KOMITI KAUPAPA TAIAO
CLIMATE CHANGE AND SUSTAINABILITY COMMITTEE

13 February 2024

Order Paper for the meeting to be held in the
Council Chambers, 2nd Floor, 30 Laings Road, Lower Hutt,
on:

Tuesday 20 February 2024 commencing at 2:00 pm

This meeting will be livestreamed on Council's Facebook page.

Membership

Cr J Briggs (Chair)
Cr C Parkin (Deputy Chair)

Mayor C Barry	Cr K Brown
Cr S Edwards	Deputy Mayor T Lewis
Cr A Mitchell	Cr N Shaw

For the dates and times of Council Meetings please visit www.huttcity.govt.nz

Have your say
You can speak under public comment to items on the agenda to the Mayor and Councillors at this meeting. Please let us know by noon the working day before the meeting. You can do this by emailing DemocraticServicesTeam@huttcity.govt.nz or calling the Democratic Services Team on 04 570 6666 | 0800 HUTT CITY

KOMITI KAUPAPA TAIAO | CLIMATE CHANGE AND SUSTAINABILITY COMMITTEE

Chair:	Cr Josh Briggs
Deputy Chair:	Cr Chris Parkin
Membership:	Mayor Campbell Barry Deputy Mayor Tui Lewis Cr Keri Brown Cr Simon Edwards Cr Andy Mitchell Cr Naomi Shaw Refer to Council's Standing Orders (SO 31 Provisions for Mana Whenua)
Quorum:	Half of the membership
Meeting Cycle:	Meets on an eight-weekly basis or at the requisition of the Chair
Reports to:	Council

OVERVIEW:

The Komiti Kaupapa Taiao | Climate Change and Sustainability Committee has responsibility for oversight of Council's environment and climate change response.

The committee is aligned with the Environment and Sustainability Directorate.

Its areas of focus are:

- Oversight of Council's plan to reach Carbon Zero
- Collaborating with Mana Whenua, residents and businesses to decarbonise the city
- Developing and implementing climate and environmental policies and plans including ecology, biodiversity, forestry and biosecurity matters
- Climate adaption and resilience
- Treaty partnerships
- Waste and recycling
- Issues affecting the natural environment including streams, rivers and harbour
- Allocate funding for community climate action

PURPOSE:

To develop, implement, monitor and review strategies, policies, plans and functions associated with environmental and climate change activities to strengthen the long-term resilience and sustainability of the city through climate change awareness and action.

DELEGATIONS FOR THE COMMITTEE'S AREAS OF FOCUS:

- All powers necessary to perform the committee's responsibilities including the activities outlined below.
- Develop required strategies and policies. **Recommend draft and final versions to Council** for adoption where they have a city-wide or strategic focus.
- Implement, monitor and review strategies and policies.
- Oversee the implementation of major projects provided for in the Long Term Plan or Annual Plan.
- Oversee budgetary decisions provided for in the Long Term Plan or Annual Plan.
- Oversee the development and implementation of plans and functions that promote environmental well-being, including Council's plan to reach Carbon Zero.
- Maintain an overview of work programmes carried out by Council's Environment and Sustainability Directorate.
- Address matters related to ecological protection, the protection of biodiversity and biosecurity.
- Address matters related to climate change, including raising awareness of climate-related impacts and issues, advocating for climate change impacts, issues and actions and championing initiatives that reduce carbon emissions.
- Advocate for strong relationships with Council's Mana Whenua partners as outlined in the Tākai Here agreements ensuring the outcomes of the committee are in line with the aspirations of the partners.
- Advocate for the best interests of Māori communities in Lower Hutt having regard to the committee's goals.
- Ensure the committee is operating in a way that is consistent with various pieces of legislation that provide for Te Tiriti o Waitangi.
- **Recommend to Council** the acquisition or disposal of assets unless the acquisition or disposal is provided for specifically in the Long Term Plan.
- Conduct any consultation/engagement processes required on issues before the committee.
- Approve and oversee monitoring of funding for community climate action.
- Approve and forward submissions (other than those delegated to the District Plan Review Committee).
- Any other matters delegated to the committee by Council in accordance with approved policies and bylaws.
- The committee has the power to perform the responsibilities of another committee where it is necessary to make a decision before the next meeting of that other committee. When exercised, the report/minutes of the meeting require a resolution noting that the committee has performed the responsibilities of another committee and the reason/s.
- If a policy or project relates primarily to the responsibilities of the Komiti Kaupapa Taiao | Climate Change and Sustainability Committee, but aspects require additional decisions by the Komiti Hapori Ahurea me ngā Rangapū | Communities, Culture and Partnerships Committee and/or Komiti Hanganga | Infrastructure and Regulatory Committee, then the Komiti Kaupapa Taiao | Climate Change and Sustainability Committee has the powers to make associated decisions on behalf of those other committees. For the avoidance of doubt, this means that matters do not need to be taken to more than one of those committees for decisions.

HUTT CITY COUNCIL

KOMITI KAUPAPA TAIAO
CLIMATE CHANGE AND SUSTAINABILITY COMMITTEE

Meeting to be held in the Council Chambers,
2nd Floor, 30 Laings Road, Lower Hutt on
Tuesday 20 February 2024 commencing at 2:00 pm.

ORDER PAPER

PUBLIC BUSINESS

1. OPENING FORMALITIES - KARAKIA TIMATANGA

Whakataka te hau ki te uru
Whakataka te hau ki te tonga
Kia mākinakina ki uta
Kia mātaratara ki tai
E hī ake ana te atakura
He tio, he huka, he hau hū
Tīhei mauri ora.

Cease the winds from the west
Cease the winds from the south
Let the breeze blow over the land
Let the breeze blow over the ocean
Let the red-tipped dawn come with a sharpened air.
A touch of frost, a promise of a glorious day.

2. APOLOGIES

No apologies have been received.

3. PUBLIC COMMENT

Generally up to 30 minutes is set aside for public comment (three minutes per speaker on items appearing on the agenda). Speakers may be asked questions on the matters they raise.

4. CONFLICT OF INTEREST DECLARATIONS

Members are reminded of the need to be vigilant to stand aside from decision making when a conflict arises between their role as a member and any private or other external interest they might have.

5. UPDATE ON SOLID WASTE AND WASTE MINIMISATION MATTERS

Report No. CCASC2024/1/14 by the Senior Advisor Waste Minimisation 7

CHAIR'S RECOMMENDATION:

"That the recommendation contained in the report be endorsed."

6. UPDATE ON COUNCIL'S CLIMATE CHANGE WORK

Report No. CCASC2024/1/15 by the Head of Climate and Solid Waste 15

CHAIR'S RECOMMENDATION:

"That the recommendations contained in the report be endorsed."

7. CLIMATE CHANGE AND SUSTAINABILITY COMMITTEE FORWARD PROGRAMME 2024

Report No. CCASC2024/1/16 by the Democracy Advisor 18

CHAIR'S RECOMMENDATION:

"That the recommendation contained in the report be endorsed."

8. INFORMATION ITEM

Update on Hutt City Council approach to sponge cities

Memorandum dated 7 February 2024 by the Head of Planning 20

CHAIR'S RECOMMENDATION:

"That the recommendation contained in the memorandum be endorsed."

9. QUESTIONS

With reference to section 32 of Standing Orders, before putting a question a member shall endeavour to obtain the information. Questions shall be concise and in writing and handed to the Chair prior to the commencement of the meeting.

10. EXCLUSION OF THE PUBLIC

CHAIR'S RECOMMENDATION:

"That the public be excluded from the following parts of the proceedings of this meeting, namely:

11. PANEL MEMBERS FOR LOW CARBON ACCELERATION FUND

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:

(A)	(B)	(C)
General subject of the matter to be considered.	Reason for passing this resolution in relation to each matter.	Ground under section 48(1) for the passing of this resolution.
Panel members for Low Carbon Acceleration Fund.	The withholding of the information is necessary to protect the privacy of natural persons. (s7(2)(a)).	That the public conduct of the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding exist.

This resolution is made in reliance on section 48(1) of the Local Government Official Information and Meetings Act 1987 and the particular interest or interests protected by section 6 or 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 are as specified in Column (B) above."

Judy Randall
DEMOCRACY ADVISOR

HUTT CITY TE AWA KAIRANGI

Climate Change and Sustainability Committee

08 February 2024

Report no: CCASC2024/1/14

Update on solid waste and waste minimisation matters

Purpose of Report

1. To provide the Committee with an update on various solid waste management and minimisation matters.

Recommendation

That the Committee receives and notes the update on various solid waste management and minimisation matters.

Background

2. This report consolidates information on the status of Council's solid waste management and minimisation initiatives.

3. Detailed and regular information on the ongoing development, operation and performance of the Silverstream Landfill is covered in a separate report to the Hutt Valley Services Committee. The latest report from November 2023 is available online (page 63).

Wellington Region Waste Management and Minimisation Plan (WMMP)

4. On 12 December 2023, Council adopted the WMMP 2023-2029 (refer to page 13).

5. Detailed planning for implementing WMMP is now underway, this is being developed jointly by officers of the Wellington region councils. A draft implementation plan is scheduled to be considered by the Wellington Region Joint Committee in March 2024.

6. In parallel, Council officers have begun work on two projects that were signaled in both the Regional Action Plan and our local action plan.

Stormwater treatment technology trial

7. In 2018/19, a report by the Wellington Institute of Technology (Weltec) estimated that approximately 22 tonnes of litter enters Lower Hutt's stormwater network annually.

8. It is assumed that most of this litter is discharged into our natural waterways, and some of this ends up back on our beaches. Monitoring by Sustainable Coastlines found that in 2022 Lower Hutt's beaches had an average litter count of approximately 1,000 items per square metre compared to a Wellington Harbour average of approximately 200 and the New Zealand average of 250 items per square metre.

9. While the work in 2018/19 involved the trial of two technologies to prevent litter from entering our waterways (end-of-pipe net, and in-sump litter trap), these had various drawbacks – including the need to customise each installation and increased opex costs due to the need for frequent servicing. However, officers were made aware of an alternative technology solution, which is successfully used in Taupō to reduce the discharge of contaminants into Lake Taupō. Hence, in 2023, officers began investigating the potential for a trial of that technology solution in Lower Hutt, with the support of Wellington Water Limited. Officers will keep Council updated on progress.

Construction and demolition waste plans

10. In 2022, a waste assessment at Silverstream Landfill found that construction and demolition waste ("C+D waste") made up approximately 17% of all waste entering the landfill. This figure is expected to be proportionally greater now given the recent increase in development activity, such as the construction of multi-unit developments.

11. Hutt City Council's Solid Waste Management and Minimisation Bylaw 2021, requires that any person that is applying for a building consent for building work with an estimated value of $2 million or higher to submit a construction site and demolition waste management plan to Council for approval prior to the commencement of any building work.

12. The policy is intended to ensure that developers appropriately manage and, where possible, reduce each type of waste and has in place measures to minimise and capture litter associated with the project and/or building work.

13. Due to resourcing constraints, it has not been possible to implement this policy until now. However, officers are now scoping out how best to implement these requirements to achieve the objective of the policy while minimising compliance costs for businesses and other stakeholders.

14. Note that this work programme has linkages to the projects under way at Silverstream transfer station to maximise resource recovery.

Food and green organics (FOGO) processing and kerbside collections

15. The potential implementation of a new FOGO service will be consulted on as part of the new draft Long Term Plan.

16. In parallel, officers have submitted funding applications to the Ministry for the Environment regarding funding support toward the implementation of the kerbside collection service and the development of a regional processing facility.

17. Wellington City Council, on behalf of the three participating councils, is leading the procurement for the regional processing facility. A Request for Information (RFI) was released on 27 November 2023 and closed on 5 February 2024. Evaluation of the RFI is currently underway. The next market engagement and procurement stage is the Registration of Interest phase, which will commence in late February 2024.

Resource recovery changes at Silverstream transfer station

18. The project to construct a new resource recovery shelter for Earthlink is now complete, see image below.

19. The focus is now shifting to how we can maximise diversion, and officers in cooperation with Waste Management NZ and Earthlink undertook a "diversion scrum" on 25 January 2024. The objective was to engage with all customers coming to the transfer station that day, inform them of the potential to receive a landfill discount if they divert products and materials, and assist them in diverting the material (eg by identifying materials of value, helping unload, etc).

20. The results of the scrum were as follows:

    a. 51 discount vouchers were given out on the day, based on about 80 engagements. This compares to about 1-2 vouchers handed out on a typical day.

    b. For those customers that were able to divert material from their loads, typical diversion rates varied between 10 and 50%, with an average rate of about 20%.

c. An estimated 2.7 tonnes of waste were diverted on the day (excluding green waste waste). This represents almost 10% of the typical daily tonnage through the transfer station. If this level of diversion could be achieved every day, then potentially about 1,000t of material and products could be diverted per year.

21. The exercise demonstrates that significantly more diversion can be achieved by directly engaging with customers and actively encouraging them to divert products and materials. Discussions are now underway with Waste Management NZ and Earthlink to explore how the current operating model can be shifted to a more engagement-focused operating model, in order to lock in higher diversion rates going forward.

Diversion of construction and demolition waste

22. Work with Waste Management on the collection and diversion of some construction and demolition (C&D) wastes, such as treated timber and plasterboard, continues. Now that the Earthlink shelter is complete, Waste Management is planning to set up drop-off bays for timber and tyres as a trial to assist with diversion. Appropriate material diverted into these bays will qualify for the transfer station discount voucher.

23. Officers are also working with Tonkin and Taylor on a research project to assess the potential of H1.2 hazard class timber to be chipped and used as mulch. Assessment of the concentrations and effects of boric salts in the soil are currently being carried out in small field trials in Christchurch. As this class of timber makes up the majority of timber framing and offcuts from the construction industry, any means of keeping it out of landfills is highly desirable.

24. Contaminated soil has recently become a significant contributor to waste disposed of at Silverstream Landfill due to the number of large infrastructure projects within the Wellington Region and beyond. Officers have been liaising with Environmental Destruction (New Zealand) Ltd (EDL) about trialing a new soil remediation technology at the Landfill. If confirmed, the trial will likely occur mid-2024 and run for approximately 6-12 months with EDL sharing the results of the trial with officers.

Kerbside rubbish and recycling service

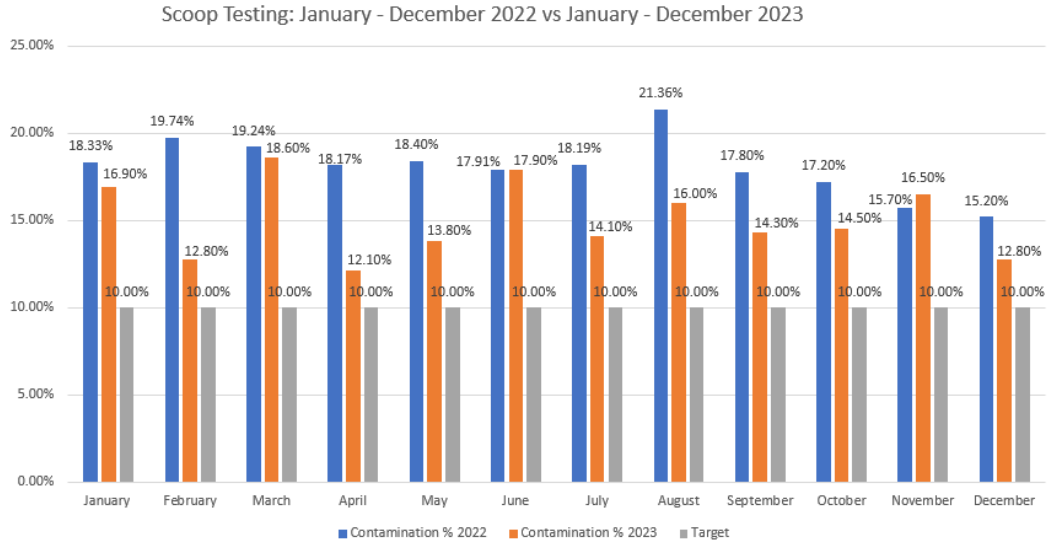
City-wide recycling contamination and behaviour change

25. As reported previously, in the context of the roll out of an education campaign and the implementation of the bin removal process following repeated bin contamination, contamination reduced. However, over the past six months, bin contamination has remained relatively stable, fluctuating between 12.8% and 16.5%. These fluctuations underscore the dynamic nature of contamination levels and highlight the ongoing need for initiatives to address and alleviate variations in recycling practices.

26. Informational flyers are distributed in suburbs where contamination rates exceed 30% to align with budget constraints.

27. Officers have also engaged VML&R to carry out Phase 2 of the contamination behaviour change campaign. Phase 2 got underway in the context of the Christmas/New Year period, with further work scheduled over the next few months.

28. The bin removal scheme for households with repeated contamination instances has led to the removal of about 238 recycling bins since its implementation in November 2022. However, officers have identified various inefficiencies regarding bin inspectors' revisits of red-stickered bins, and officers will be working to reduce these inefficiencies over the next three months.

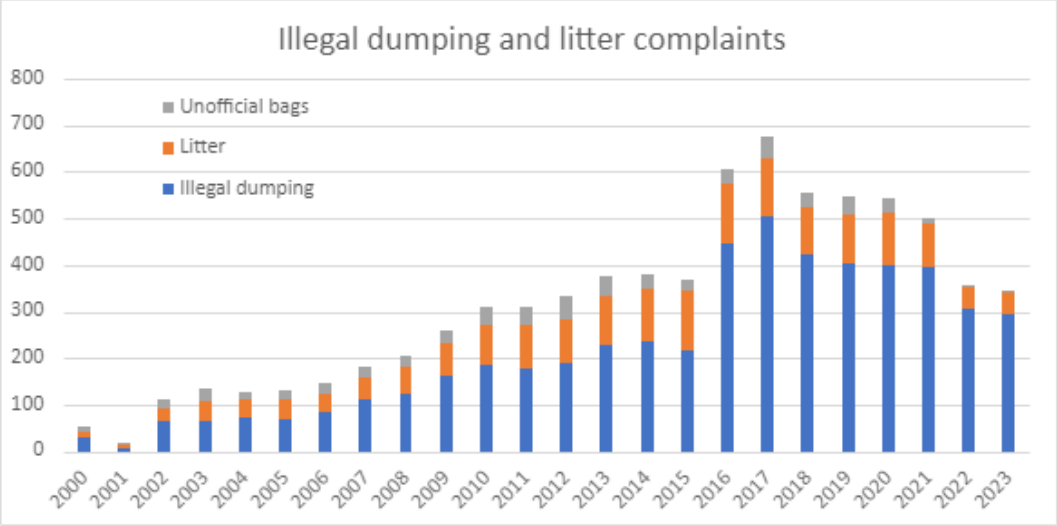


29. A revised 'Too Good To Waste' recycling booklet and the 2024 collection calendar was posted to all households to ensure they have all the relevant information to recycle right and to minimise their waste where possible.

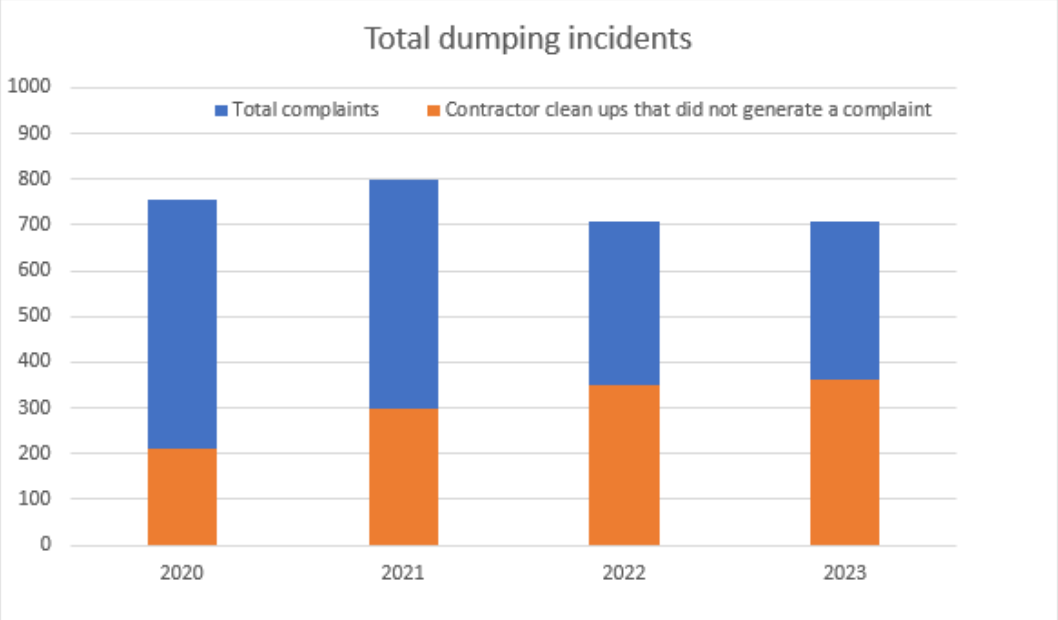
Litter and illegal dumping behaviour statistics

30. As reporting previously, officers have been scoping out a potential city-wide anti-litter and illegal dumping reduction work programme that could consist of multiple projects running in parallel.

31. A key aspect of this is also to improve the data we collect regarding litter and illegal dumping. Statistics on the number of illegal dumping and litter complaints have now been compiled, covering the period since 2000, see below figure.



32. In addition, while only available for the last four years, data has been compiled on the total number of illegal dumping and litter incidents, which includes complaints but also clean-ups carried out by contractors that were not associated with a complaint.



33. Observations and assumptions:

    d. The step change and increase in complaints in 2016 is likely due to introducing a new reporting system Report a Problem (iRap/RAP) at the time.

    e. The step change and reduction in complaints in 2022 may be linked to the introduction of the new rubbish and recycling bin service in 2021, which also reduced the number of "unofficial bags" incidents.

    f. Making a complaint is also subject to how motivated a person is to make complaints; it may not reflect the actual number of incidents. Notably, the number of contractor clean-ups not associated with a complaint

increased between 2020 and 2023, when the number of complaints reduced.

g. Awareness about how to make a complaint may be a factor in the period prior to 2013, as it increased, the number of complaints increased as well (again, this does not necessarily indicate the true number of incidents).

Climate Change Impact and Considerations

34. The matters addressed in this report have been considered in accordance with the process set out in Council's Climate Change Considerations Guide.

35. Minimising waste, diverting recyclables from landfill and recovering reusable materials (such as the potential addition of C&D diversion opportunities, diverting biosolids, etc.) contribute to a more circular economy. These activities reduce the need to extract further resources from the environment and the associated energy use in doing so.

Consultation

36. Not applicable

Legal Considerations

37. Not applicable

Financial Considerations

38. There are no current financial considerations in terms of decisions for Council, however the following items have potential financial impacts in the future:

    h. improvements to the Silverstream transfer station (eg Earthlink resource recovery drop off, potential addition of C&D diversion opportunities) and participation in the Tyrewise scheme have the potential to divert an increased amount of material from the Silverstream Landfill. A reduction in waste to landfill involves a short-term decrease in landfill revenue to Council but a long-term reduction in capital expenditure due to extending the capacity and life of the landfill.

    i. reducing kerbside recycling contamination has a direct benefit on the cost under contract for this service as any contamination rates under 10% do not incur penalty fees for Council.

    j. reducing illegal dumping and littering would reduce the cost to Council to collect and dispose of this waste.

Appendices

There are no appendices for this report.

Author: Geoff Roberts
Manager Solid Waste

Author: Jörn Scherzer
Head of Climate and Solid Waste

Approved By: Alison Geddes
Director Environment and Sustainability

HUTT CITY TE AWA KAIRANGI

Climate Change and Sustainability Committee

31 January 2024

Report no: CCASC2024/1/15

Update on Council's climate change work

Purpose of report

1. Officers provide a regular update on key climate change work to implement Council's organisational carbon target and Council's Carbon Reduction and Climate Resilience Plan (CRP) 2021-31, facilitate a reduction in city-wide emissions in line with the Lower Hutt Climate Action Pathway, and address climate change impacts.

2. To avoid duplication, some work with climate change implications is reported in separate reports and/or other committees. This includes work on waste minimisation, Council's kerbside service, project-specific updates for RiverLink, and the new Naenae Pool.

Recommendations

That the Committee:

(1) notes the update on climate change work streams currently underway; and

(2) notes that some work streams are new or are not explicitly covered in Council's Carbon Reduction and Resilience Plan 2021-31 or the Lower Hutt Climate Action Pathway.

Reducing Council's organisational carbon emissions

Council facilities

3. A new heat pump has been heating McKenzie Baths since the beginning of the current summer season. The technology has been operating as expected, in the same way as the heat pump at the Eastbourne pool. This means that two out of Council's three summer pools are now using low-carbon electricity for heating.

Vehicle fleet

4. As at 31 January 2024, the Electric Vehicle (EV) share in Council's vehicle fleet has reached 69% (46 out of 67 vehicles).

5. Note that no further increase in Council's EV share is expected until later in 2024. A key current constraint on further electrification is the lack of availability of 4WD electric utes or vehicles with similar capability.

Solar power for landfill office

6. Installation of a Solar Photovoltaic (PV) system, including battery storage, to help power the landfill's site office and kiosk was completed in December 2023. The objective of this initiative was to improve resilience of the site in case of a power outage (in order to keep the site running uninterrupted, particularly the landfill kiosk and weighbridge) and to utilise renewable solar power to supplement the site energy requirements.

7. A test of this capability was carried out on 31 January 2024, with the site continuing to operate despite all grid-power turned off.

Heavy EV Charging Hub at Silverstream landfill

8. Work on enabling a Heavy EV Charging Hub at Silverstream Landfill to power heavy landfill vehicles and machinery in the future has been completed.

9. Phase 1 will involve a couple of 'fast' DC charging stations for equipment that Waste Management has already agreed to electrify, as part of their new contract with Council that commenced in April 2023. Phase 2 would involve a larger charging hub, to enable the electrification of a wider range of vehicles.

10. Current work focuses on the establishment of a new power connection, and confirming an order for a 1MW transformer, in order to power the site. At this stage, Phase 1 is scheduled to be operational by the end of 2024, albeit this is heavily dependent on the timeline for the transformer, due to the long lead times involved.

Reducing city-wide emissions

Low Carbon Acceleration Fund (LCA) implementation

11. The first round of the LCA Fund is scheduled to open in mid-February 2024. Note that a separate paper requests confirmation of the proposed members for the evaluation panel.

Regional Emissions Reductions Plan

12. Work continues on a Regional Emissions Reduction Plan, with a focus on regional opportunities and a coordinated approach to fast-track the uptake of emissions reduction actions.

13. Council received a briefing on this project on 11 October 2023. The final plans is to be presented to the Wellington Regional Leadership Committee (WRLC) in March 2024.

Adapting to climate change impacts

Climate change risk assessment

14. Council is collaborating with other councils in the region to develop a Wellington Region Climate Impact Assessment (WRCCIA), to provide a consistent approach to climate change risk assessment across the whole region. Formal completion of the report is still expected during the first half of 2024.

15. Once received, officers will schedule a briefing for Councillors. The risk assessment is expected to inform a Wellington Regional Climate Change Adaptation Plan, albeit this plan is unlikely to be completed for another two years.

Climate Change impact and considerations

16. This report responds directly to the need to reduce carbon emissions and respond to climate change, by providing a regular update on Council's key carbon reduction and climate change response initiatives.

Consultation

17. Not applicable.

Legal Considerations

18. There are no legal considerations at this time.

Financial Considerations

19. There are no financial considerations at this time.

Appendices

There are no appendices for this report.

Author: Jörn Scherzer
Head of Climate and Solid Waste

Approved By: Alison Geddes
Director Environment and Sustainability

Climate Change and Sustainability Committee

02 February 2024

Report no: CCASC2024/1/16

Climate Change and Sustainability Committee Forward Programme 2024

Purpose of Report

1. To provide the Committee with a Forward Programme of work planned for the Committee for 2024.

Recommendation

That the Committee receives and notes the Forward Programme for 2024 attached as Appendix 1 to the report.

Background

2. The Terms of Reference for the Committee require the Committee to assist Council in developing, monitoring and reviewing strategies, policies, plans and functions associated with environmental and climate change activities.

3. The Forward Programme for 2024 provides a planning tool for both members and officers to co-ordinate programmes of work for the year. The Forward Programme is attached as Appendix 1 to the report.

Forward Programme

4. The Forward Programme is a working document and is subject to change on a regular basis.

Appendices

No.	Title	Page
1⇩	Appendix 1: Forward programme	19

Author: Judy Randall
Democracy Advisor

Reviewed By: Kate Glanville
Senior Democracy Advisor

Approved By: Kathryn Stannard
Head of Democratic Services

Komiti Kaupapa Taiao

Climate Change and Sustainability Committee Forward Programme 2024

Description	Author	Cycle 2 23 Apr	Cycle 3 2 Jul	Cycle 4 4 Sep	Cycle 5 12 Nov	Pending
Regular update on climate change work programme	Climate and Solid Waste	✓	✓	✓	✓	
Regular update on solid waste management and minimisation work streams	Climate and Solid Waste	✓	✓	✓	✓	
Food and green organics collection and processing	Climate and Solid Waste	✓				
Update on implementation of Biodiversity Strategy	Parks and Reserves	✓				
Wellington Region Climate Change Impact Assessment and Regional Adaptation Plan	Climate and Solid Waste	✓				
Regional Emission Reduction Plan	Climate and Solid Waste	✓	✓			
Low Carbon Acceleration Fund	Climate and Solid Waste		✓			
Te Ara Whakamua Group work update	Climate and Solid Waste		✓		✓	

TO: **Chair and Members**
Climate Change and Sustainability Committee

FROM: **Tim Johnstone**

DATE: **07 February 2024**

SUBJECT: **UPDATE ON HUTT CITY COUNCIL APPROACH TO SPONGE CITIES**

Purpose of Memorandum

1. The purpose of this memorandum is to provide information on how Council is applying the Sponge Cities concept in Lower Hutt. It includes some potential future opportunities that could be investigated to further support the application of Sponge Cities in Lower Hutt.

2. It is important to note that these potential future opportunities are not included in current budgets and would require additional funding. There is not scope to carry out the work required to include any proposal for additional funding in the current Long-Term Plan (LTP) process, which is at an advanced stage.

Recommendation

That the memorandum be received and noted.

Background

3. This memorandum was requested by the Chair of the Climate Change and Sustainability Committee.

4. The following Council teams have provided input into this memorandum:

    - Urban Development
    - Parks and Reserves
    - Policy Planning
    - Development Engineering.

What are Sponge Cities?

5. The term "Sponge City" originates from the idea that cities can function like sponges. The key concept is that cities can be more absorbent in capturing and retaining rainwater. This decreases the volume and rate of runoff and allows for more infiltration into the ground.

6. Sponge Cities apply over both the public domain and private spaces, and can be implemented at all scales, from small rain gardens and detention tanks to large wetlands.

7. This differs from the traditional grey infrastructure approach to managing stormwater, which relies on engineered curbs and channels, and piped systems to manage stormwater collection. This approach results in more rapid runoff flows, which can increase the risk of flooding.

8. A key benefit of the Sponge City approach is increasing resilience to climate change, and in particular to reducing the flooding risks from more frequent and heavy rainfall events.

9. Other benefits from the Sponge City approach include opportunities for improving habitats and biodiversity outcomes (including through reducing pollutant levels in stormwater).

10. Sponge Cities may be a relatively new term, however, many of the practices associated with the Sponge City approach are well established. Examples include:

    - Rainwater retention and harvesting
    - Riparian and vegetation protection/restoration
    - Urban wetlands
    - Daylighting streams
    - Permeable surfaces
    - Rain gardens
    - Swales
    - Green roofs.

11. This report prepared by WSP and the Helen Clark Foundation provides more detailed information on the concept of Sponge Cities:

    CS2023_2314_HCF-Report-Sponge-Cities_FINAL.pdf (helenclark.foundation)

12. The following section outlines how Council currently implements the Sponge City concept. There are also a range of other activities undertaken by individual property owners, developers, community groups and other stakeholders (such as Wellington Water Limited and Greater Wellington Regional Council (GWRC) that play a significant role in the management of stormwater.

Application of Sponge Cities in Lower Hutt

Council Policy Documents, Urban Design Frameworks and Spatial Plans

13. Council does not have any single policy or strategy that is specific to implementing a Sponge City approach. However, Sponge City practices are reflected in several Council **strategic policy documents**, as follows:

    - *Climate Action Pathway* promotes nature-based solutions to tackle the impacts of climate change.
      https://hccpublicdocs.azurewebsites.net/api/download/d2fb4e0b803d4d0fa42ae37edebc54d4/_sustainability/88cf6e47724580cc49e58cb9d30aee41e5e1

    - *Reserves Strategic Directions* highlights the need for sustainable and resilient environmental reserve management practices in response to climate change, recent storms and flooding. These include water sensitive design and water retention and filtration through natural systems.
      https://hccpublicdocs.azurewebsites.net/api/download/8e9200db38b84fa4a6474c52c55cd409/_CM9-WE/d5c94eb79201454e3eb45f71e8e9083799

    - *Urban Forest Plan* focuses on creating a functional green network, with a strong emphasis on establishing riparian areas and retaining wetlands whenever possible.
      https://hccpublicdocs.azurewebsites.net/api/download/3379bf11af2a47feac71dd620eb57e67/_CM9-WE/0fe4afac178a4084f21985db285ccd18a22

14. Various Council **urban design frameworks and spatial plans** also seek green infrastructure outcomes, as follows:

    - *Central City Transformation Plan* promotes green streets with contemporary treatments, including swales and stormwater retention.
      https://www.huttcity.govt.nz/environment-and-sustainability/urban-planning/central-city-transformation-plan

    - *RiverLink Urban and Landscape Design Framework* proposes a series of wetlands along the Hutt River for stormwater management.
      https://teawakairangi.co.nz/assets/Documents/Consent_Application/Volume_3-Urban_and_Landscape_Design_Framework/RiverLink-Urban-and-Landscape-Design-Framework-Consent-Design.pdf

    - *Wainuiomata Town Centre Framework and Streetscape Plan* incorporates on-street rain gardens for stormwater management. These rain gardens were recently implemented (see Photos 1 and 2 in Appendix 1). Several on-street rain gardens have also been constructed in the city centre.

      https://www.huttcity.govt.nz/council/our-projects/wainuiomata-town-centre-framework-and-streetscape-plan

    - *Urban Design Analysis 2023* includes a series of studies of the City Centre Catchment and has permeability as a measurable factor for urban design analysis. The analysis reveals a notably low permeable surface coverage in the City's CBD.

Council District Plan and Design Guides

15. The **operative District Plan** includes a minimum permeable surface standard of 30% that applies in all Residential Activity Areas. This standard works in tandem with the maximum building coverage standard to limit the amount of hard surfacing on a site and to retain a level of permeable surface.

16. Some resource consents have been granted over the years for breaches of the minimum permeable surface standard, noting that as individual one-off breaches it is difficult to justify a significant effect and decline of the consent. This is being addressed through the District Plan Review with stronger policy direction to maintain the minimum permeable surface standard on a site-by-site basis.

17. The operative District Plan also includes stormwater detention standards that require rainwater tanks to be installed for new developments in the Residential and Suburban Mixed-Use Activity Areas.

18. The **Design Guides** that support the District Plan also include various references to Sponge City concepts, as follows:

    - *Medium Density Design Guide* includes a section on on-site stormwater management, which advocates for a range of options to include in new developments to reduce the impacts on existing stormwater infrastructure. These include green roofs, rainwater storage tanks, permeable pavers, rain gardens and swales. There are a number of examples of these features being incorporated in recent developments in Lower Hutt, with the exception of green roofs, which have practical implementation and financial constraints. A potential challenge for Council is how to ensure the on-going maintenance of these features in order for them to remain effective given that that they are in private ownership.

    - *Central Commercial Activity Area Design Guide and Petone Commercial Area Design Guide* encourages on-site stormwater systems and the use of permeable pavers in carparks, walking and cycling paths. However, permeable paving has not been widely used in these areas to date.

19. Council's recent **draft District Plan** is proposing to go further than the operative District Plan with a new Three Waters Chapter that includes a range of provisions to address stormwater runoff, including requiring:

    - Hydraulic neutrality and water sensitive urban design in developments providing four or more units.

    - Rainwater storage tanks and greywater systems for all new residential development to both store and allow for the reuse of water.

20. The Draft District Plan also includes new mapping and protection of stream corridors and overland flowpaths.

Council Parks and Reserves

21. Green spaces act like giant sponges, slowing the flow of rainwater and trapping and filtering pollutants. Our parks and reserves therefore provide a substantial resource to mitigate flood risks, although this does vary depending on the type of green space. A range of activities are undertaken that support the flood mitigation within these greenspaces, as set out in the following paragraphs.

22. **Parks & sportsgrounds** are the most prevalent form of green infrastructure in the urban areas of Lower Hutt. There are 23 sportsgrounds, numerous parks, as well as a number of large school sports fields. Hard and compacted grass areas such as parks and sportsgrounds are not as effective for water retention compared to more natural areas like wetlands. However, they are still a valuable asset in mitigating flood risks, particularly when they are specifically designed for this purpose.

23. Although flood mitigation has been factored into the design of some of our parks and sportsgrounds, such as water storage under artificial sports fields, there remains considerable opportunity for enhancement to increase the 'sponginess' of these parks and grounds.

24. **Pest weed and animal control programmes** are conducted by GWRC with the primarily aim to control invasive climbing weeds that choke native vegetation (e.g. Old man's beard), and deer which eat native vegetation and compact soils. Currently two deer culls are performed each year. Pigs and goats are also significant in numbers and environmental impact but are only opportunistically killed during deer culls.

25. Significant work has been undertaken to **restore the hillside reserves** of Lower Hutt, and improvements are clearly visible (noting also the significant contribution made by private property owners in this regard). Native vegetation is now well established in previously gorse dominated landscapes. This advancement will be providing flood mitigation and land stabilisation benefits.

26. **Wetlands** are the most effective green infrastructure for flood mitigation. They capture high volumes of water which is stored and filtered through plants and soils. Wetland plants are specifically adapted to wet conditions and are capable of storing high volumes of water. The root systems of wetland plants are also particularly effective at loosening soil, increasing permeability and water uptake.

27. The extent of wetlands, both locally and nationally, has been significantly diminished as land has been drained for agriculture and housing. There are some wetlands in Lower Hutt. These include volunteer-led restoration sites such as the Waiu and Mohaka wetlands. An example of a small-scale wetland that has been established adjacent to the Hutt River Te Awa Kairangi is provided in Appendix 1 (Photo 3).

28. **Riparian zones** (the strip of land beside a waterway) are a crucial buffer between land and water. Riparian zones can perform functions such as stabilising banks, reducing the rate at which water enters waterways, increasing water retention capability in flood events, and capturing rubbish and debris that enter waterways during flooding events.

29. The Friends of Waiwhetū Stream (FWS) have been running a Waiwhetū Stream restoration project since 2009. A key initiative of the FWS has been riparian planting, partially motivated by flood resilience (see Photo 4 in Appendix 1). The restoration efforts of FWS have significantly improved the water quality of the Waiwhetū Stream, and greater bank stability has been achieved in some sections, which will also help to maintain waterflows in flood events.

Future opportunities

30. There are a range of potential future opportunities that could be investigated to further support the application of Sponge Cities in Lower Hutt, as set out in the following paragraphs.

31. It is important to note these are not proposals being put forward by officers and they are not included in current budgets and would require additional funding. There is not scope to carry out the work required to include additional funding now in the current Long-Term Plan process, which is at an advanced stage.

32. Sponge Cities "champion": Council could appoint a champion that oversees and leads on the application of this concept across all areas of Council's work. This role could also involve assessing the effectiveness and associated costs of the different stormwater management measures that are available to Council.

33. Spatial Plan: The Urban Development Team is preparing a spatial plan that will provide a strategic vision and guidance for the future development of Lower Hutt, outlining goals and objectives for sustainable growth. This could include a focus on Sponge Cities, identify specific opportunities across the city and associated implementation actions.

34. Partnering with other Stakeholders: Council could partner with Wellington Water Limited and the other councils to collaborate on how to best implement Sponge City measures within the region.

35. Information and education: Council could provide information and education on ways to implement Sponge Cities e.g. examples of permeable pavers and where these can be sourced. This could also involve public awareness campaigns to educate residents and businesses about the importance of water management and the benefits of the Sponge City concept.

36. Stormwater management in the road reserve: Roads and footpaths make a significant portion of the city's impermeable surface area. There may be opportunities to implement Sponge City measures within the roading network, such as rainwater gardens and swales (see example in Photo 12 in Appendix 1).

37. Showcase projects: Council could implement some small-scale showcase projects similar to the rainwater gardens in Wainuiomata Town Centre, as an example for developers for how they could incorporate similar measures in their developments.

38. Remissions: Council could establish rates or remissions to incentivise private owners and developers to adopt Sponge City designs.

39. New wetlands: There is the opportunity to create new wetlands and retention ponds within our parks and reserve land (noting that there are a number of constraints including the need for a sizable piece of land, thorough hydrological and engineering assessments, suitable soil and vegetation conditions, the presence of a water body, and adequate funding for both implementation and maintenance).

40. Investment in parks and reserves: Further investment in increasing the 'sponginess' of our parks and reserves. Flood mitigation has been factored into the design of some of our parks and sportsgrounds, such as water storage under artificial sports fields, but there remains considerable opportunity for enhancements to increase the 'sponginess' across Council parks and reserves. Photos 8 and 9 in Appendix 1 show Greenslade Reserve in Auckland as an example how sports fields can contribute to flood resilience.

41. Further investment in pest control: Council could invest further in pest control, including pest plants and animals such as deer.

42. Further investment in planting programmes: Council could invest further in a range of planting programmes such as accelerating forest regeneration, creating new wetlands, and planting along riparian margins (which could be coupled with daylighting of streams). For example, Black Creek is a major component of the stormwater infrastructure in Wainuiomata. However, it has been subject to much less restoration work compared to Waiwhetū Stream. There are many smaller creeks and streams in Lower Hutt which could also be improved for flood resilience. Photos 5 – 7, 10 and 11 in Appendix 1 show examples of opportunities for riparian planting and daylighting of streams.

Appendices

Author: Tim Johnstone
Head of Planning

Approved By: Alison Geddes
Director Environment and Sustainability

APPENDIX 1 – SPONGE CITY EXAMPLES

Photos 1 and 2: rain Gardens in Wainuiomata Town Centre

Photo 3 - wetland pilot scheme next to Te Awa Kairangi

Photo 4 - rewilding the riparian buffer of Waiwhetu Stream at Rata Street, Naenae

Photos 5 and 6 – concrete lined waterways at Hutt Park (top) and Koraunui Stokes Valley Stream (bottom) - major impediments to sponginess and are opportunities for widening and riparian improvements

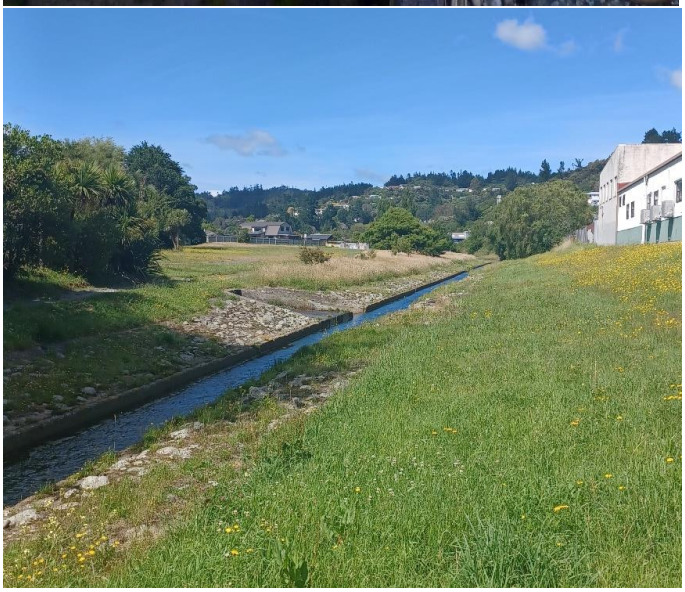


Photo 7 - Dudley Creek in Christchurch - re-wilding approach to riparian planting to create a more natural aesthetic, with greater biodiversity, and better flood resilience.

Photos 8 and 9 – Greenslade Reserve, Auckland – sportsground that also acts a stormwater retention basin. It performed well during cyclone Gabrielle to collect water. On Friday night and early Saturday it was flooded (top photo). By late Saturday morning all surface water had drained through (bottom photo). Neighbouring areas sustained a much higher degree of flood damage.

Photos 10 and 11 - Avalon Park has a large stormwater pipe running through it. There is an opportunity that this could be 'daylighted'.

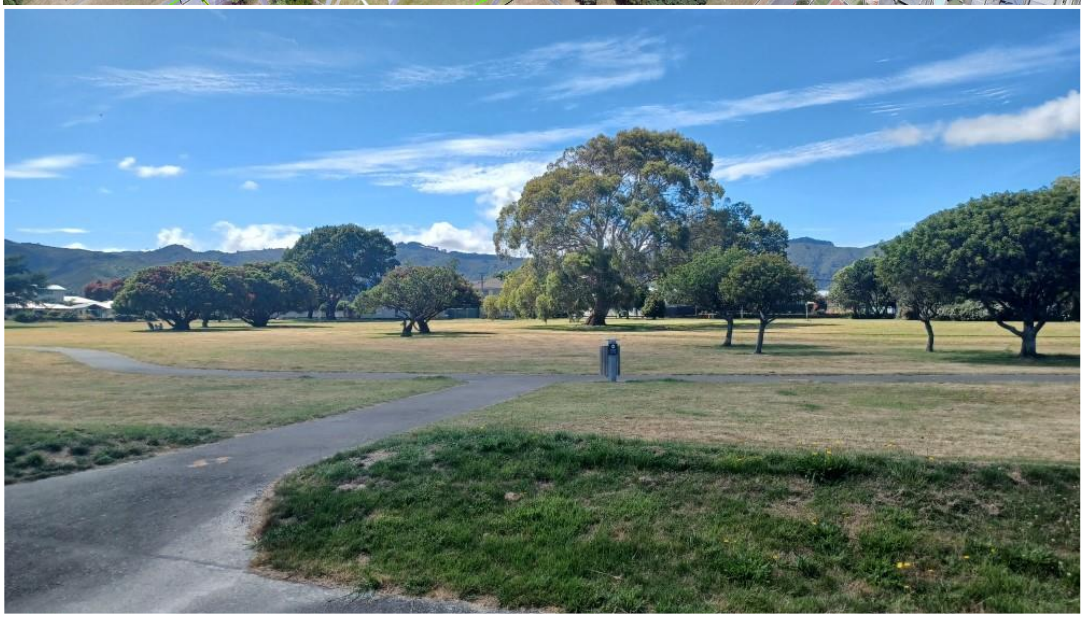


Photo 12 – slotted kerb and swale next to road at Avalon Park, constructed to hold and slow water runoff from the road before it enters the stormwater network.