Council Emissions Footprints and Emissions Targets

Meeting: **Council Briefing**
Date of meeting: **07 July 2021**
Reporting officer: **Katy Simon, Policy Analyst**

Purpose | Ngā whāinga

To provide an overview of the final 2018-2019 (19FY) and 2019-2020 (20FY) Organisation Greenhouse Gas Emissions Reports and to obtain direction on future proposed Council emissions targets.

Context | Horopaki

In 2019 Council began the process of measuring its organisation and district-wide emissions footprint. Council contracted CarbonEES (formally CarbonEMS) to produce 19FY and 20FY Organisation Greenhouse Gas (GHG) Emissions Reports (the Reports) and a District-wide 19FY GHG Emissions Report.

The Reports estimate carbon dioxide emissions produced from Council's work and determine Council's emission footprint for the relevant two years. The District-wide report will estimate the total amount of GHG produced in 2018-2019FY across the whole of Kaipara District.

Council has no legislative authority to influence emissions management beyond its organisation boundary. The District-wide report is intended to support later climate change related community engagement activities. The focus of this briefing report is Council's organisation footprints.

The Reports show the areas of Council's work that emit the most carbon dioxide (CO_2). This is a critical first step in understanding Council's carbon footprint and commencing work to address this. Using these Reports as a baseline, Council can adopt emissions targets and decide on a path to reduce emissions.

This work contributes to Council's Climate Smart Community Outcome, aligns with the requirements of the Climate Change Response Act 2002 (the Act) and prepares Council for any future requirements to disclose emissions footprint and management information, which it may be called upon to do as a disclosing authority under the Act.

Please note: The draft Reports were presented to Council at the June briefing. Since then, Council staff and CarbonEES have been reviewing the Reports for quality assurance. This review has revealed that the process for measuring wastewater emissions needs refining. Staff have extended the deadline for the final GHG emission reports to accommodate these changes. Initial results show that the changes do not significantly impact Council's overall emissions profiles. Staff will speak to this in more detail at the Briefing presentation. Staff will distribute the final Reports to Elected Members as soon as they are ready.

This report uses several technical terms. The Key Terms Glossary (**Attachment A**) provides definitions and examples. The draft Reports also include glossaries explaining additional key terms.

Discussion | Ngā kōrerorero

The discussion consists of two main parts:

1. an explanation and summary analysis of the Reports
2. an explanation of emissions targets and possible approaches.

1. Emissions inventory and reports

1.1. Measuring Council's footprint

CarbonEES follows central government guidance, international standards, industry guidance and best-practice research to decide how to measure emissions and determine the footprint. This process involves the following six steps:

1. Decide on the categories based on the organisational boundary (what information is in or out) and whether direct (Scope 1), indirect electricity (Scope 2), or other indirect (Scope 3) emission.
2. Determine what form the information should take (the required unit type) and whether this allows for direct measurement, a derived measurement, or an estimate.
3. Determine the type of GHG emitted, the rate of conversion into CO_2 and the total carbon dioxide equivalent (tCO_2e).
4. Factor in any possible carbon offsetting (carbon sinks, capture or storage) associated with this activity and, if yes, account for the rate of offset.
5. Factor for any possibilities of double counting and retraction process to avoid double counting.
6. Percentage emissions contribution of each category and overall GHG emissions.

The above steps are applied to the FY20 '*Paper goods'* category as an example:

1. Office paper is a required category within Council's boundary. It is a purchased good and service, Scope 3, emission source.
2. The required unit is kg consumed, in the form of Office Max purchase summary reports. This is a direct measurement.
3. Office paper is 0.943 CO2e kg/1 kg of paper. In 2019-2020 Council consumed 1,424 kg office paper, which equates to 1.34 tCO2e.
4. There are no applicable carbon sinks or carbon removal sources associated with *Paper goods* (conversation rate assumes paper materials are made from recycled content).
5. The item is checked against the Printing and stationary category for double counting.
6. *Paper goods* (Office paper) makes up 0.11% of Council's FY20 emissions footprint.

For many of the categories, particularly under *Capital goods* and *Purchased goods and services*, the dollar amount spent takes the place of primary data as the unit applied for CO_2 conversion. This means tCO_2e are estimates as opposed to direct measurements. For example, the FY20 '*Heavy and civil engineering construction* tCO_2e came from $3,983,724 total spend on capital works under this category. This total dollar amount replaced primary information from the individual contracts (e.g. the specific type of work, distances travelled, materials used, etc.) For this kind of activity, 0.187 kg of $C0_2e$ applies to each $1.00 spent, which equates to 743.27 tCO_2e.

1.2. Factoring in carbon removal, carbon sinks and carbon storage

Carbon removal, carbon sinks and carbon storage enable Council to offset GHG emissions. As stated above, the footprint measurement process accounts for carbon removal associated with the category. The process can account for carbon removal when Council has full authority and operational control of the category and when the required carbon removal information is available.

Council examples of potential carbon removal, carbon sinks and carbon storage include forestry and reserves. However, the measurement process assumes that Council's forestry asset was established before 1990 and is already counted for in New Zealand's baseline emissions and removals. This asset cannot be counted as additional carbon storage in this emission inventory process. The footprint does not account for any other Council-owned carbon sinks.

The Reports also do not include a thorough analysis of possible activities to capture and store carbon and reduce the net footprint. Staff will complete analysis as part of Council's emissions reduction. This analysis will include a review of Council's reserves, parks and open space assets to assess whether they can be counted for carbon removal and how much carbon may be offset. Staff will also identify possible Council actions to increase carbon capture and storage (carbon sequestration) and explore opportunities and costs with Council.

1.3. Report results

The Reports show Council's emissions in three different ways: ranked in category by $tC0_2e$, ranked by Scope contribution percentage, and by contribution percentage within each Scope. FY20 also shows the key differences from FY19.

The table below summarises the main results:

19FY Report	**20FY Report**
Total footprint; 5,874 tCO2e	**Total footprint: 3,926 tCO2e**
• *Capital goods: Heavy and civil engineering construction* contributed to almost half of Council's emissions: 2,208 tCO_2e. • Council's second biggest source of emissions is *Purchased goods and services: Repair and maintenance*: 834 tCO2e. • Scope 3, other indirect emissions, makes up 87% of footprint at 5,107 tCO2e.	• Council's biggest source of emissions is *Purchased goods and services: Repair and* maintenance: 784 $tC0_2e$. • *Capital goods: Heavy and civil engineering construction* is the second largest source: 743 $tC0_2e$. • Scope 3, other indirect emissions, makes up 80% of footprint at 3,136 tCO2e. <u>Key change from 19FY period:</u> *Capital goods: Heavy and civil engineering construction* 62% decrease in $tC0_2e$.

For perspective, Council's 20FY footprint is comparable to Masterton District Council's 20FY footprint at 3,574 $tC0_2e$.

1.4. Areas of improvement

Measuring Council's emissions footprint is a learning process. While the Reports form a solid first step, there is room for improvement. Based on a review of the Reports, staff have identified three core areas of improvement:

1. Report formatting and information communication:

   Staff recognise that the emission source categories need clearer names. The current category names come from finance activity cost codes and could be adjusted to better define the specific activity. The reports could also better reflect Council's organisational structure and better identify business unit and Council department.

2. Information gaps due to missing data:

   The reports contain information gaps because certain data was unavailable and new processes needed to collect the data. This means Council has unaccounted for emissions due to a lack of information. The gaps identified below are noted in the reports and include:

   - working from home data.
   - office waste data.

3. Emissions estimate quality due to the types of data applied:

There are also categories where primary data could replace representative data to improve the accuracy of information by moving from emissions estimates to direct measurements. The key category is Council's Scope 1 wastewater treatment plant (see below). The current data is secondary and provides a representative estimate. The data is a satisfactory starting point to determine tC02e. However, Council will not see changes in tC02e if it were to implement changes to the wastewater treatment process. Council staff will need to directly measure methane emissions to monitor and evaluate changes following any treatment process improvements. Along with wastewater treatment data, primary data via contracts and procured services can replace total dollar amount spent for the categories under *Capital goods* and *Purchased goods and services*.

Staff will aim to include these improvements in the next 2020-2021FY GHG Emissions Report.

2. Setting organisation emissions targets

Emissions targets will set organisation-wide goals that will guide how Council does its work so that it can transition to a low-emissions way of operating and providing services.

Council's emissions targets will inform the Climate Smart Policy, shaping how and when Council considers climate change in decision-making. The adopted emissions targets will also determine the kinds of actions to be included in the Climate Action Plan and the timeframes for achieving those actions.

The table below summarises three strategic directions available to Council for setting emissions targets. These strategic directions are based on the emissions targets set in the Climate Change Response Act 2002 and approaches taken by other local authorities. Staff are seeking early direction on the preferred approach based on the table below.

Direction specificity	Decision Option	Additional Decisions	Pros	Cons
Broad	Single 2050 overarching target e.g. Net zero carbon emissions by 2050.	Separate targets for carbon and methane?	Highest flexibility. Interim targets addressed through reduction pathways.	Highest risk of delay and deprioritised
Semi-structured	2050 overarching target, plus interim milestone targets. (e.g. 30% emissions reduction by 2030, net zero 2050).	Is the interim target gross emissions or net emissions? Is the emphasis on emissions reduction or emissions offset?	Best practice examples from Auckland and Wellington.	Risk that interim milestone target may be not reached due to overdependence on reduction pathways goals.
Tight	Multiple targets setting out percentage reduction toward key milestone targets and overarching 2050 target. (e.g. X% reduction every 3-5 years)	Are the percentage reductions for gross emissions or net emissions? Are they for specific activities? Or for overall footprint?	Strongest start to achieve emissions reduction community outcome. Fixes priority for Council; biggest call to action for staff.	Least flexible; requires most governance input and staff time/energy to set and meet goals.

Based on the feedback at this briefing, staff intend to present a final draft approach for setting emissions targets to the September Council briefing with a view to Council adopting a final

approach at the September Council Meeting. The final adoption may be moved to the October Meeting if more time is required.

Once Council adopts emissions targets, staff will begin to develop pathways to reduce emissions in key areas and meet the adopted targets and report back to Council on options. The actions identified in the reduction pathways will be part of the future Climate Action Plan. Reduction pathways and Climate Action Plan development are scheduled for late 2021 through 2022.

A presentation will be provided at the Briefing to support this report.

Next steps | E whaiake nei

Subject to the direction provided at this briefing, staff will prepare a report for the September 2021 council briefing. Post this briefing, staff are happy to receive any questions for clarification from Elected Members via email. Staff will work with CarbonEES to address areas of improvement identified above for the 2020/21FY Report. Staff will distribute the final Reports to Elected Members as soon as they are ready.

Attachments | Ngā tapiritanga

	Title
A	Key Terms Glossary