

28th March, 2024.

Mayor and Councillors, Nelson City Council.

Tēnā koutou, tēnā koutou, tēnā koutou.

We are writing as members of the Nelson Tasman Climate Forum Targets Working Group. As the time draws near for NCC’s Climate Strategy and Action Plan to be considered by the Council, we urge you to adopt an emissions reduction target for long-lived (non-methane) gases for the region.

**Why adopt a target?**

* A target clarifies the problem being tackled.
* It conveys the scale and rate of necessary change.
* It carries the message of resolute leadership in addressing a grave threat. A recent Ipsos public opinion poll shows that 8 out of 10 New Zealanders are worried about the impact of climate change, and 7 out of 10 think our governments should be doing more about it. We'd like to see Nelson in the forefront of showing what a local government can do by means of ambition and leadership.
* It has been argued that it is better not to set targets in order to avoid the bad effects on morale of failing to achieve them. We would argue vigorously that to aim high and fall short is far better for morale and cohesion of a worried population than to see our lead governing organization as lacking ambition in a severe crisis.
* Another argument against adopting a target is that Nelson City Council can control only its own emissions reductions, and not those in the rest of the region. We recognise that NCC is but one player responsible for setting the framework for us doing our fair share of regional emissions, but as the lead player Council has a critical role in helping set the aspirations for all of us. The world has crossed the red line of 1.5 degree warming, at least temporarily entering dangerous climate breakdown territory; leadership in such portentous circumstances is of immense importance.

**What target should be adopted?**

* We believe that we need a target expressed in terms that everyone can easily understand, that refers to a time period that everyone can easily imagine, that is based on science, not political opinions.
* Our target should be related to indicators of progress (or regress).
* Our target of 7% per annum reduction of non-methane greenhouse gases from January 2024 to 2030 meets these criteria, including the possibility of monitoring progress.
* The calculations involved in deriving this figure can be seen in the explainer attached as an appendix to this letter.
* The emissions reduction rate of 7% per annum should be seen as a minimum for multiple reasons detailed in the explainer document mentioned above.

**How have we engaged with NCC so far on this matter?**

* As a council, you kindly listened to our presentation in October 2023, when we outlined how we arrived at a necessary emissions reduction rate for long-lived gases of 8% per annum as a minimum. Since then, updated MfE data have reset that figure to a slightly lower but still challenging 7% per annum, which we see as a minimum.
* In February this year we discussed this emissions reduction rate with the Climate Task Force and a selection of NCC climate staff, and presented some suggested ways of reducing emissions. We believe that the new Nelson Climate Strategy and Climate Action Plan will be excellent frameworks to achieve reductions, as long as ambition and commitment match the necessary emissions reduction rate.
* An equivalent of this recent presentation can be seen at [NTCF Emissions reduction targets presentation](https://drive.google.com/file/d/1CCboCfrMrNoqMzeir-1yD-4RMDP1V08l/view) (24 minutes).

We have immense respect for the challenge this presents to Council, and see the Councils Climate Task Force and climate staff as great assets in helping Council understand and square to that challenge. We urge you to adopt a target of emissions reductions of at least 7% per year through 2030, and are keen to continue working with councillors and council staff in tackling the crisis of climate breakdown.

Yours sincerely,

Joanna Santa Barbara (co-chair Nelson Tasman Climate Forum),

David Ayre, Lindsay Wood and Jim Sinner.

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| **Appendix - Methodology for Determining Annual Emissions Reduction Targets Until 2030, To Keep Within 1.5°C Warming** January 2024  |

Key Points

To meet the Paris target of no more than 1.5C of global warming, New Zealand needs to reduce CO2 and other long-lived (i.e. non-methane) emissions by about 7% per annum, and methane emissions by 1.5% per annum, from now (1 Jan 2024) until 2030. For the Nelson Tasman region to do its share, it will need to achieve reductions of this magnitude.

Emissions *per capita* and *per unit of output* will need to decline at a slightly faster rate to compensate for growth in population and economic activity. Any delay, i.e. years with reductions less than the target rate, will necessitate larger reductions in subsequent years.

These targets are based on the IPCC’s estimate that a 43% reduction in net emissions is required between 2019 and 2030. We have used NZ's emissions data through 2021 (the latest available) and assumed that there were no significant changes in CO2 and other long-lived gas emissions in 2022 and 2023. Emissions data for 2022 are expected to be available in mid-April 2024, after which we will update our calculations.

Objective

This document summarises the calculation of annual regional GHG emissions reduction rates to meet New Zealands commitments under the Paris agreement, with separate rates for methane and for CO2 and other long-lived gases. We used widely accepted data and a methodology that is compatible with the Zero Carbon Act as a basis for informing discussion on regional GHG emissions reduction strategies, and for developing scenarios compatible with not exceeding 1.5°C warming.

Methodology

We have used the IPCC AR6 Synthesis Report as the basis for these calculations, in particular Category C1 *Limit warming to 1.5°C (>50%) with no or limited overshoot".* This target requires a 43% reduction in net GHG emissions between 2019 and 2030. Because of NZ's split gas approach, with a less ambitious target for methane than for other emissions, we have calculated the required reduction rates separately.

The total reduction required of gross emissions of CO2 and other long-lived gases, from 46,433 ktCO2e to 26,650 ktCO2e per year, represents a 42.6% reduction from 2019 levels, i.e. slightly lower than the overall reduction required due to CO2 removals (i.e. sequestration) by forestry. NZ reduced its gross emissions of CO2 and other long-lived gases by about 5.7% during 2020-21, leaving 37% more to go.

To achieve this in the seven years from 1 Jan 2024 to 31 Dec 2030 will require reductions of 6.85% every year.

Emissions *per capita* and *per unit of output* will need to decline at a slightly faster rate to compensate for growth in population and economic activity. For example, with population growth of 1% per year, the average household would need to reduce emissions by around 8% per year.

The table below presents actual NZ emissions in 2019 and 2021, and targets for 2030. The target for CO2 and other long-lived emissions is determined by subtraction, starting with the net emissions target for 2030. We add to this the assumed amount of forestry credits and then subtract the methane target for 2030. This gives a 2030 target of 26,514 ktCO2e for CO2 and other long-lived gases. The last column of the table contains brief notes on how the targets were calculated, with further detail below.

NZ emissions in 2019 and 2021 with a target for 2030, in kilotonnes of CO2 equivalent (ktCO2e).
The 2030 target for CO2 and other long-lived (non-methane) gases is highlighted with a double border.
Note: Net emissions (A) = Methane emissions (C) + CO2 and other long-lived gases (D) less removals by forestry (B); therefore the target for CO2 and other long-lived gases (D) = A+B-C.

|  |  | 2019 | 2021 | 2030 | Comment re 2030 figures |
| --- | --- | --- | --- | --- | --- |
| A | NZ net emissions | 56068 | 55746 | 31959 | 43% reduction from 2019 |
| B | Net forestry removals | 23922 |  21078 | 24848 | For 2022-2030, assumed constant at 24848 (annual average for 2012-2021) |
| C | Methane (CH4) | 33557 | 33019 | 30156 | 10% reduction from 2019 |
| D | CO2 and other Non-CH4 | 46433 | 43805 | *26650* | A + B - C |

We used the latest available data ,through 2021, from the Ministry for the Environment, obtained from <https://environment.govt.nz/publications/new-zealands-greenhouse-gas-inventory-1990-2021/>.

Our assumptions are as follows:

* We treated all CH4 as biogenic, as less than 0.3% of CH4 is non-biogenic in New Zealand.
* We assume NZ keeps its current target of reducing biogenic CH4 emissions by 10 percent below 2017 levels by 2030 (MFATs 2022 Aotearoa New Zealands Methane Emissions Reduction Plan Summary Version).
* We assumed that net CO2 removals by forestry remain constant from 2022 to 2030 at the ten-year average for the period 2012-2021.
* Finally, we have assumed that, for in 2022 and 2023, CO2 and other non-methane GHG emissions were the same as 2021 levels (43,805 ktCO2e).

Reservations and Limitations

* In the IPCCs AR6 Category C1 scenario, the 43% reduction target has only at least a 50% probability of success, i.e. of keeping warming to less than 1.5oC.
* Remaining below 1.5°C of warming does not mean that harmful effects of climate change will be averted. Existing warming is already causing severe and costly loss and damage. Even greater loss and damage will be experienced with 1.5°C of warming.
* Furthermore, recent research suggests that the rate of warming may be faster than assumed in the IPCC pathway used in these calculations, which do not take into account the expected reduction in reflective particulate matter in the atmosphere (as burning of coal and other fossil fuels declines).