COMMITTEE RESOLVED**

1. That the Environmental Sustainability Committee receive the presentation from Sarah Williams, Environmental Educator, Horizons and Niki Burtenshaw from Monrad Intermediate School on the Enviroschools Programme.

Clause 26-21 above was carried 15 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Lew Findlay QSM, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Orphée Mickalad, Karen Naylor, Bruno Petrenas and Aleisha Rutherford.

27-21 Presentation - Alsco New Zealand

Mr Steve Barden, Group General Manager, Alsco New Zealand made a presentation regarding the sustainability programme being undertaken throughout their company in New Zealand to become a better corporate citizen.

Alsco aims to be innovators and promoters of low carbon service and products, enabling and supporting a shift to a net zero carbon economy. To achieve this they have adopted the following approach:

- Carbon emissions reduction – 2014 InStep engaged to measure Co2e and report 2020 in-house
- EECA Energy Graduate Programme
- Coal conversion – eliminate coal use by 2030
- Water reduction – reduce water use by a third by 2030
- Waste reduction initiatives
- Electric vehicles – to convert a third to electric vehicles by 2030

Progressive and innovative ideas and projects are being considered to reuse, recycle and repurpose textiles that have reached the end of their commercial life, eg. old overalls being used in roading project trials.

Councillor Vaughan Dennison left the meeting at 10.09am.

Moved Aleisha Rutherford, seconded Renee Dingwall.

The **COMMITTEE RESOLVED**

1. That the Environmental Sustainability Committee receive the presentation from Steve Barden from Alsco Palmerston North.

Clause 27-21 above was carried 13 votes to 0, with 1 abstention, the voting being as follows:

For:
Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Renee

Dingwall, Lew Findlay QSM, Patrick Handcock ONZM, Lorna Johnson, Billy Meehan, Orphée Mickalad, Karen Naylor, Bruno Petrenas and Aleisha Rutherford.

Abstained:
Councillor Leonie Hapeta.

28-21 Confirmation of Minutes

Moved Brent Barrett, seconded Patrick Handcock ONZM.

The **COMMITTEE RESOLVED**

1. That the minutes of the Environmental Sustainability Committee meeting of 9 December 2020 Part I Public be confirmed as a true and correct record.

Clause 28-21 above was carried 13 votes to 0, with 1 abstention, the voting being as follows:

For:
Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Renee Dingwall, Lew Findlay QSM, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Karen Naylor, Bruno Petrenas and Aleisha Rutherford.

Abstained:
Councillor Orphée Mickalad.

The meeting adjourned at 10.33am.
The meeting resumed at 10.50 am.

Councillor Vaughan Dennison entered the meeting again at 11.05am.

29-21 2020 Citywide Emissions Inventory

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

In discussion, Elected Members requested that the Chief Executive refer a programme to the 2021-31 Long Term Plan deliberation process to enable significant progress in Council's response to climate change issues.

Moved Vaughan Dennison, seconded Lorna Johnson.

The **COMMITTEE RESOLVED**

1. That the Environmental Sustainability Committee receive the memorandum titled '2020 Citywide Emissions Inventory'.

Clause 29-21 above was carried 15 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Lew Findlay QSM, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Orphée Mickalad, Karen Naylor, Bruno

Petrenas and Aleisha Rutherford.

Moved Brent Barrett, seconded Zulfiqar Butt.

2. That the Chief Executive develop and refer a programme to the 2021-31 Long Term Plan (LTP) deliberation process that would enable a stronger climate change response, including annual tracking and reporting of city-wide greenhouse gas emissions.

Clause 29-21 above was carried 15 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Lew Findlay QSM, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Orphée Mickalad, Karen Naylor, Bruno Petrenas and Aleisha Rutherford.

30-21 Committee Work Schedule

In discussion, Elected Members requested that Item 1 be reinstated on the Work Schedule to ensure Councillors are kept informed on this issue.

Moved Brent Barrett, seconded Zulfiqar Butt.

The **COMMITTEE RESOLVED**

1. That Item 1 – Report on Options to reduce non-recyclable plastic waste to landfill be reinstated and the work schedule be agreed.

Clause 30-21 above was carried 15 votes to 0, the voting being as follows:

For:
Councillors Brent Barrett, Susan Baty, Rachel Bowen, Zulfiqar Butt, Vaughan Dennison, Renee Dingwall, Lew Findlay QSM, Patrick Handcock ONZM, Leonie Hapeta, Lorna Johnson, Billy Meehan, Orphée Mickalad, Karen Naylor, Bruno Petrenas and Aleisha Rutherford.

The meeting finished at 11.45am

Confirmed 15 September 2021

Chairperson

MEMORANDUM

TO: **Environmental Sustainability Committee**

MEETING DATE: **15 September 2021**

TITLE: **Progress Towards Actions in the Waste Management and Minimisation Plan 2019**

PRESENTED BY: **Mike Monaghan, Manager - Water Operations**

APPROVED BY: **Sarah Sinclair, Chief Infrastructure Officer**

RECOMMENDATION TO ENVIRONMENTAL SUSTAINABILITY COMMITTEE

1. **That the memorandum titled 'Progress Towards Actions in the Waste Management and Minimisation Plan 2019' reported to the Environmental Sustainability Committee on 15 September 2021 be received for information.**

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1. BACKGROUND

1.1 The Waste Management and Minimisation Plan 2019 (WMMP), sets a target of increasing waste diversion from 38% to 48% by 2025. Reducing the amount of material sent to landfill will be achieved via 26 actions in the WMMP.

1.2 The current waste diversion rate, as of 30 June 2021, is estimated to be 40%. This will be confirmed by a solid waste analysis this financial year.

2. HIGHLIGHTS FROM 20/21

2.1 Many of the actions in the WMMP are business as usual for our collections, recycling and composting operations. These include kerbside rubbish and recycling collections, responding to illegal dumping incidents, sorting recycling in our materials recovery facility, composting green waste and food waste for sale to the community and wastewater treatment plant sludge for landfill cover.

2.2 In April 2021, Council resolved to reduce the range of plastics collected for recycling. This is consistent with central government's direction to phase out hard-to-recycle plastics by 2025. Aligning our stance with that of central government sends a clear message to the community that such items are problematic. Removing these materials has allowed more effort to be directed towards extracting valuable and readily recyclable plastics from the sorting line.

2.3 Existing Recycling Drop Off Points (RDOP) have been maintained, and in one case, upgraded. The new undercover facility at Awapuni, which was opened in July 2020, also includes CCTV cameras and improved signage. This has been successful in reducing windblown litter, improving the quality of recycling by improving security outside of hours, and increasing operational efficiencies.

2.4 A third annual Hazardous Waste Day was held in August 2020 to collect and dispose of hazardous waste. This event prevented 750 kilogrammes of hazardous chemicals from entering landfill or waterways, bringing the total hazardous waste diversion through these events to 2.55 tonnes. This event will next be held in 23/24, then every two years after that.

2.5 The Zero Waste Action Group (ZWAG) was established and is currently in the forming stage. Since it began, ZWAG has had representation from Rangitāne, Be Free Grocer, Just Zilch, Massey University, Environment Network Manawatu, Palmy's Plastic Pollution Challenge, and Council. The mission of the group is to "Collaborate, encourage and share information and knowledge to work towards achieving zero waste and a circular economy". This group aims to meet every two months and is open to any group or individual with an interest in Zero Waste.

2.6 Over recent months we have begun engaging more with Rangitāne in the waste management space. This is currently through the regular Rangitāne engagement process. We will continue to engage with Rangitāne and recognise the important role they have in our community and in kaitaikitanga. We have committed to using Te Reo more and this will be evident as we roll out the new look vehicles, wheelie bins, glass crates and rubbish bags. We will continue to build relationships with our Rangitāne partners.

2.7 We've investigated and are almost ready to introduce a contestable waste minimisation fund. It is intended that this will be made available in the 21/22 financial year to new projects with a focus on resource recovery.

2.8 We visited 46 schools and early childhood education centres (ECE) in the city. Site visits were followed up with a survey, in order to ascertain how to increase waste diversion in this sector. 61% of the participants surveyed responded, and from this, we identified that funding is the key barrier to recycling for schools and ECEs. Of the response, 79% stated that free or subsided costs for recycling would be the most effective way to prevent waste from going to landfill. Closely following this, 62% of respondents identified staffing levels as a barrier to effective recycling.

2.9 We've worked with several large-scale food waste producers in the city to implement site-specific processes which has enabled their food waste to be diverted from landfill. These efforts, coupled with increased engagement with commercial entities citywide, have resulted in a 14% increase in food waste diversion in Palmerston North's commercial sector.

2.10 Palmerston North City Council (PNCC), Manawatu District Council and Central Demolition co-funded a feasibility study and business case for a regional Construction and Demolition Facility. This helped support an application to the Waste Minimisation Fund.

2.11 Central Environmental (a subsidiary company of Central Demolition) has been successful in an application to the Waste Minimisation Fund, which was supported by PNCC. They received $750,000 to set up a regional construction and demolition waste processing facility in Feilding. Materials include concrete, native timber, and building materials will be recycled and reused. Work has already commenced, with a concrete crusher now located at site which crushes concrete back into aggregate which is then reused. Central Environmental aim to have this facility completed by April 2022.

2.12 Contributing to the amount of waste diverted from landfill, we've increased the range of materials we can accept. Cooking oil can now be dropped off at Ferguson Street recycling centre and there is a flat glass drop-off point at Awapuni for registered companies. Additionally, we are now able to send all polypropylene (number 5 plastic) to our local recycler – previously only approximately a third of this could be recycled.

2.13 Content for a 'Waste Hub' on our website was developed during 20/21, after feedback from Environment Network Manawatu (ENM) about greater transparency and information sharing. The content has a focus on reducing waste and provides a variety of information including tips on reducing waste, information about the different types of plastics, how the community can get involved and the services and facilities we provide. This went live in early August and provides another way for public to access information to help them reduce waste.

3. AREAS STILL NEEDING DEVELOPMENT

3.1 We're still working towards establishing a system for licensing waste and recyclable material collectors and transporters. We began engagement with private collectors to get the status quo for the data they currently collect. To move this project forward, software needs to be developed which will hold the data. We were unable to progress past this hurdle last year; however, Ministry for the Environment has recently announced that it will soon consult on waste diversion reporting. How this looks to councils is yet to be determined, however there is potential for a national data collection facility which may change the way PNCC invests in this area.

3.2 The true value of the RFID software has yet to be realised. Resource constraints again have hindered progress investigating software issues. The biggest investment of this project – the hardware – is still deployed and being kept up to date. When budgets and staffing levels allow, we intend to investigate incorporating the hardware into an all-encompassing platform to collect, store and analyse data from all waste management operational arms (compost, materials recovery and collections).

4. NEXT STEPS

4.1 There were several barriers this year which prevented us from diverting more from landfill, including resource constraints and the availability of contractors and consultants. Projects that will have a significant impact on increasing the diversion rate (e.g. recovering more food waste as well as construction and demolition waste) are due to being investigated further in the coming years.

4.2 We are continuing to look for solutions for hard to recycle products. Tyres have been a focus recently due to them being banned from landfills, and the introduction of the National Environmental Standard (NES) for the Outdoor Storage of Tyres which will take effect in August 2021. After this date we will have 6 months to obtain a consent for the tyre piles currently at Awapuni (which are the result of years' worth of illegal dumping collections). Although we will be able to meet the consent conditions, a better option is to find an avenue to remove these tyres from our site and direct them to beneficial use. We're still engaging with North Island service providers to secure a sustainable long-term solution for end of life tyres.

4.3 This coming year, we will undertake a Solid Waste Analysis Protocol (SWAP) and waste assessment, which will mean an early review of the WMMP. Bringing this review forward a few years will allow us to incorporate the recent legislative changes, to bring our direction in line with that of central government's. An early review will also mean we're able to align our actions with timeframes set in the long-term plan. The information from the SWAP and waste assessment will be able to provide us with a more accurate indication of waste diversion.

4.4 A food waste collection trial is scheduled for 22/23 (Program 2044 – Citywide – Kerbside Foodwaste – Investigations and Trial). The waste assessment conducted in 2019 revealed that removing food waste from the residual waste stream will have a big impact towards increasing our waste diversion target, and a trial will allow us to identify operational efficiencies and barriers. Composting food waste releases significantly less carbon than landfilling. In a landfill, decomposition is anaerobic, producing methane (CH_4). Composting occurs under aerobic conditions which releases carbon dioxide (CO_2). The environmental impact of CH_4 is significantly greater than that of CO_2, so reducing or composting food waste has much less of an impact on carbon emissions.

5. SUMMARY

5.1 Although there was only slight movement in waste diversion city wide, we have made good progress amid the constraints of a COVID recovery environment. We expect more momentum in reducing waste to landfill once key activities – food waste collection and Construction and Demolition waste facilities are established.

6. 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 actions are: • Ensure the city's solid waste is adequately and affordably managed • Maximise the proportion of waste diverted from landfill (e.g through recycling and composting) • Manage hazardous waste in an environmentally responsible manner.	
Contribution to strategic direction and to social, economic, environmental and cultural well-being	This report on actions in the Waste Management and Minimisation Plan (WMMP) provides Elected Members with an update on progress to achieving the outcomes of that Plan. And contributes information that will support the next review of the WMMP.

ATTACHMENTS

1. WMMP Action Progress 2021 ⇩

R01	Implement provisions in Waste Management and Minimisation bylaw to allow licensing of and data collection from Waste Collectors	2019	Behind schedule	A project plan for implementation has been developed, and engagement has begun with the four main local private service providers. Taking on board their feedback, we need to ensure that their data is secure and presented to Council in an aggregated way, which requires a bespoke data collection platform. The delivery of this has been delayed due to internal resource constraints. Additionally, officers are aware of a new reporting direction from MfE that will guide the development of any data platform.
R02	Introduce rules that would prohibit collection companies from collecting bins that contain lots of divertible material	2020	On track	This can only be introduced once licencing (R01) has been established. Engagement will continue with private waste collectors once data capture is in place.
R03	Enforcement of illegal dumping	Ongoing	On track	BAU.
D01	Undertake occasional SWAP's and Waste Assessments	As required	On track	SWAP and WA scheduled to occur in the first year of the LTP (21/22) to assist in the review of the WMMP.
D02	Improve internal data collection and analysis	Ongoing	On track	Data capture and storage processes are continually being optimised. It is expected that increased reporting of waste levy funding will be required by MfE with a review of Waste Minimisation Act this year. Subsequently, infrastructure will need to be developed to support this requirement.
E01	Maintain current education and engagement	Ongoing	On track	BAU. Hosting site visits at the Awapuni resource Recovery Centre as required; improving and increasing online content; hosting Sustainability Trust workshops.
E02	Specific communication of new services	As required	On track	BAU as required. Specific engagement around the change of accepted materials, also supported by community groups such as Environment Network Manawatu.
E03	Establish community led zero-waste action group to include Rangitane representation, supported by Council though coordination and some funding, to deliver project areas prioritised and planned by the community.	2019	Completed	ZWAG established with vision and values defined. ZWAG currently meets every two months.
E04	Investigate establishment of a waste minimisation competitive fund	2020	Completed	Investigation is now complete, and this will be implemented in 21/22. Fund guidelines have been defined and will be included in the Strategic Support and Funding Policy which is due to be released towards the end of 2021.
E05	Work closely with iwi and other regional partners to ensure culturally appropriate waste management methods where possible, particularly relating to biosolids.	Ongoing	On track	Council works closely with all its regional partners to achieve solutions that provide holistic and sustainable options for end of life materials. We work in partnership with Rangitane o Manawatu to ensure the kaitiakitaga imperatives are incorporated into our approach to waste management and we also work

				with them ensuring appropriate regional engagement with iwi in waste management issues and initiatives.
E06	Investigate removing food from residual waste stream including reduction of food waste, home composting and kerbside food waste collection.	2020	On track	Content has been included on our recycling hub relating to reducing food waste and tips for establishing home composting. Funding has now been made available and investigation for a food waste collection service will begin in 22/23.
C01	Maintain kerbside recycling collections and make the most of data collected from RFID tags	Ongoing	On track	BAU. Software has proven to be more technically challenging that anticipated. And resource constraints led to little progress with RFID.
C02	Maintain kerbside rubbish collection	Ongoing	On track	BAU.
C03	Subject to investigation, provide city-wide kerbside food waste collection service	2021 (investigate)	On hold	Pending investigation (E04), however additional funding will be required for implementation.
C04	Encourage use of existing services for garden waste	Ongoing	On track	BAU. More information regarding this service is now available on the waste hub, and this content is supported by regular comms via social media.
C05	Provide recycling services to non-residential customers	2020	On track	BAU. Customers signed up to our non-residential recycling services has increased by 7% in 20/21, and the total volume of food waste diverted has increased by 14%.
C06	Hazardous waste disposal	2019	Ongoing	Over three years we've prevented 2.55 tonnes of hazardous chemical waste from entering waterways or landfills through Hazardous Waste Days. The next event is scheduled for year 3 of LTP, then every second year after that
C07	Continue to investigate recycling services for hard to recycle materials, such as polystyrene	2019	Ongoing	During the reporting period we've set up or expanded services to divert cooking oil, flat glass and all types of polypropylene from landfill. Investigations are ongoing for other materials, with funding allocated in year 1 of the LTP to investigate polystyrene recycling (program 1810).
C08	Trial mattress recycling programme	2019	Behind schedule	Engaged with service providers however contractor availability has prevented this from occurring to date. Funding allocated in program 1810 in year 5 of the LTP.
C09	Investigate how Council can support early childhood facilities and schools to divert more waste	2019	Completed	Business Development Officer working closely with education sector after identifying barriers to waste diversion.

IN1	Maintain existing Recycling Drop Off Points and Awapuni Resource Recovery Park	Ongoing	On track	BAU.
IN2	Investigate new site for green waste and recycling drop-off facility	2019-2021	On track	Options and requirements are to be investigated in 21/22.
IN3	Investigate establishment of construction and demolition recycling facility	2021-2022	Completed	Regional facility in the process of being developed by private company with help from funding by MfE's Waste Minimisation Fund.
LM1	Central government advocacy	Ongoing	On track	Continue advocacy as required. The result of closely monitoring central governments direction meant that we were able to pre-empt the recently introduced phased ban on certain types of plastics and remove these from our recycling stream.
LM2	Work closely with mana whenua and community groups	Ongoing	On track	We attend Rangitāne bi-monthly meetings, and engage regularly with ENM
LM3	Review procurement policy to require lower-waste purchasing	Ongoing	On track	Draft policy plan prepared but currently on hold.

MEMORANDUM

TO: **Environmental Sustainability Committee**

MEETING DATE: **15 September 2021**

TITLE: **PNCC Organisational Emissions Inventory and Management Plan**

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

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

RECOMMENDATION TO ENVIRONMENTAL SUSTAINABILITY COMMITTEE

1. **That the memorandum titled 'PNCC Corporate Emissions Inventory and Management Plan' and the attachments titled '2019-20 PNCC Emissions Inventory Report' and '2021-2024 PNCC Emissions Management and Reduction Plan' reported to the Environmental Sustainability Committee on 15 September 2021 be received for information.**

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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 been tracking progress towards its emission reduction goals since establishing this baseline, through the 'Toitū Carbonreduce' programme.

1.2 The '2019/20 PNCC Emissions Inventory Report' (attachment 1) is the fifth such report to be produced; it enumerates PNCC's corporate emissions (i.e. emissions resulting from Council activities) during the 2019/20 financial year. This report and the associated source data have been independently audited by Toitū Envirocare, giving Council and external partners assurance that the figures contained within are accurate.

1.3 As a result of Council actions, PNCC emissions have fallen from 26,444tCO2e in 2015/16, to 20,440tCO2e in 2019/20: a 23% reduction. Non-landfill related emissions fell from 6,719tCO2e to 5,512tCO2e over the same period: an 18% reduction overall, but a slight increase from the previous 18/19 period. As per officer guidance to the 9 September 2020 Environmental Sustainability Committee, a stalling of Council's efforts to reduce non-landfill emissions was expected, given that many of the straightforward emission reduction opportunities had already been actioned in previous years.

1.4 As part of its 2021 Long Term Plan deliberations, Council approved a $1,000,000 per annum 'Low Carbon Fund'. This fund will enable the upfront capital works required to achieve longer-term operational emission reductions. This programme, along with other operational emission's management actions are recorded in the '2021–2024 PNCC Emissions Management and Reduction Plan' (attachment 2).

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, diesel generators) across all sites
- Wastewater processing emissions
- Vehicular fuel usage
- 'Small Plant Item' (e.g. chainsaws, leaf blowers, etc.) fuel usage
- Diesel use by Council 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. This inventory has been externally audited by Toitū Envirocare to provide confidence to Council and other interested parties that our emissions inventory is a true reflection of Council's emissions profile.

2.3 An overview of PNCC's 2019/20 emissions inventory is provided below in Figure 1. It shows total corporate emissions (top left), breaks down Council's emissions by site/activity class (bottom left), by scope (upper right), and finally by aggregate source (lower right).

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.

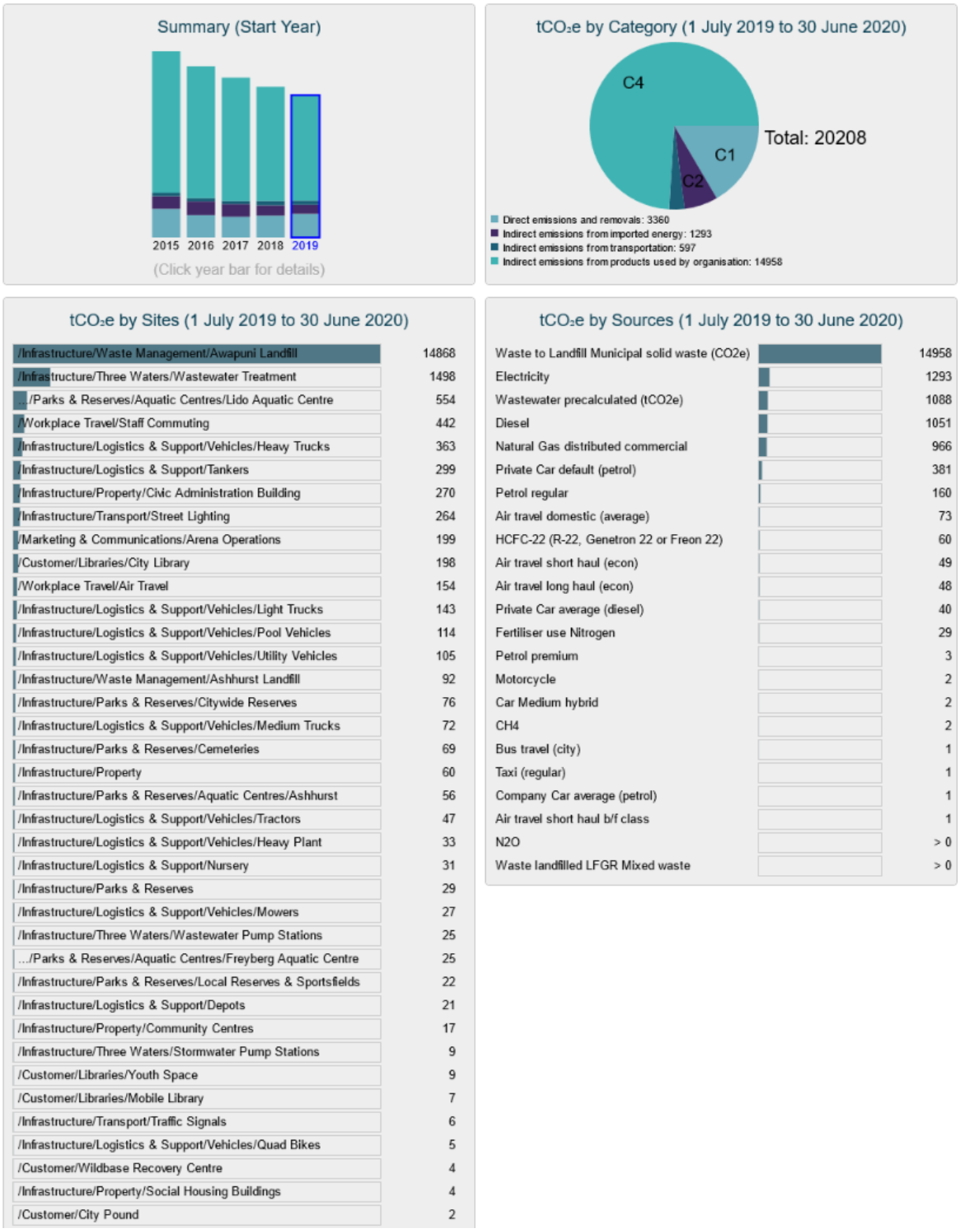

Figure 1 Organisational Emissions Summary

3. NEXT STEPS

3.1 The primary vehicle for the delivery of PNCC emission reductions over the next three years is the $1,000,000 '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 To inform future capital investment and benchmark performance, Council will continue to participate in the 'Carbonreduce' programme: collecting corporate emissions data and reporting these annually.

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 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. 19/20 PNCC Emissions Inventory Report
2. 2021-2024 PNCC Emissions Management and Reduction Plan

GREENHOUSE GAS EMISSIONS INVENTORY REPORT

Toitū carbonreduce and Toitū carbonzero programme

Palmerston North City Council

Person responsible: Heather Shotter, CEO

Prepared by: Adam Jarvis, Senior Climate Change Advisor

Dated: 30 August 2021

For the period: 01 July 2019 to 30 June 2020

Base year: 01 July 2015 to 30 June 2016

Verification status: Audited

TOITŪ ENVIROCARE

CONTENTS

GREENHOUSE GAS EMISSIONS INVENTORY SUMMARY

Table 1: GHG emissions data summary.

	2016	2017	2018	2019	2020
Scope 1	23,780.79	21,552.78	20,064.98	19,110.95	18,318.06
Scope 2	1,811.31	1,945.25	1,795.03	1,454.97	1,293.09
Scope 3 Mandatory	502.84	477.20	482.80	379.59	403.78
Scope 3 Additional	349.07	349.00	348.96	454.91	425.32
Scope 3 One time	0.00	0.00	0.00	0.00	0.00
Total gross emissions	26,444.02	24,324.22	22,691.77	21,400.42	20,440.26
Certified green electricity	0.00	0.00	0.00	0.00	0.00
Purchased emission reductions	0.00	0.00	0.00	0.00	0.00
Net GHG emissions (all scopes)	26,444.02	24,324.22	22,691.77	21,400.42	20,440.26
Total gross GHG emissions per Turnover/revenue ($Millions)	239.59	193.05	176.32	149.65	140.97
Total mandatory GHG emissions per Turnover/revenue ($Millions)	236.43	190.28	173.60	146.47	138.03

Note: total mandatory emissions includes scope 1, scope 2, and scope 3 (i.e. excludes scope 3 one-time and scope 3 additional). Refer to inventory spreadsheet for full time series.

Table 2: Gross organisation GHG emissions by scope for current measurement year.

Indicator	tCO_2e
Scope 1	
Other	29.20
Other fuels	966.01
Other gases	1.80
Passenger vehicles - default age	0.67
Refrigerants	60.09
Transport fuels	1,214.28
Waste	14,958.00
Water & Wastewater	1,088.00
Scope 2	

Indicator	tCO_2e
Electricity	1,293.09
Scope 3	
Scope 3 Additional	425.32
Transport - other	171.55
Waste	232.23
Total	20,440.26

Table 3: GHG emissions inventory summary by scope and business unit.

Component gas	Scope 1	Scope 2	Scope 3	Total	Removals	After removals
CH_4	5.23	53.73	236.87	295.83	0.00	295.83
CO_2	18,201.28	1,237.87	577.59	20,016.74	0.00	20,016.74
HFCs	60.09	0.00	0.00	60.09	0.00	60.09
N_2O	51.46	1.49	14.64	67.59	0.00	67.59
NF_3	0.00	0.00	0.00	0.00	0.00	0.00
PFCs	0.00	0.00	0.00	0.00	0.00	0.00
SF_6	0.00	0.00	0.00	0.00	0.00	0.00
Total	18,318.06	1,293.09	829.10	20,440.26	0.00	20,440.26

Table 4: Mobile and stationary combustion of biomass.

Biomass	Quantity	Tonnes Biogenic CO_2
No activity recorded	n/a	n/a

Table 5: Deforestation of two hectares or more.

Source	Mass	tCO_2e
Deforestation tCO_2e (tCO_2e)	11,455.00	11,455.00

Table 6: GHG stock liability (see Table 13: for mass of individual gases).

Source	Units	Quantity	Potential Liability tCO_2e
Diesel commercial	litres	18,764.00	49.98

Source	Units	Quantity	Potential Liability tCO_2e
HCFC-22 (R-22, Genetron 22 or Freon 22)	kilograms	601.93	1,089.49
Petrol	litres	1,200.00	2.94

Table 7: Land-use liabilities.

Type of sequestration	Liability tCO_2e
Contingent liability (carbon sequestered this reporting period)	34,147.00
Potential sequestration liability (total carbon stock)	979,844.00

Table 8: Renewable electricity generation on-site.

Renewable generation on-site	kWh generated	tCO_2e avoided
No activity recorded	n/a	n/a

Table 9: Purchased emissions reductions.

Type of emission reductions purchased	Amount	tCO_2e
Certified green electricity (tCO_2e)	0.00	0.00
Purchased emission reductions (tCO_2e)	0.00	0.00
Total	0.00	0.00

1 INTRODUCTION

This report is the annual greenhouse gas (GHG) emissions[1] inventory report for the named organisation. The inventory is a complete and accurate quantification of the amount of GHG emissions that can be directly attributed to the organisation's operations within the declared boundary and scope for the specified reporting period. The inventory has been prepared in accordance with the requirements of the **measure**-step[2] of the Programme , which is based on the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) and ISO 14064-1:2006 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals*[3]. Where relevant, the inventory is aligned with industry or sector best practice for emissions measurement and reporting.

2 STATEMENT OF INTENT

This inventory forms part of the organisation's commitment to gain Programme certification.

This inventory reports into the Toitū carbonreduce programme.

3 ORGANISATION DESCRIPTION

Te Kaunihera ō Papaioea, Palmerston North City Council (PNCC), is the territorial authority of Palmerston North, the lower North Island city of approximately 89,000 residents. With 614 full time equivalent staff, PNCC has responsibilities across: water supply, wastewater, stormwater, waste management, local roads, libraries, parks, community centres, animal control and regulatory services, while also providing a range of other services to the community including subsidised housing. Unlike many other councils in Aotearoa, PNCC retains a substantial works department, and much of the city's maintenance work is done in-house, rather than being contracted out.

Council through its 2021-2031 long term plan (LTP) set a target of 30% reduction in citywide carbon emissions, compared to the 2016/17 baseline. This target is the keystone of a wider series of sustainability plans that come under the 'Eco City Strategy'. This strategy includes measures around enhancing biodiversity, reducing waste, building infrastructure resilience to climate change, improving energy efficiency and encouraging active transport.

Council wholly owns four Council Controlled Organisations (CCOs). These are Te Manawa Museums Trust, Palmerston North Airport Limited, Globe Theatre Trust, and Regent Theatre Trust. Council is a 50% shareholder (along with Manawatū District Council) in the Central Economic Development Agency CCO. Council also owns three other small organisations which are exempted from CCO status. These are: Caccia Birch Trust, Palmerston North Performing Arts Trust, and the Manawatū-Whanganui Regional Disaster Relief Fund Trust.

Council owns a large number of properties within the city, many of which are leased out to businesses at market rates. Other properties are leased at a subsidized rate to community organisations. This includes bowls and other sports clubs including the Palmerston North Golf Course, and the lease of Hancock Community House to the Community Services Council, who sublease parts of the building to other community organisations. Council also leases several of its facilities, notably its community libraries, from the private sector. Finally, while retaining ownership

[1] Throughout this document "emissions" means "GHG emissions".
[2] Programme refers to the Toitū carbonreduce and the Toitū carbonzero programme.
[3] Throughout this document 'GHG Protocol' means the *GHG Protocol Corporate Accounting and Reporting Standard* and 'ISO 14064-1:2006' means the international standard *Specification with Guidance at the Organizational Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals*.

of the properties themselves, the operation of its community swimming pools (the Lido and Freyberg) is contracted to Community Leisure Management Limited.

4 ORGANISATIONAL BOUNDARIES INCLUDED FOR THIS REPORTING PERIOD

Organisational boundaries were set with reference to the methodology described in the GHG Protocol and ISO 14064-1:2006 standards. The GHG Protocol allows two distinct approaches to be used to consolidate GHG emissions: the equity share and control (financial or operational) approaches. The Programme specifies that the operational control consolidation approach should be used unless otherwise agreed with the Programme.

An operational control consolidation approach was used to account for emissions.

The organisational chart provides a summary overview of the primary PNCC structures and business units, outlining which units are included within the scope of this report.

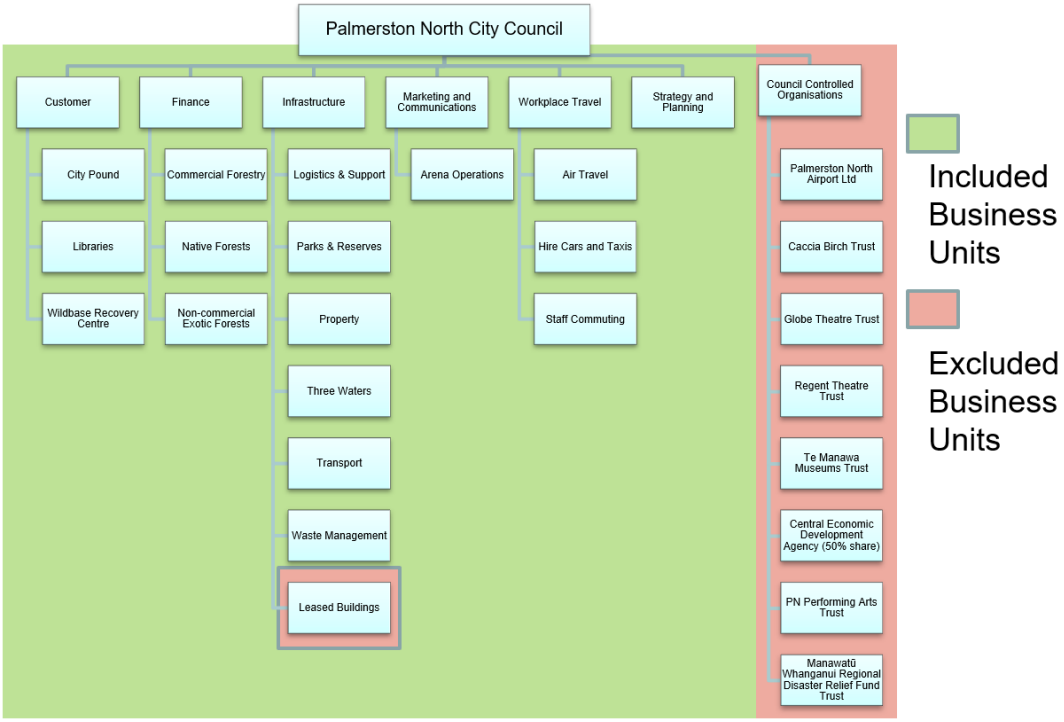

Figure 1: 2019/20 Organisational structure

Table 10: Brief description of business units in the certifying entity.

Business unit	Address	Purpose
Customer	32 The Square, Palmerston North	Delivery of public-facing services
-City Pound	20 Totara Rd, Palmerston North	Dog Control
-Libraries	4 The Square, Palmerston North	Community Libraries

Business unit	Address	Purpose
-Wildbase Recovery Centre	20 Victoria Dr, The Esplanade, Palmerston North	Wildlife rehabilitation and community facility
Finance	32 The Square, Palmerston North	Management of PNCC finances and financial assets
-Commercial Forestry	Arapuke Reserve, Gordon Kear Forest	Generation of financial returns
-Native Forestry	Turitea Reserve	Biodiversity, surface and drinking water quality outcomes
Non-commercial Exotic Forests	Arapuke Reserve	Primarily recreational
Infrastructure	32 The Square, Palmerston North	Management of PNCC infrastructure assets
-Logistics & Support	549 Ferguson St, Terrace End, Palmerston North	Support of other infrastructure functions
-Parks & Reserves	Citywide	Recreation
-Property	Citywide	PNCC and Community facilities
-Three Waters	Citywide	Three waters services
-Transport	Citywide	Transport Infrastructure and Services
-Waste Management	Citywide	Waste and recycling services
Marketing and Communications	32 The Square, Palmerston North	Community Pools
-Arena Operations	61 Pascal St, Palmerston North	Stadium and Community Sports Facilities
Workplace Travel	N/A	Staff getting around
-Air Travel	N/A	
-Hire Cars and Taxis	N/A	
-Staff Commuting	N/A	
Strategy and Planning	32 The Square, Palmerston North	Long-term planning and strategic direction setting

5 ORGANISATIONAL BUSINESS UNITS EXCLUDED FROM INVENTORY

Excluded from this inventory are:

1) Council Controlled Organisations. These organisations, while associated with PNCC, are separately managed and use different data management systems. Consequently, they have been excluded from this initial inventory.

2) Emissions from Council owned leased buildings. These emissions (e.g. from tenants energy use) are largely outside of the control of Council, and are thus not included in this inventory.

3) Embodied emissions of purchased Council products. Council procurement policy encourages officers to make sustainable purchasing decisions, but Council purchases an extremely wide range of products from a similarly wide range of suppliers, with highly variable carbon accounting practices and methodologies. Consequently, these emissions have been excluded at this stage.

4) Emissions resulting from externally contracted civil works and services. As above, Council procurement policy encourages the use of contractors that demonstrate sustainable practices, but for the same reasons these emissions are not currently within the scope of this inventory.

6 GHG EMISSIONS SOURCE INCLUSIONS

The GHG emissions sources included in this inventory are those required for Programme certification and were identified with reference to the methodology described in the GHG Protocol and ISO14064-1:2006 standards. Identification of emissions sources was achieved via personal communications with Palmerston North City Council staff, and cross-checked against operational expenditure records for the reporting period. These records were viewed in order to see what activities may be associated with emissions from all of the operations.

As adapted from the GHG Protocol, these emissions were classified into the following categories:

- **Direct GHG emissions (Scope 1):** GHG emissions from sources that are owned or controlled by the company.
- **Indirect GHG emissions (Scope 2):** GHG emissions from the generation of purchased electricity, heat and steam consumed by the company.
- **Indirect GHG emissions (Scope 3):** GHG emissions required by the Programme that occur as a consequence of the activities of the company but occur from sources not owned or controlled by the company. Inclusion of other Scope 3 emissions sources is done on a case-by-case basis.

After liaison with the organisation, the emissions sources in Table 11 have been identified and included in the GHG emissions inventory.

Methane missions from Awapuni and Ashhurst landfills which are closed have been included in the Scope 1 emissions. The results are from AECOM's study in 2017 based on the IPCC's 1st order decay model.

Table 11: GHG emissions sources included in the inventory

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Customer/City Pound	Electricity	Scope 2		kWh	Electricity data is sourced directly from PNCC's supplier who read the electricity meters directly. These meters are assumed to be working correctly.
Customer/Libraries/Ashhurst Library	Electricity	Scope 2		kWh	
Customer/Libraries/Awapuni Library	Electricity	Scope 2		kWh	
Customer/Libraries/City Library	Electricity	Scope 2		kWh	
Customer/Libraries/City Library	Natural Gas distributed commercial	Scope 1		kWh	Natural Gas data is sourced directly from PNCC's supplier who read the gas meters directly. These meters are assumed to be working correctly.
Customer/Libraries/Highbury Library	Electricity	Scope 2		kWh	
Customer/Libraries/Mobile Library	Diesel	Scope 1		L	Vehicle fuel data sourced from fuel card transactions, which are assumed to be accurate.
Customer/Libraries/Roslyn Library	Electricity	Scope 2		kWh	
Customer/Libraries/Youth Space	Electricity	Scope 2		kWh	
Customer/Libraries/Youth Space	Natural Gas distributed commercial	Scope 1		kWh	
Customer/Wildbase Recovery Centre	Electricity	Scope 2		kWh	
Infrastructure/Logistics & Support/Depots	Electricity	Scope 2		kWh	

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Infrastructure/Logistics & Support/Depots	Natural Gas distributed commercial	Scope 1		kWh	
Infrastructure/Logistics & Support/Nursery	Natural Gas distributed commercial	Scope 1		kWh	
Infrastructure/Logistics & Support/Tankers	Diesel	Scope 1		L	
Infrastructure/Logistics & Support/Tankers	Petrol regular	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Heavy Plant	Diesel	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Heavy Plant	Petrol premium	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Heavy Plant	Petrol regular	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Heavy Trucks	Diesel	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Light Trucks	Diesel	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Light Trucks	Petrol regular	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Medium Trucks	Diesel	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Mowers	Diesel	Scope 1		L	

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Infrastructure/Logistics & Support/Vehicles/Mowers	Petrol regular	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Pool Vehicles	Diesel	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Pool Vehicles	Petrol regular	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Quad Bikes	Petrol regular	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Tractors	Diesel	Scope 1		L	
Infrastructure/Logistics & Support/Vehicles/Utility Vehicles	Diesel	Scope 1		L	
Infrastructure/Parks & Reserves	Fertiliser use Nitrogen	Scope 1		kg N	Nitrogen concentration varies across Council's usage, PNCC uses an estimated average Nitrogen content of 12%
Infrastructure/Parks & Reserves/Aquatic Centres/Ashhurst	Electricity	Scope 2		kWh	
Infrastructure/Parks & Reserves/Aquatic Centres/Ashhurst	Natural Gas distributed commercial	Scope 1		kWh	
Infrastructure/Parks & Reserves/Aquatic Centres/Freyberg Aquatic Centre	Electricity	Scope 2		kWh	
Infrastructure/Parks & Reserves/Aquatic Centres/Lido Aquatic Centre	Electricity	Scope 2		kWh	
Infrastructure/Parks & Reserves/Aquatic Centres/Lido Aquatic Centre	Natural Gas distributed commercial	Scope 1		kWh	

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Infrastructure/Parks & Reserves/Cemeteries	Electricity	Scope 2		kWh	
Infrastructure/Parks & Reserves/Cemeteries	Natural Gas distributed commercial	Scope 1		kWh	
Infrastructure/Parks & Reserves/Citywide Reserves	Electricity	Scope 2		kWh	
Infrastructure/Parks & Reserves/Citywide Reserves	Natural Gas distributed commercial	Scope 1		kWh	
Infrastructure/Parks & Reserves/Local Reserves & Sportsfields	Electricity	Scope 2		kWh	
Infrastructure/Parks & Reserves/Local Reserves & Sportsfields	Natural Gas distributed commercial	Scope 1		kWh	
Infrastructure/Property	HCFC-22 (R-22, Genetron 22 or Freon 22)	Scope 1		kg	Based on the volume of gas refilled (rather than a direct measurement of losses)
Infrastructure/Property/Civic Administration Building	Electricity	Scope 2		kWh	
Infrastructure/Property/Civic Administration Building	Natural Gas distributed commercial	Scope 1		kWh	
Infrastructure/Property/Community Centres	Electricity	Scope 2		kWh	
Infrastructure/Property/Community Centres	Natural Gas distributed commercial	Scope 1		kWh	
Infrastructure/Property/Social Housing Buildings	Electricity	Scope 2		kWh	

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Infrastructure/Three Waters/Stormwater Pump Stations	Electricity	Scope 2		kWh	
Infrastructure/Three Waters/Wastewater Pump Stations	Electricity	Scope 2		kWh	
Infrastructure/Three Waters/Wastewater Treatment	Electricity	Scope 2		kWh	
Infrastructure/Three Waters/Wastewater Treatment	Natural Gas distributed commercial	Scope 1		kWh	
Infrastructure/Three Waters/Wastewater Treatment	Wastewater precalculated (tCO_2e)	Scope 1		t	TKN estimate based on periodic sampling
Infrastructure/Three Waters/Water Treatment & Pumps	Electricity	Scope 2		kWh	
Infrastructure/Transport/City Bus Terminal	Electricity	Scope 2		kWh	
Infrastructure/Transport/Street Lighting	Electricity	Scope 2		kWh	
Infrastructure/Transport/Traffic Signals	Electricity	Scope 2		kWh	
Infrastructure/Waste Management	Waste landfilled LFGR Mixed waste	Scope 3		kg	Weight of waste collected at PNCC facilities is based on a 2009 study.
Infrastructure/Waste Management/Ashhurst Landfill	Waste to Landfill Municipal solid waste (CO_2e)	Scope 1		t	Landfill emissions are based on a 1st Order Decay Model, based on estimates of deposited waste over lifetime of landfill
Infrastructure/Waste Management/Awapuni Landfill	CH_4	Scope 1		t	

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Infrastructure/Waste Management/Awapuni Landfill	N_2O	Scope 1		t	
Infrastructure/Waste Management/Awapuni Landfill	Waste to Landfill Municipal solid waste (CO_2e)	Scope 1		t	
Infrastructure/Waste Management/Waste Management Operations	Electricity	Scope 2		kWh	
Marketing & Communications/Arena Operations	Electricity	Scope 2		kWh	
Marketing & Communications/Arena Operations	Natural Gas distributed commercial	Scope 1		kWh	
Workplace Travel/Air Travel	Air travel domestic (average)	Scope 3		pkm	Assumes standardised distance/flight plans between destinations
Workplace Travel/Air Travel	Air travel long haul (econ)	Scope 3		pkm	
Workplace Travel/Air Travel	Air travel short haul (econ)	Scope 3		pkm	
Workplace Travel/Air Travel	Air travel short haul b/f class	Scope 3		pkm	
Workplace Travel/Hire Cars and Taxis	Company Car average (petrol)	Scope 1		km	
Workplace Travel/Hire Cars and Taxis	Taxi (regular)	Scope 3		$	Assumes all taxi usage is through formal card system, rather than staff reimbursement

Business unit	GHG emissions source	GHG emissions level scope	Data source	Data collection unit	Uncertainty (description)
Workplace Travel/Staff Commuting	Air travel domestic (average)	Scope 3		pkm	Staff commuting is based on an extensive travel survey conducted in 2020 prior to Covid lockdowns
Workplace Travel/Staff Commuting	Bus travel (city)	Scope 3 Additional		pkm	
Workplace Travel/Staff Commuting	Car Medium hybrid	Scope 3 Additional		km	
Workplace Travel/Staff Commuting	Motorcycle	Scope 3 Additional		km	
Workplace Travel/Staff Commuting	Private Car average (diesel)	Scope 3 Additional		km	
Workplace Travel/Staff Commuting	Private Car default (petrol)	Scope 3 Additional		km	

6.1 Other emissions – HFCs, PFCs and SF_6

We use hydrofluorocarbons (HFCs) in our operations and these have been included in the inventory. Small quantities of HFCs are used as refrigerants in Council air conditioning units.

No operations use perfluorocarbons (PFCs), Nitrogen Trifluoride (N3) nor sulphur hexafluoride (SF_6), therefore no holdings of these are reported and no emissions from these sources are included in this inventory.

6.2 Other emissions – biomass

Combustion of biomass has occurred in our operations and is included in the inventory. Council operates a Biogas generator at the Totara Rd Wastewater Treament Plant, using gas from the adjacent landfill gas capture system. The methane and nitrous-oxide emissions have been included in the inventory, while the carbon emissions are excluded, due to being part of the short carbon cycle.

6.3 Other emissions – deforestation

Deforestation has been undertaken by the organisation and is included in the inventory. Clearance of approximately 20 ha of pine, mixed scrub, and some older growth native forest occurred during the reporting period to enable the construction of the Turitea Windfarm.

6.4 Pre-verified data

No pre-verified data is included within the inventory.

7 GHG EMISSIONS SOURCE EXCLUSIONS

Emissions sources in Table 12 have been identified and excluded from the GHG emissions inventory.

Emissions resulting from the transport of goods by third parties (freight) have been excluded from this inventory. Given the nature of Council operations resulting in few occasions when these services are used, it is expected that these emissions represent only a tiny fraction of Council's total emissions. Notably, the production of solid waste at the Totara Road Wastewater Treatment Plant is known to produce approximately one truck load of waste a week, which is taken to be carefully disposed of at Bonny Glen Landfill approximately 50km away. It is expected that this will be formally accounted for in the 2020/2021 inventory.

It is also known that on occasion staff can apply to be reimbursed for fuel (such as if they have forgotten their Fuel Card), this data is not currently able to be efficiently captured, but is expected to be very minimal.

Table 12: GHG emissions sources excluded from the inventory

Business unit	GHG emissions source	GHG emissions level scope	Reason for exclusion
Palmerston North City Council	Freight	3	Minimal production of 'exported' materials.
Workplace Travel	Fuel reimbursements	3	Staff reimbursements for fuel purchased for fleet cars, due to the difficulty of accurately capturing this data. Expected to be insignificant due to Fuel Card system.

8 DATA COLLECTION AND UNCERTAINTIES

Table 11 provides an overview of how data were collected for each GHG emissions source, the source of the data and an explanation of any uncertainties or assumptions made. Estimated numerical uncertainties are reported with the emissions calculations and results.

All data was calculated using Toitū emanage and GHG emissions factors as provided by the Programme, in line with Ministry for the Environment guidelines.

A calculation methodology has been used for quantifying the GHG emissions inventory using emissions source activity data multiplied by GHG emissions or removal factors.

Emissions resulting from Council's wastewater treatment and closed landfills (Awapuni & Ashhurst) have been precalculated as part of a citywide emissions inventory. Details are included in the relevant attached spreadsheets.

Emission data resulting from waste produced at Council facilities, or deposited in public waste bins provided by Council, are reliant on a survey conducted 2009 which has unfortunately not been updated since.

9 GHG EMISSIONS CALCULATIONS AND RESULTS

GHG emissions for the organisation for this measurement period are provided in Table 1 where they are stated by greenhouse gas, by scope, by business unit and as total emissions.

Clearly Council's emissions are dominated by the closed Awapuni Landfill, which accounts for some 74% of gross emissions despite these emissions being substantially mitigated by the landfill gas capture system. Balancing these emissions however are Council's substantial forestry blocks, which sequestered some 34,147 tonnes CO_2 during the reporting period. This figure has reduced somewhat compared to previous reporting periods due to the clearance of approximately 20ha of mixed native and pine forestry for the purposes of the Turitea Windfarm and related infrastructure.

Inventory results show that further inroads into gross emissions is likely to require significant capital investment in energy efficiency improvements and electric vehicles.

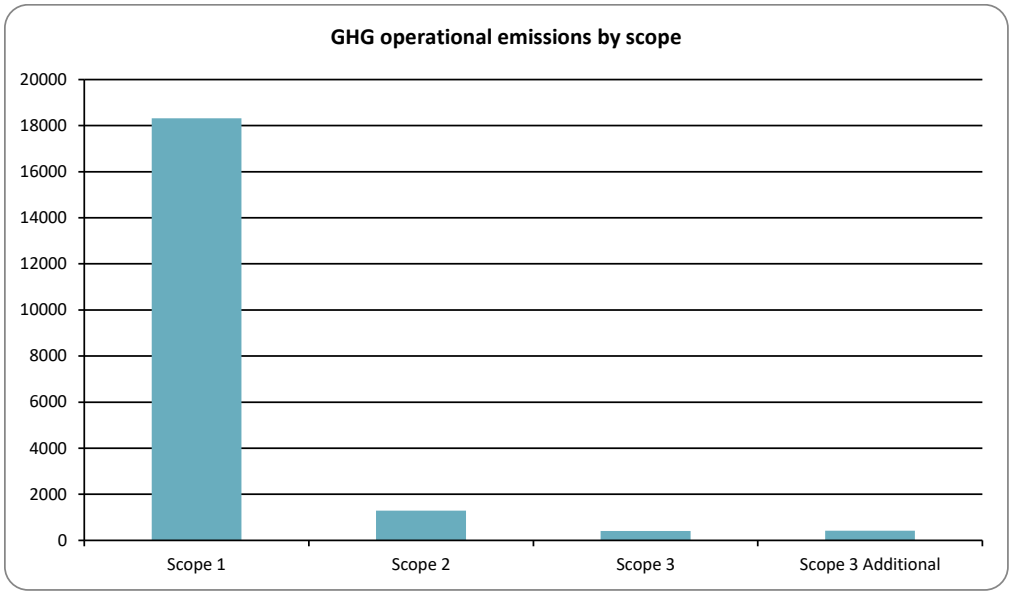

Figure 2: GHG emissions (tonnes CO_2e) by scope

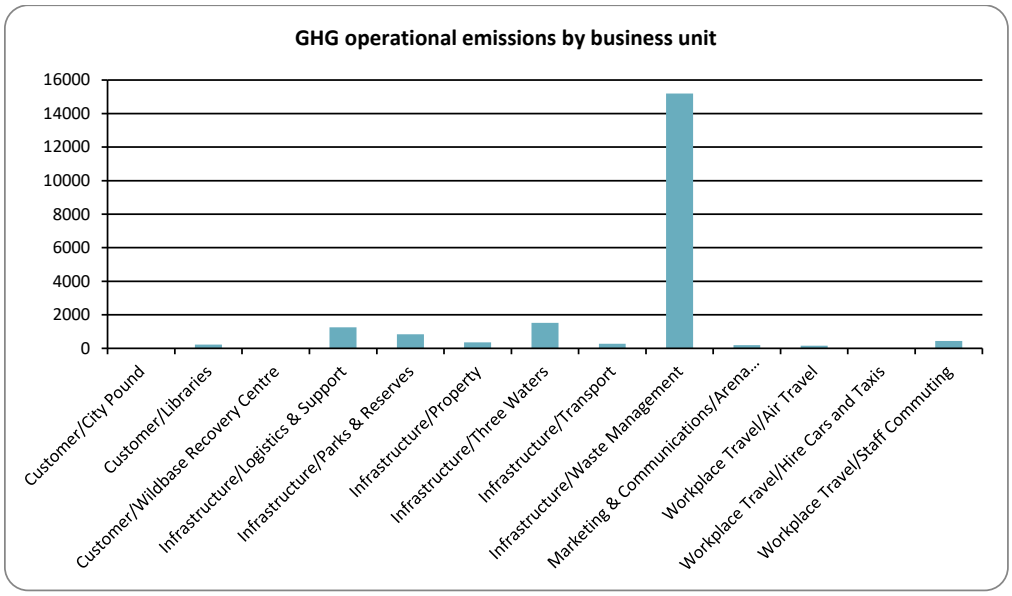

Figure 3: GHG emissions (tonnes CO_2e) by business activity.

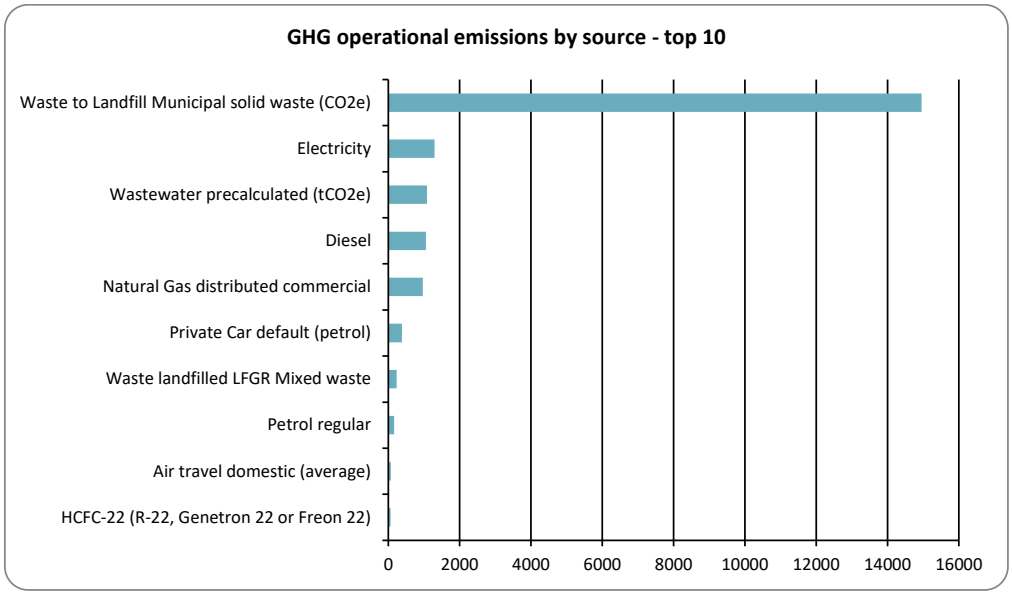

Figure 4: GHG emissions sources by source.

The inventory report and any GHG assertions are expected to be verified by a Programme-approved, third-party verifier. The level of assurance is reported in a separate Assurance Statement provided to the directors of the certified entity.

10 EMISSIONS REDUCTIONS AND REMOVALS ENHANCEMENT

GHG emissions for the organisation for the current reporting period are detailed in Table 1. Council's emissions have fallen significantly since the 2015/16 baseline, from 26444 to 20440 tCO_2, a 23% reduction. This is thanks in large part due to the continued maturation of the Awapuni and Ashhurst Landfills, which comprise approximately 76% of the total emissions, and roughly two-thirds of the observed emissions reduction. However, this reduction should be viewed as a consequence of the outsourcing of municipal waste management since the closure of Awapuni Landfill, rather than as a result of an actual reduction in greenhouse gas emissions.

Non-landfill related emissions have fallen from 6719 to 5512 tCO_2, an 18% reduction. Almost all of this reduction is due to improvements made in previous reporting periods, such as the rollout of LED street-lighting, and process improvements at the Lido and Wastewater Treatment Plant. 2019/20 was a very unusual year due to Covid-19 related lockdowns, so it remains to be seen what long-term impact this event might have on e.g. staff commuting. In any case, there is little evidence to suggest that the earlier trend in continued reductions in emissions has continued - more work is required to get PNCC back on track.

The organisation will have an updated management plan in place for managing and reducing emissions in the future in order to maintain Programme recertification.

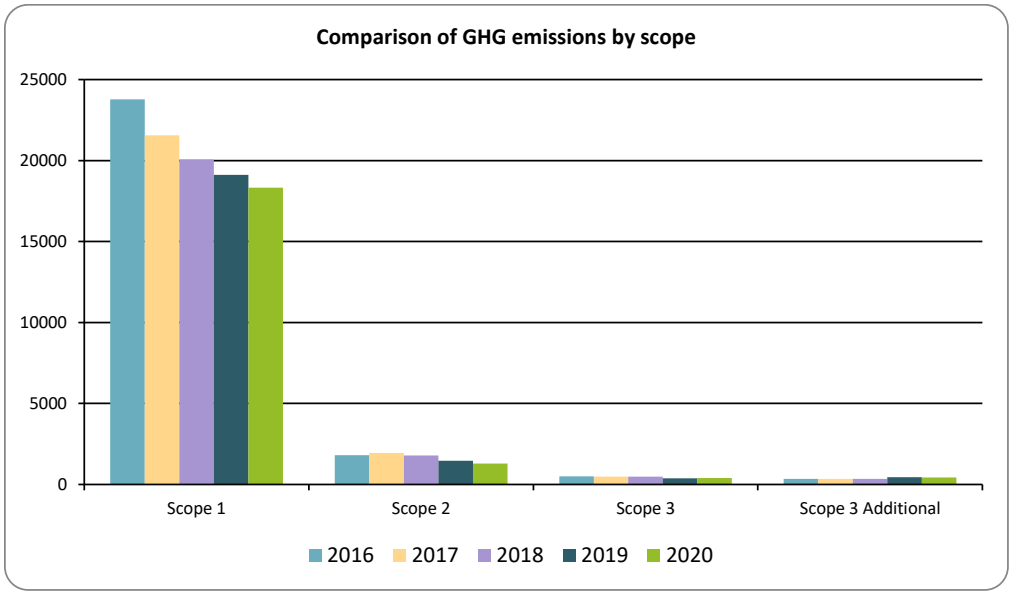

Figure 5: Comparison of GHG operational emissions by scope between the reporting periods.

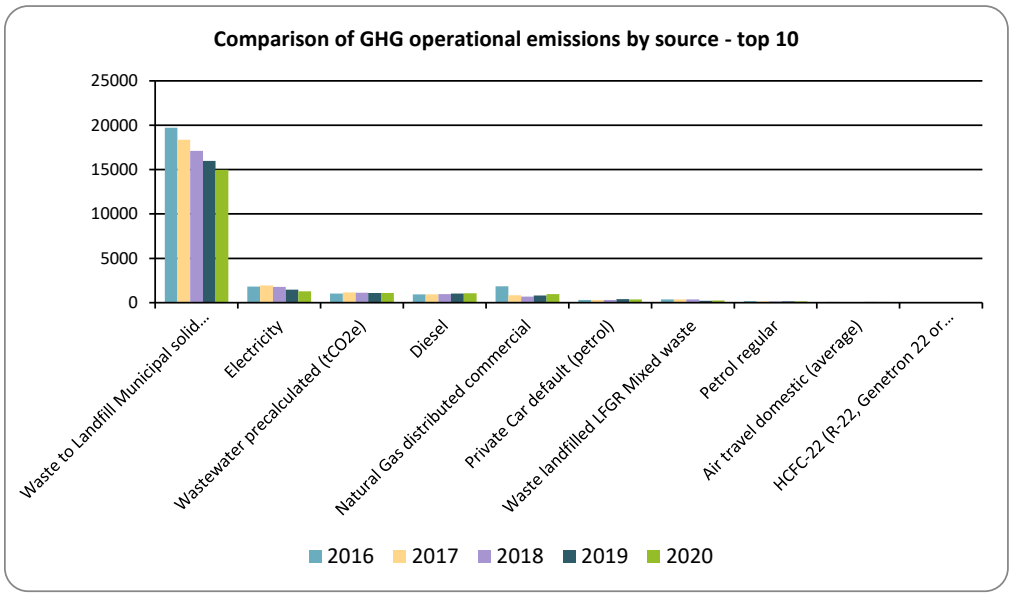

Figure 6: Comparison of GHG operational emissions by emissions sources between the reporting periods.

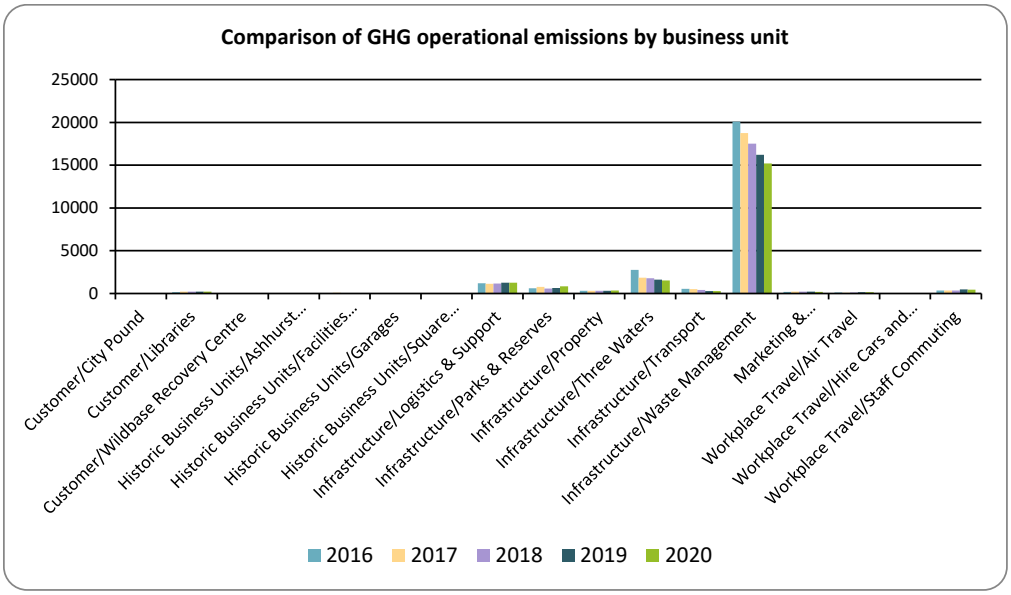

Figure 7: Comparison of emissions by business unit between the reporting periods.

11 LIABILITIES

11.1 GHG stocks held[4]

HFCs, PFCs and SF_6 represent GHGs with high global warming potentials. Their accidental release could result in a large increase in emissions for that year, and therefore the stock holdings are reported under the Programme (Table 13).

GHG stocks have been reported in this inventory and added into the GHG Stock Liability questionnaire.

Table 13: HFCs, PFCs and SF_6 GHG emissions and liabilities.

Business Unit	Source	Units	Amount held - start of reporting period	Amount held - end of reporting period	Potential Liability tCO_2e
Palmerston North City Council	Diesel commercial	litres	18764	18764	49.98204
Palmerston North City Council	HCFC-22 (R-22, Genetron 22 or Freon 22)	kilograms	284.03	601.93	1,089.49
Palmerston North City Council	Petrol	litres	1,200.00	1,200.00	2.94

[4] HFC stock liabilities for systems under 3 kg can be excluded.

11.2 Land-use change

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

Land-use change has been included in this inventory. Council owns substantial blocks of native, exotic, and commercial pine forests. During this reporting period, approximately 20ha of mixed native and pinus radiata forests were cleared for the construction of the Turitea Windfarm.

12 PURCHASED REDUCTIONS

Purchased reductions could include certified “green” electricity, verified offsets or other carbon-neutral-certified services. Organisations may choose to voluntarily purchase carbon credits (or offsets) or green electricity that meets the eligibility criteria set by a regulatory authority. The reported gross emissions may not be reduced through the purchase of offsets or green tariff electricity.

Purchased emission reductions have not been included in this inventory.

Certified green electricity has not been included in this inventory. While Council purchases electricity from a 100% renewable supplier (Meridian Energy), is should be understood that this is not the same thing as a carbon neutral supplier. Consequently this supply is not considered to be 'certified green energy' for the purposes of this inventory.

We generate on-site renewable electricity, and this is included in the inventory. Council operates:

Solar farms on the roof of the Administration Building, Conference Centre, and Manawaroa Street Depot. It also operates a micro-hydro generation plant at the Turitea Dam, and a co-generation plant at the Totara Rd Wastewater Treatment Plant, which has recently been upgraded to utilise gas captured at the adjacent closed Awapuni Landfill. In each case, the generated electricity offsets energy that would otherwise be bought from the grid.

13 DOUBLE COUNTING / DOUBLE OFFSETTING

Double counting/offsetting refers to situations where:

- Parts of the organisation have been prior offset.
- The same emissions sources have been reported (and offset) in both organisation and product.
- Emissions have been included and potentially offset in the GHG emissions inventories of two different organisations, e.g. a company and one of its suppliers/contractors. This is particularly relevant to indirect (Scope 2 and 3) emissions sources.
- The organisation generates renewable electricity, uses or exports the electricity and claims the carbon benefits.
- Emissions reductions are counted as removals in an organisation’s GHG emissions inventory and are counted or used as offsets/carbon credits by another organisation.

Double counting / double offsetting has not been included in this inventory.

14 REFERENCES

International Organization for Standardization, 2006. ISO14064-1:2006. Greenhouse gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas GHG emissions and removals. ISO: Geneva, Switzerland.

World Resources Institute and World Business Council for Sustainable Development, 2004 (revised). The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. WBCSD: Geneva, Switzerland.

15 APPENDIX 1: GHG EMISSIONS DATA SUMMARY

More GHG emissions data is available on the accompanying spreadsheet to this report:

PNCC 19_20 Wastewater Calculations.xlsx, PNCC Airtravel.xlsx, PNCC Business Units.xlsx, PNCC Emission Source Exclusions.xlsx, PNCC Forestry.xlsx, PNCC Refrigerants Fertilizers and Stock Liabilities.xlsx, PNCC Solid Waste Calculations.xlsx, PNCC Vehicles.xlsx, PNCC Workplace Travel.xlsx

EMISSIONS MANAGEMENT AND REDUCTION PLAN

Toitū carbonreduce and Toitū carbonzero programme

Palmerston North City Council

Person responsible: Heather Shotter, CEO

Prepared by: Adam Jarvis, Senior Climate Change Advisor

Dated: 30 August 2021

For the period: 01 July 2021 to 30 June 2024

Base year: 01 July 2015 to 30 June 2016

Verification status: Audited

Approved for release by:

Adam Jarvis, Senior Climate Change Advisor

TOITŪ ENVIROCARE

CONTENTS

INTRODUCTION

This report is the annual greenhouse gas (GHG) Emissions Management and Reduction Plan prepared for Palmerston North City Council and forms the manage step part of the organisation's application for Programme certification.[12]

RATIONALE

Climate change will have significant impact on the city of Palmerston North, and consequently Palmerston North City Council. Impacts will include: more frequent flood events of greater severity, drier summer periods (with implications for the rural sector, and municipal water supply) and potential heat wave events exacerbated by the urban heat island event (with implications for public health). Mitigating these impacts will be key for the long term well-being of the City.

In its 'Eco City Strategy', council outlines the aspiration:

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

"... Palmerston North has a moral duty to reduce its emissions. A lack of action will not only contribute to further climate change, but risk the city missing out on the current wave of progress, and be forced to play catch up as international agreements strengthen. Alternatively, Palmerston North has an opportunity to be a leader, and reap the benefits of being a global leader exporting knowledge around the world."

To this end, Council has set an ambitious target for the city: A 30% reduction in citywide CO_2 emissions over the next decade. Clearly if such a target is to be achieved, Council needs to lead the way. Thus far, it has done so, having reduced its emissions by 23% since 2015/16. This plan outlines Council's actions over the next three years of this Long Term Plan cycle, as it makes use of its low carbon fund while building towards a more comprehensive approach to emissions reductions and management.

TOP MANAGEMENT COMMITMENT

Management to receive and approve this plan following auditing and verification.

PERSON RESPONSIBLE

The officer responsible is to develop environmental low-carbon policies to guide Council's actions towards carbon reductions, while maintaining the data required to inform the required changes.

AWARENESS RAISING AND TRAINING

Additional staff resources have been employed to bring further expertise into key parts of the organisation: asset management and infrastructure delivery in particular. Asset management, project management and procurement processes are, or have already been, reformed to bring greater emphasis on the carbon impact of various decisions. Following development of a framework

[1]Throughout this document 'emissions' means 'GHG emissions'.

[2]Programme means the Toitū carbonreduce and Toitū carbonzero certification programme.

and training of key staff, asset management plans will now include an assessment of the estimated future carbon emissions associated with maintenance, renewal, and 'capital new' programmes.

SIGNIFICANT EMISSIONS SOURCES

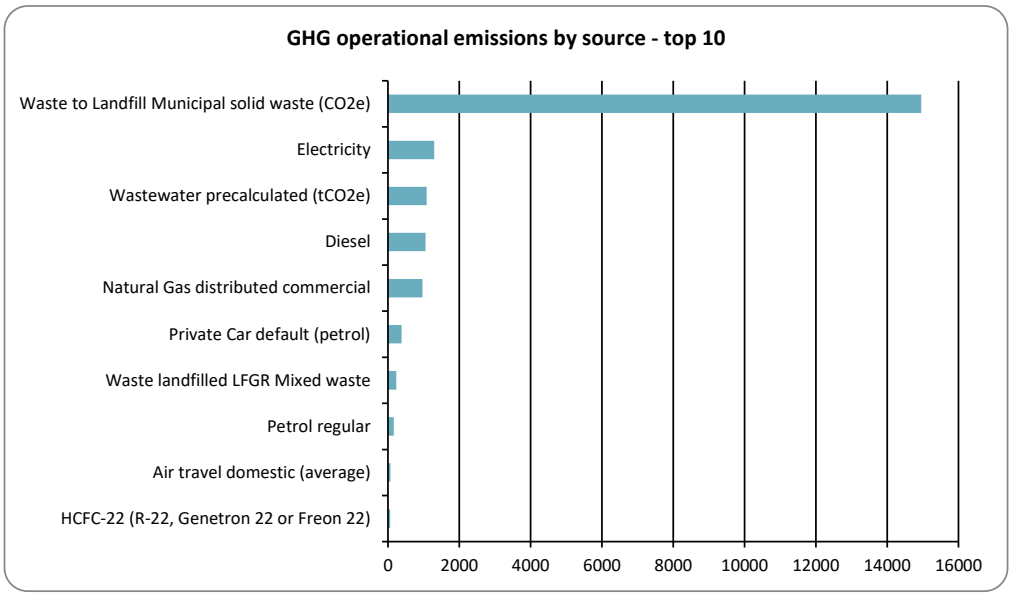

Figure 1: GHG emissions by source.

Council's emissions remain dominated by gas from Awapuni Landfill, which accounts for the entire city's waste over a period of many decades. A modern landfill gas capture system has been installed at the site, and there seems to be little avenue to substantially further reduce these emissions. However gas production at the site is declining over time as the landfill waste matures.

The next largest emission source results is the wastewater treatment plant (WWTP). This source is substantial, again because Council is effectively accounting for the entire City's wastewater emissions. A major upgrade in 2016 allowed gas from the adjacent Awapuni Landfill (previously flared) to be used to power the treatment plant, substantially offsetting the treatment plant's emissions. The current WWTP is due for replacement, and Council has recently begun community consultation on options for replacement. It is expected that whichever option is ultimately selected, the incorporation of modern technology and processes will result in lower emissions from the new WWTP as compared to the existing facility.

Third on the list is the Lido Aquatic Centre. A comprehensive energy audit of the site was conducted in 2016, and a range of energy saving measures implemented. Energy consumption at the site does vary dramatically depending on weather, which makes it difficult to determine precisely what impact this has had. However, comparing the 2019/20 figures to the 2015/16 baseline, we see a roughly 13% reduction in emissions has been achieved at this site. Further emission reductions are likely to require substantial capital investment, and these will be considered, alongside other options, through the 'Low Carbon Fund' process.

Fourth on the list of Council's emissions is staff commuting, which has been voluntarily included within scope. A workplace travel survey conducted in 2020 found that, compared with the previous 2011 survey, while Council's efforts to encourage more active transport had been somewhat successful, staff commuting emissions had nonetheless substantially increased. This is due to a

relatively small proportion of staff commuting much larger distances than previously, which unfortunately more than offsets the small reductions caused by some staff living locally making the switch to less carbon intensive modes. It is expected that the impact of the Covid-19 lockdown has had a substantial impact on the travel patterns of staff, so a refreshed travel survey will be conducted as part of this plan in order to determine where the opportunities and challenges are moving forward.

The fifth highest source of emissions is from the Council's fleet of heavy trucks, which includes rubbish and recycling vehicles, transport vehicles, and miscellaneous vehicles including a single water tanker. Some progress has been made since 2018, with the incorporation of two fully electric recycling vehicles into the fleet, as well as a number of other low-emission vehicles replacing end-of-life petrol and diesel vehicles. As with the Lido, further reductions will require additional capital investment, to be considered through the Low Carbon Fund process.

Also of note is the emissions resulting from urban street lighting. An extensive LED Street Lighting upgrade programme was completed during the previous reporting period. This has resulted in a 52% reduction in street lighting emissions (as well as other operational cost savings). While this programme has been completed, a number of street/reserve lighting fixtures were not included as part of the initial programme, and present another opportunity for Low Carbon Fund capital investment.

TARGETS FOR EMISSIONS REDUCTION

The organisation is committed to managing and reducing its emissions in accordance with the Programme requirements. Table 1 provides details of the emission reduction targets to be implemented. These are 'SMART' targets (specific, measurable, achievable, realistic, and time-constrained).

Council had previously set for itself a 25% reduction target by 2026, which it has almost achieved at of the 2019/20 reporting period, with a ~23% reduction.

In the 2021-2031 Long Term Plan, the Council set a new citywide target (and implied organisational target) of a 30% reduction by 2031 compared to the 2015/16 baseline. With the Council's largest emission source, the Awapuni Landfill, continuing to decline as the landfill matures, it seems likely that Council will achieve this target on current trends. The Council has also begun work on a carbon neutral feasibility study, which is likely to inform revised longer-term targets once completed.

Table 1: Emission reduction targets

Emissions reduction initiative	Target	Baseline (tCO_2e)	Target date	Metrics/ KPI	Responsibility	Rationale
Total Gross Scope 1, 2 and 3 mandatory emissions	30%	26444	30/06/2031	Absolute	Chief Executive Officer	Council citywide target as set in the 'Eco City Strategy' during 2021 LTP
Non-Landfill Gross Scope 1, 2 and 3 mandatory emissions	30%	6719	30/06/2031	Absolute	Chief Executive Officer	Extension of Eco City target to Non-Landfill emissions
Emission specific 'subtargets'						
Low Carbon Fund	2 tonnes	N/A	30/06/2024	Per $100	Senior Climate Change Advisor	Low Carbon Fund projects must exceed ETS spot price as a minimum criteria
Continued maturation of closed landfills	60%	19725	30/06/2031	Absolute	Waste Engineer	Expected reduction based on first order decay modelling

SPECIFIC EMISSIONS REDUCTION PROJECTS

In order to achieve the reduction targets identified in Table 1 specific projects have been evaluated to achieve these targets. These are detailed below.

The primary vehicle for the delivery of PNCC emission reductions over the next three years is the $1,000,000 '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.

Now that many of the 'low hanging' emission reduction projects have been completed, Council needs to take a more structured approach to further emission reductions. The Fund is intended to bring a 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.

Table 2: Projects to reduce emissions

Objective	Actions	Responsibility	Completion date
Deliver the low carbon fund	Deliver prioritised capital works to permanently reduce Council emissions	Senior Climate Change Advisor	2024
Transition to Electric Vehicles	Progressively replace fleet vehicles with electric where practical	Fleet Manager	Ongoing
Energy Audits of Council Facilities	Sequentially audit facilities energy usage to identify opportunities to reduce energy consumption	Infrastructure Sustainability Coordinator	Ongoing
Reduce soft plastic packaging and polystyrene	Use purchaser power to influence current suppliers to reduce non-recyclable packaging	Procurement Manager	Ongoing
Staff Travel	Promote active transport. Provision of bikes for staff travelling to meetings, adequate parking facilities, and wet weather gear.	Transportation Planner	Ongoing

Council has been able to improve the quality and scope of its data, now including taxi travel and referencing more up-to-date data sources (e.g. workplace travel emissions). Unfortunately due to lockdowns and various other delays, an updated waste assessment has still not been completed. Some further work remains to be done over the next year in quantifying organisational freight use, and the usage of rental vehicles, as well as updating the recently completed staff travel survey to account for changes to travel patterns and staff working from home.

Table 3 below highlights emission sources that contributed to poor data quality and describes the actions that will be taken to improve the data quality in future inventories.

Table 3: Projects to improve data quality

Emissions source	Actions to improve data quality	Responsibility	Completion date
Council Waste Production	Updated Waste Assessment	Rubbish and Recycling Engineer	2021/22
Staff Commuting	Update Travel Survey, post-Covid	Senior Climate Change Advisor	Completed
Taxi Travel	Obtain taxi travel data from provider	Senior Climate Change Advisor	Completed
Rented Cars	Quantify organisational rental car use	Senior Climate Change Advisor	2021/22
Freight	Quantify organisational freight use	Senior Climate Change Advisor	2021/22
Electricity and Natural Gas	Review discrepancy between reported and invoiced data	Senior Climate Change Advisor	Completed

The emissions inventory identified various emissions liabilities. Table 4 details the actions that will be taken to prevent GHG emissions from these potential emissions sources.

Efforts in this regard have been largely successful. As a result of replacing older AC units, and an improved maintenance regime, emissions resulting from AC refrigerant leaks have reduced from ~30tCO_2e in 2015/16 to virtually zero in 2018/19. However, these emissions increased in the 19/20 reporting period, partly as a result of the installation of new units and the desposal of unneeded gas held over from previous years. No significant diesel leaks or forest fires have been recorded over the same period.

Table 4: Projects to prevent emissions and reduce liabilities

Emissions source	Actions to reduce liabilities	Responsibility	Completion date
Air conditioning units (refrigerant gasses)	Regular servicing and maintenance to prevent damage	Parks and Property Manager (via contracted services)	Ongoing
Forestry (Damage from pest plants and animals, fire)	Management of pest plants and animals in Turitea, Arapuke & Hardings Park forests. Rural fire management plan.	Water & Waste Services Manager	Ongoing
Diesel Generators & Tanks (leakage)	Monthly fuel dips & regular maintenance	Treatment Plants Manager	Ongoing

UNINTENDED ENVIRONMENTAL IMPACTS

Given that Low Carbon Fund projects have yet to be selected, PNCC is not yet in a position to determine what unintended environmental impacts, if any, there might be from these projects.

ENVRONMENTAL IMPACTS	Low Carbon Fund	Transition to EVs	Energy Audits	Less soft plastics	Encouraging Active/Public Staff Travel
Resource use					
Electricity consumption					
Fuel consumption					
Water consumption					
Wastewater discharge					
Waste to landfill					
Air, land and water quality					
Transport congestion					
Biodiversity					
Land use					
Flooding					
Local economy					
Dark Green	Significant positive impact				
Light Green	Some positive impact				
White	No change				
Yellow	Some adverse impact				
Red	Significant adverse impact				

KEY PERFORMANCE INDICATORS

Table 5: Key Performance Indicators (KPI)

KPI	2016	2017	2018	2019	2020
Turnover/revenue ($Millions)	110.3710	126.00	128.7000	143.00	145

Table 6: GHG emissions per KPI

KPI	2016	2017	2018	2019	2020
Total gross GHG emissions per Turnover/revenue ($Millions)	239.59	193.05	176.32	149.65	140.97
Total mandatory GHG emissions per Turnover/revenue ($Millions)	236.43	190.28	173.60	146.47	138.03

Note that while PNCC's formal targets are absolute rather than relative, these revenue adjusted figures can give a sense of the scale of the change that has been acheived, with a 42% reduction in gross emissions per million dollars revenue.

MONITORING AND REPORTING

Energy (Electricity and Natural Gas) data is reported monthly, via SmartPower, to the Senior Climate Change Advisor (SCCA). Vehicle data is reported monthly, via PNCC's internal data management systems to the SCCA and the Fleet Manager. Air travel data is collected by PNCC's travel providers (Orbit, House of Travel), and compiled in an annual report to the SCCA. Refrigerant use is reported yearly by the refrigerant contractor to the SCCA. Wastewater data is collected daily by PNCC's wastewater operations team, and reported yearly to the SCCA. Landfill gas emissions are estimated yearly by the SCCA. Workplace commuting data is collected during the workplace travel survey, most recently completed by in Feb 2020. Council waste (from Council facilities & offices, street & park bins, the Arena, and non-recyclable products deposited in Council provided kerbside recycling bins and not identified and rejected by the streetside operational staff) is collected during the Council Facility Waste Audit, last completed in 2009, and reported to the Rubbish and Recycling Engineer and the SCCA. It is intended that this survey will be completed again in 2021/22, and every three years thereafter.

Ultimately, all GHG emission data is the responsibility of the SCCA, who reports on progress to the Council and Executive Leadership Team every twelve months following external auditing.

EMISSIONS REDUCTION CALCULATIONS

Table 7: GHG inventory results

	2016	2017	2018	2019	2020
Scope 1	23,780.79	21,552.78	20,064.98	19,110.95	18,318.06
Scope 2	1,811.31	1,945.25	1,795.03	1,454.97	1,293.09
Scope 3 Mandatory	502.84	477.20	482.80	379.59	403.78
Scope 3 Additional	349.07	349.00	348.96	454.91	425.32
Scope 3 One time	0.00	0.00	0.00	0.00	0.00
Total gross emissions	26,444.02	24,324.22	22,691.77	21,400.42	20,440.26
Reporting reductions					
5-year average (tCO_2e)	26,444.02	25,384.12	24,486.67	23,715.11	23,060.14

	2016	2017	2018	2019	2020
5-year average (tCO_2e) (scope 1 & 2)	25,592.11	24,545.07	23,650.05	22,879.01	22,225.44
Emissions intensity reductions					
Turnover/revenue ($Millions)	110.37	126.00	128.70	143.00	145.00
GDP deflator values Yr1 prices (assumed)					
Adjusted turnover ($M)					
Emissions intensity (tCO_2e/$M)	239.59	193.05	176.32	149.65	140.97
5-year average emissions intensity (tCO_2e/$M)	239.59	216.32	202.99	189.65	179.92
Percentage change in absolute emissions	(no data)	-8.02	-6.71	-5.69	-4.49
Percentage change in emissions intensity	(no data)	-19.43	-8.67	-15.12	-5.80

PERFORMANCE AGAINST PLAN

As has been discussed earlier in this report, Council is clearly on track to significantly exceed the targets it set through the 2018 Long Term Plan. Most notably, the target of a 25% reduction in gross emissions by 2029 is expected to have been achieved during the 2020/21 financial year, though it will not be until those data are analysed and externally audited that this can be confirmed.

COMMITTEE WORK SCHEDULE

TO: **Environmental Sustainability Committee**

MEETING DATE: **15 September 2021**

TITLE: **Committee Work Schedule- September 2021**

RECOMMENDATION TO ENVIRONMENTAL SUSTAINABILITY COMMITTEE

1. **That the Environmental Sustainability Committee receive its Work Schedule dated September 2021.**

ATTACHMENTS

1. Committee Work Schedule September 2021

ENVIRONMENTAL SUSTAINABILITY COMMITTEE

COMMITTEE WORK SCHEDULE – SEPTEMBER 2021

Item No.	Estimated Report Date	Subject	Officer Responsible	Current Position	Date of Instruction/ Point of Origin
1.	~~September~~ November 2021	Investigate options for eco-burial in Palmerston North	Chief Infrastructure Officer	Team changes and recruitment being undertaken	9 December 2020 clause 19.2
2.	November 2021	Environmental Sustainability Report 2021	Assistant Chief Executive		Terms of Reference of Committee
~~3.~~	~~2021~~	~~Waste Management and Minimisation Plan, including percentage waste diversion from landfill, and on total tonnes of waste sent to landfill~~	~~Chief Infrastructure Officer~~		~~Planning & Strategy clause 46 5 June 2019~~ ~~9 September 2020 clause 17.2~~
3.	Late 2022	Environmental Sustainability Report 2022	Assistant Chief Executive	Investigate update addendum for this calendar year	Terms of Reference of Committee

Oasis # 13971092