

**Mayor and Councillors**  
COUNCIL

27 JUNE 2019

Meeting Status: **Public**

Purpose of Report: For Decision

## **TOWARDS CARBON NEUTRALITY BY 2025**

### **PURPOSE OF REPORT**

- 1 This report outlines suggested steps for the Council to pursue the goal of carbon neutrality by 2025.
- 2 In addition, Officers have prepared a draft submission to the Environment Select Committee on the Climate Change Response (Zero Carbon) Amendment Bill for Council to review and approve.

### **DELEGATION**

- 3 Council has the authority to consider this report and approve the submission to the Environment Select Committee.

### **BACKGROUND**

- 4 At a Council meeting on 23 May 2019, the Council committed to pursue the goal of carbon neutrality by 2025. At the same meeting, the Council also declared a climate change emergency on the Kāpiti Coast, calling for more support from Greater Wellington Regional Council and the government on responding to climate change and coastal threats.
- 5 The goal of carbon neutrality relates to the net carbon emissions produced by Council's activities. Net carbon emissions refer to the total amount of carbon emitted minus any offsets. To achieve the goal of carbon neutrality, the Council will need to offset all of its unavoidable carbon emissions, so that its net emissions amount to zero.
- 6 Carbon emissions are typically expressed as tonnes of CO<sub>2</sub> equivalent (tCO<sub>2</sub>e).
- 7 Council has previously committed to a goal to reduce its carbon emissions to 80% of its 2009/10 levels (12,499 tCO<sub>2</sub>e) by 2021/22. This would reduce Council's total carbon emissions to 2,500 tCO<sub>2</sub>e. This goal pertains to Council's gross carbon emissions which means that it can only be achieved by reducing actual carbon emitted.
- 8 The Council reports its carbon emissions annually – the total emissions for the 2017/18 year were 3,017 tCO<sub>2</sub>e (76% down from the 2009/10 baseline level).
- 9 Reducing emissions and becoming carbon neutral is part of the Council's mitigation response to the issue of climate change. Adaptation is another aspect of our response. Both are considered in the draft submission on the Climate Change Response (Zero Carbon) Amendment Bill attached for approval at

Appendix 1. The closing date for submissions on the Bill is 16 July 2019. The remainder of this report discusses the potential steps towards carbon neutrality.

## ISSUES AND OPTIONS

### Issues

- 10 Becoming a carbon neutral organisation will require Council to carry out a number of steps, including:
  - Joining a carbon neutral certification scheme.
  - Investigating the feasibility of initiatives to further reduce carbon emissions.
  - Investigating the feasibility of offsetting carbon emissions (via forestry and purchase of carbon credits).
  - Developing a plan for achieving carbon neutrality by 2025.

#### *Carbon neutral certification*

- 11 Council is currently certified with the Certified Emissions Measurement and Reduction Scheme (CEMARS) administered by Enviro-Mark. This scheme allows Council to independently verify its progress towards achieving its 80% reduction goal by 2021/22. The CEMARS certification currently costs Council \$15,000 per year and requires an annual audit.
- 12 Enviro-Mark also certifies organisations that verify their carbon neutrality status under their CarboNZero scheme. Council may advance to this scheme once it has a plan in place to reduce any remaining avoidable carbon emissions and is ready to offset its residual emissions. To become certified, Council would need to offset all of its remaining unavoidable emissions by earning or purchasing carbon credits through the Emissions Trading Scheme (discussed from paragraph 21).
- 13 CarboNZero certification also requires an annual audit to remain certified, and the cost of the scheme is similar to CEMARS. Other certification providers do exist, and these will be investigated further.
- 14 Regardless of which scheme it uses, Council will need to continue to measure and audit its annual carbon emissions to remain certified. The carbon emissions for the 2018/19 year are currently scheduled to be audited in November 2019.

#### *Carbon emission reduction initiatives*

- 15 Achieving carbon neutrality will require Council to implement an appropriate mix of initiatives to reduce carbon emissions, maximise offsets from Council-owned forestry, and minimise the purchase of carbon credits.
- 16 Council has already significantly reduced its carbon emissions. This has been achieved by implementing a number of changes – most significantly in the methods of wastewater treatment and the types of fuel used. A further reduction of approximately 500 tCO<sub>2</sub>e will be needed if Council is to achieve its goal of reducing emissions by 80% down to 2,500 tCO<sub>2</sub>e by 2021/22.

- 17 A number of potential initiatives to further reduce emissions have been identified<sup>1</sup>. Each will need a detailed assessment to determine their feasibility, cost and their likely impact on reducing carbon emissions. These initiatives are listed in the table below with an estimated amount of potential carbon emission reductions where possible.

Initiative	Potential emissions reduction (per year)
Change to a verified carbon neutral electricity supplier <sup>2</sup> (this would negate the emissions reduction from any solar photovoltaic installations)	1,100 tCO <sub>2</sub> e
Reduce emissions from solid waste disposal (the current contract term ends in 2023)	300 tCO <sub>2</sub> e
Upgrade heating system at Ōtaki pool (currently budgeted for 2021/22)	180 tCO <sub>2</sub> e
Use of solar photovoltaic panels for Council buildings and at treatment plants (five possible sites identified)	150 tCO <sub>2</sub> e
Replacement of Council vehicles with electric models (assume replacement of up to six vehicles <sup>3</sup> )	25 tCO <sub>2</sub> e
Further emission reductions at wastewater treatment plants (e.g. anaerobic digestion)	Unknown
Energy efficiency measures at Council facilities (including changing practices and behaviours)	Unknown
Assessment of carbon emission impacts when making significant procurement decisions	Unknown
<b>Total potential reduction</b>	<b>1,755 tCO<sub>2</sub>e</b>

- 18 Achieving the goal of an 80% reduction by 2021/22 (2,500 tCO<sub>2</sub>e total emissions) would require the Council to implement either the first initiative above or several of the other initiatives. Implementing all of the above initiatives (those with estimated potential reductions) could reduce the Council's total annual carbon emissions to approximately 1,262 tCO<sub>2</sub>e.
- 19 Assuming a 'best-case scenario' where the above initiatives can be implemented without compromising the Council's financial strategy or service levels, achieving the goal of carbon neutrality would require offsetting the residual 1,262 tCO<sub>2</sub>e per year.
- 20 Assuming a 'worst-case scenario' where none of the above initiatives can be implemented and no further reductions can be found, the Council would need to offset its emissions at approximately the current level of 3,017 tCO<sub>2</sub>e each year.

<sup>1</sup> Some initiatives were identified by Low Carbon Kāpiti through its submissions to Council.

<sup>2</sup> Changing to a carbon neutral supplier may result in increased electricity costs.

<sup>3</sup> This number is dependent on assessment of vehicle usage data and whether replacement electric vehicles would be fit-for-purpose.

### Carbon offsets and the Emissions Trading Scheme

- 21 Carbon offsetting is managed through the Emissions Trading Scheme (ETS) administered by the Ministry for the Environment. To become a certified carbon neutral organisation, the Council will need to participate in the ETS and assess how it wishes to offset its residual carbon emissions.
- 22 Offsetting carbon emissions through the ETS is done by acquiring New Zealand Units (NZUs), where one NZU offsets one tCO<sub>2e</sub>.
- 23 Council has two main options for offsetting through the ETS: 1) earning NZUs from the forestry<sup>4</sup> it owns, and 2) purchasing NZUs, typically from other participants in the scheme (i.e. organisations with a surplus of units like forestry schemes or renewable electricity generators). Enviro-Mark could assist the Council with the ETS process and can manage the purchase of offsets on its behalf.
- 24 Officers estimate that Council currently owns approximately 18ha of forested land eligible to earn NZUs. Further investigation is needed to obtain an accurate figure before it can be verified and registered through the ETS for NZUs. Indicatively however, the 18ha of forestry could offset approximately 200 tCO<sub>2e</sub> each year.<sup>5</sup>
- 25 Council could also plant more forests to achieve further offsets. However, more investigation is required to determine how much Council-owned land could be planted, and it is unlikely that a significant number of NZUs could be gained from new forests before 2025.
- 26 To more feasibly achieve carbon neutrality by 2025, Council would need to purchase NZUs through the ETS to offset the remainder of its emissions. The current spot price of NZUs is between \$23-\$24 per tCO<sub>2e</sub>. The price has increased steadily in the last five years but a ceiling of \$25 is currently set by legislation.
- 27 The table below lists the indicative costs of purchasing NZUs to offset residual carbon emissions under several scenarios.

	Residual emissions (tCO <sub>2e</sub> )	Indicative annual cost of purchasing carbon offsets @\$25 per NZU
<b>Best case scenario.</b> All reductions realised and assume 18ha of forestry is eligible for 200 tCO <sub>2e</sub> .	1,062	\$26,550
<b>Worst case scenario.</b> No further reductions realised and no eligible forestry.	3,017	\$75,425
<b>Goal scenario.</b> Achieve 80% reduction to 2,500 tCO <sub>2e</sub> by 2021/22, and assume 18ha of forestry is eligible for 200 tCO <sub>2e</sub> .	2,300	\$57,500

<sup>4</sup> Only land forested post-1989 is eligible.

<sup>5</sup> In addition to the annual amount of NZUs earned, Council may be eligible for a 'lump-sum' allocation of approximately 2,000 NZUs earned from carbon already sequestered by its forests. This could be used to offset emissions, sold on the ETS, or retained until a later date.

- 28 These cost estimates should be used with caution, as the long-term pricing of NZUs is highly uncertain. The government has already agreed in-principle to replace the fixed price mechanism for determining the price ceiling. It's unclear at this stage how this change would affect the price of NZUs. However, in its 2018 report on the low-emissions economy, the Productivity Commission recommended that for carbon pricing to adequately incentivise the Government's desired behaviour change, the price may need to increase to between \$75 and \$250 per unit by 2050.<sup>6</sup> This would equate to a cost to Council of between \$172,500 and \$575,000 per year if offsetting 2,300 tCO<sub>2</sub>e.
- 29 The government is also proposing to restrict the total number of NZUs available in the ETS, which may also impact the pricing.
- 30 Once Council commits to purchasing carbon credits or receiving them from its forestry, it will be exposed to risk of price volatility. Particularly in regards to the loss of forestry assets – if a forest was to burn down or be harvested, the Council would need to purchase credits to offset any lost carbon<sup>7</sup>. If the price was unfavourable, and the Council wished to opt out of the purchase, it would forfeit carbon neutral certification.

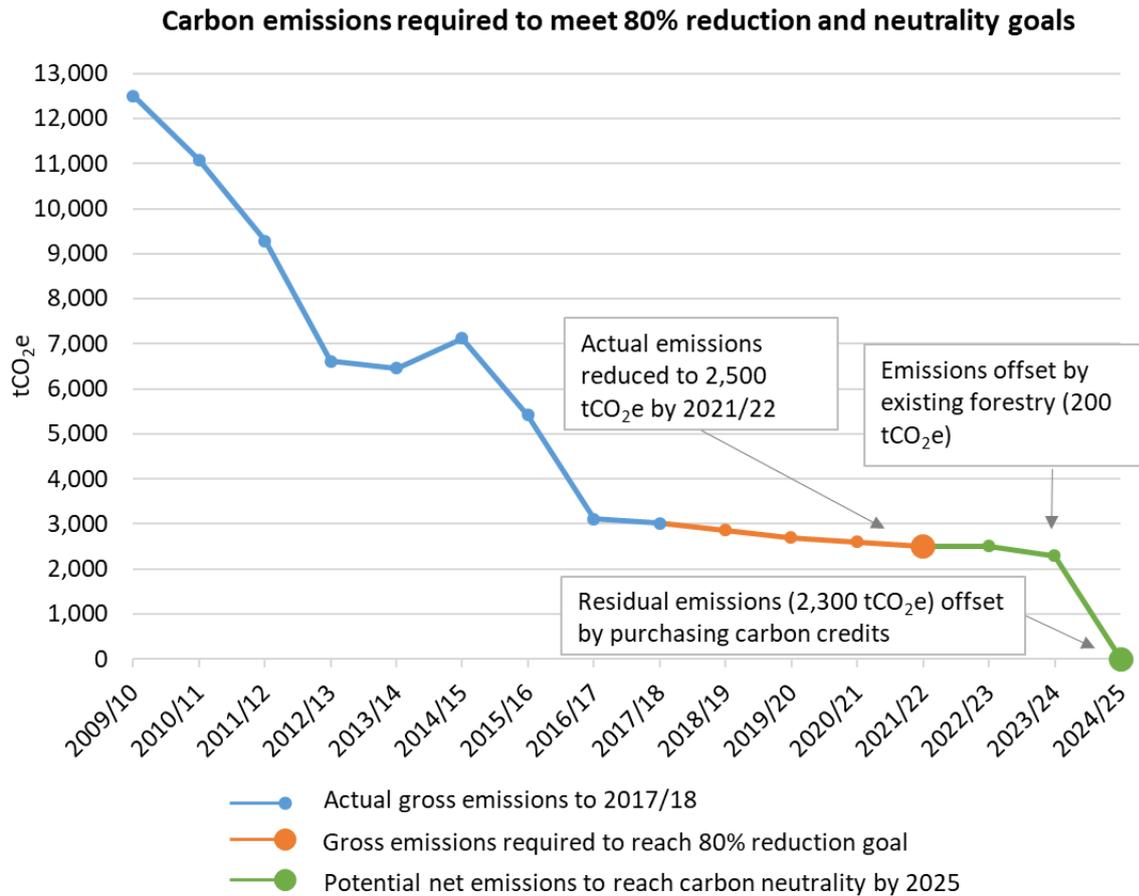
#### *Plan for achieving carbon neutrality*

- 31 Officers require more time and additional resources to further investigate the options for carbon reductions and offsets outlined above. The results of investigations will inform development of a carbon neutrality plan with a preferred mix of options, including resource requirements and financial implications.
- 32 A draft plan could be presented to the community for consultation, likely through the development of the 2021-41 long term plan.
- 33 To illustrate a potential path to carbon neutrality, the chart on the next page indicates the actual emissions reductions achieved up to 2017/18 and the approximate reductions required to achieve the goals of an 80% reduction in gross emissions by 2021/22 and carbon neutrality by 2025. The best and worst case scenarios are not shown, however, an indicative offset of 200 tCO<sub>2</sub>e from existing forestry is represented in year 2023/34.

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<sup>6</sup> New Zealand Productivity Commission, *Low-emissions economy*, 2018, pages 25-30.

<sup>7</sup> The Council could choose to take out insurance for this risk.



## CONSIDERATIONS

### Policy considerations

34 There are no policy considerations arising directly from this report. However, depending on the approach Council takes towards carbon neutrality, certain policies and strategies may be impacted (for example the Sustainable Transport Strategy, Procurement Policy or Vehicle Replacement Policy).

### Legal considerations

35 There are no legal considerations arising from this report.

### Financial considerations

36 No proposal to allocate funding is being made through this report. However, future decisions on this matter will likely involve financial consideration.

### Tāngata whenua considerations

37 No proposal that impacts tāngata whenua interests is being made through this report. However, work on a plan for achieving carbon neutrality will need to involve iwi.

## Strategic considerations

- 38 This matter contributes to the Council's outcome of an effective response to climate change in Kāpiti, and demonstrates leadership for the district on mitigating climate change.

## **SIGNIFICANCE AND ENGAGEMENT**

### Significance policy

- 39 This matter has a low level of significance under Council's Significance and Engagement Policy. However, future work may carry a higher significance.

### Consultation already undertaken

- 40 No consultation has been undertaken with regards to this report.

### Engagement planning

- 41 No engagement planning has been undertaken at this early stage.

### Publicity

- 42 No publicity is planned at this early stage.

## **RECOMMENDATIONS**

- 43 That the Council affirms its commitment to pursue its goal to achieve carbon neutrality by 2025.
- 44 That the Council approves the submission to the Environment Select Committee on the Climate Change Response (Zero Carbon) Amendment Bill attached at Appendix 1.

**Report prepared by**

**Approved for submission**

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## **ATTACHMENTS**

Appendix 1 – Draft submission to the Environment Select Committee on the Climate Change Response (Zero Carbon) Amendment Bill