AUDIT REPORT

Carbon Positive
Ātiu Creek Planting

Calendar Year 2024

McIntosh Consulting **7 April 2025**

EXECUTIVE SUMMARY

This report was commissioned by Carbon Positive to audit the impact of its contribution to the planting operation at Ātiu Creek, run by Conservation Volunteers New Zealand (CVNZ).

Carbon Positive provides a carbon offsetting product to its clients which involves native trees being planted by CVNZ through a contract with Carbon Positive. This report is to assess whether the funding it provides to CVNZ is being used for the planting of new native trees according to Ministry for the Environment Guidelines for Voluntary Offsetting.[1]

The guidelines set out six principles which should be met for credible claims of voluntary climate change mitigation:

1. Information on the mitigation must be transparent, clearly stated, and publicly available;
2. Mitigation must be real, measurable and verified;
3. Mitigation must be additional to business-as-usual activity;
4. Mitigation must not be double used;
5. Mitigation must not result in leakage of emissions elsewhere;
6. Mitigation must be permanent.

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[1] Ministry for the Environment. 2022. *Interim guidance for voluntary climate change mitigation.* Wellington: Ministry for the Environment.

PRINCIPLE ONE: TRANSPARENT

Details of the voluntary climate mitigation action should be publicly available. Where the voluntary action is contracted to a third-party, as is the case here, the name of the third-party provider should be published. The third-party organisation should have published details of how their organisation meets the other five principles of voluntary climate change mitigation.[2]

Carbon Positive's website states that the mitigation activity is carried out by a third-party provider, and names CVNZ.

CVNZ's website is not configured to meet the transparency requirements of the Guidelines. This is understandable as this is not the purpose of its website. However, Carbon Positive's website provides details of how the other principles are met, and the two combined satisfy the requirements.

PRINCIPLE TWO: REAL, MEASURABLE AND VERIFIED

CVNZ has provided the following background as to the number of trees planted using funding from Carbon Positive. These were planted across eight events on the following dates:

- *10 June 2024*
- *21 June 2024*
- *6 July 2024*
- *18 July 2024*
- *20 July 2024*
- *5 August 2024*
- *8 August 2024*
- *13 August 2024*

[2] Above n 1 at page 7

CVNZ has provided figures showing the number of trees planted over these dates:

	2024 PLANTINGS FUNDED BY CARBON POSITIVE
Tī Kōuka	11
Kōwhai	50
Lowland Totara	110
Māpou	300
Puriri	150
Kohekohe	137
Karaka	119
Rewarewa	257
TOTAL	**1134**

The total of 1134 trees is consistent with the payment records provided by Carbon Positive.

Carbon Positive has sourced information on the quantum of carbon that will be sequestered over time by these trees. It has set this as 2.3 native trees to sequester one tonne of C02 in the first 50 years of the tree's life (assuming a 30% loss rate). Carbon Positive represents that it only counts emission sequestration from this first 50 years, and the continued growth between years 50 and years 60 of the trees' lives provide this 30% allowance for loss.[3]

The Guidelines recommend that the mitigation be tracked using credits in a public registry. This is not presently being done by Carbon Positive, however this does not detract from the veracity and authenticity of the activity.

There is sufficient evidence from CVNZ to demonstrate the veracity of the planting, including the results of a survey of the site which was undertaken following planting.

Carbon Positive's sequestration calculations allow for a 30% loss rate. CVNZ's surveys show that the actual loss rate for Ātiu Creek is 20% for Tank Spur, where 4183 trees were planted, and 10% for Roadside where the remaining 640 trees were planted. This loss rate is sufficient to support Carbon Positive's claimed sequestration for the time being, however further losses in the following 49 years may represent a risk to the ongoing veracity of the claim. Notwithstanding, Carbon Positive's calculations regarding sequestration rates are reasonable and measurable.[4]

PRINCIPLE THREE: ADDITIONAL

CVNZ has provided records including an itemized account of the total number of trees it planted at Aitu Creek in 2024. It says that of the 3689 trees planted, 1134 were funded by Carbon Positive.

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[3] Calculation model: over a 60 year stand, 1.61 trees sequester 1 tonne of C02. Carbon Positive directly counts the trees planted for 50 years only, at a rate of 2.3 trees to sequester 1 tonne of C02. This represents an allowance for 30%. Further information is available at Appendix B.
[4] Trees That Count "Native Trees and C02" (2025) https://treesthatcount.co.nz/native-trees-carbon-calculator

CVNZ also provided a document which included photos of the planting sites and stated that the 1134 trees funded by Carbon Positive were additional.

PRINCIPAL FOUR: NOT DOUBLE COUNTED

There is no evidence to suggest that the planting undertaken by CVNZ using Carbon Positive funding has been counted as carbon offsetting in any form elsewhere.

CVNZ have provided written confirmation of this via email, and this is an term of its agreement with Carbon Positive.

PRINCIPAL FIVE: MUST NOT RESULT IN LEAKAGE

'Leakage' refers to the extra environmental cost associated with the emission offsetting activity, such as the carbon emissions created by transporting seedlings to the national park.

It is noted that CVNZ has their nursery 'onsite'.[5] It could be inferred that this reduces the total emissions of the operation compared to other possible models.

CVNZ's operation at Ātiu Creek does result in some degree of emissions, however the net carbon output of the total operation is likely to be positive, with any emissions offset by CVNZ's own self-funded planting. Even if there was no offset, CVNZ's emissions are likely to be relatively minor, although no carbon audit of the operation has been reviewed as part of this report.

PRINCIPAL SIX: PERMANENT

The planting in Ātiu Creek is in a regional park. This means it is less likely to be reversed and is likely to be permanent.[6]

[5] Conservation Volunteers NZ "Aitu Creek Regional Park, Kaipara" (2025) https://conservationvolunteers.co.nz/portfolio/atiu-creek-regional-park/
[6] Above n 5

The risk of trees being damaged by fire or other natural disaster rests with Carbon Positive. In the event that trees were destroyed, Carbon Positive would need to provide further funding to CVNZ for re-planting.

Carbon Positive has provided its plan for how it would approach replanting in the event of widespread damage to trees at Ātiu Creek.[7]

[7] Appendix A

Legal Disclaimer:

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Appendix A

Carbon Positive

Creating a positive future for NZ businesses

Carbon Positive's Approach For Unexpected Offset Losses

Background To Offset Calculations & Our Margins For Losses

The best available research from New Zealand offset studies shows that 2.3 native trees can sequester a Tonne of CO2e emissions over the first 50 years (Tanes trees). Growth rates then slow after 50 years with trees that breakdown naturally being replaced by the regrowth in the same forest. Tree growth rates vary across regional sites according to temperature, soil, site quality, rainfall, types of trees planted, and the management of the planting process. As there are many variables it is not physically possible to achieve an exact measurement for each tree or site.

Our calculation is based on 100% native trees that must be able to reach a minimum height of 5m, with sequestration measured for the first 50 years of growth.

Our Calculation: 100% native trees over 50 year stand = 2.3 trees to offset 1 tonne of CO2

*Our Margin: 100% native trees over 60 year stand = 1.61 trees to offset 1 tonne of CO2 so 2.3-1.61 = 0.69 (0.69/2.3*100) = 30% margin for losses.*

Our 30% margin occurs from year 50 through to year 60. The native trees continue to grow past year 60 so our margin for losses increases every 10 years past year 50 (see the below tree life statistics). This is because trees do not stop growing at year 60.

At Atiu Creek our offset trees funded to date consist of a mix of the following trees:

Variety Of Tree	Year Funded	Expected Tree Life
Kanuka	2023	up to 150 years
Mahoe	2023	up to 50 years
Kowhai	2023	up to 480 years
Puriri	2023	up to 2000 years
Tī Kōuka	2024	up to 200 years
Kowhai	2024	up to 50 years
Lowland Totara	2024	up to 1000 years
Māpou	2024	up to 100 years

Kohekohe	2024	up to 100 years
Karaka	2024	up to 1000 years
Rewarewa	2024	up to 100 years

Natural Regeneration Of Damaged Native Forests

The second significant factor to be aware of is that self seeding occurs naturally in forests from trees. Self-seeding supports regeneration & fills in gaps in the forest that might occur naturally through storm damage, erosion, or fire. Seed spread from birds & wind actually create additional offsets naturally, beyond what we measure, without the need to intervene with planting. In the event of widespread fire/flood, regrowth naturally occurs from trees, stumps, roots and seeds that are in the existing damaged environment.

As our measurement is based on a 50 year period the worst case scenario of a 100% loss at year 50, would put offsetting 50 years behind, nonetheless, the offsets would naturally regenerate over the following 50 years to naturally restore our clients offsets.

Widespread Loss Intervention & Funding

Assuming widespread loss, such as fire, Carbon Positive would intervene, in consultation with CVNZ, to speed up the naturally occurring self seeding process by spreading a mix of the above native tree seeds across the affected areas. Native tree variety averages will be applied to the affected area so if for example, we have funded 30% Kanuka across Atiu Creek then the damaged area will have 30% Kanuka reinstated. Having margins past year 50 ensures sufficient offsets even if the applied average is not an exact match to the damaged site. The cost of seeding to support existing regrowth is within our existing budget and to be funded by Carbon Positive.