



Tāne's Tree Trust

NATIVE FORESTS FOR OUR FUTURE

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Submission for

Climate Change Commission's Draft Advice
on the fourth emissions budget &
Review of the 2050 emissions reduction targets

Submitted to

Climate Change Commission

31st May 2024

Who we are

[Tāne's Tree Trust](#) (TTT) is a non-profit Charitable Trust focused on encouraging the establishment and management of indigenous forests, in Aotearoa New Zealand, for all the multiple values they can provide.

The Trust had its origins in 1999 and was formally set up in 2002. Membership exceeds 700, and it is managed by a group of [trustees](#) that represent a wide range of sectors, interests, and expertise.

Tāne's Tree Trust initiates, supports, and freely disseminates research into best-practice for native forest establishment and management. This includes workshops, conferences, publications, advice, and many web-based tools. These resources are freely available on the website: <https://www.tanestrees.org.nz/resources/>

The Trust has a comprehensive, applied R&D work programme (see APPENDIX 1 and our latest [Annual Report](#) for more information). We are committed to scientific research as a base for best practice guidelines. Our work programme includes researching a range of options for cost-effectively establishing native forest at landscape scale, including assisted natural regeneration and use of seed islands.

We are happy to provide further information and are best contacted via office@tanestrees.org.nz

Scope of Submission

This submission pertains to the following two discussion documents prepared by *He Pou a Rangi* Climate Change Commission, and titled:

1. Review of the 2050 emissions reduction targets, April 2024; and
2. Draft advice on Aotearoa New Zealand's fourth emissions budget.

Our submission relates generally to land use and forestry matters, and specifically to native forest establishment, and its ongoing management, as part of our complex and evolving landscapes.

General comments

We strongly support the following statements and approaches set out the discussion documents:

- *“Both native and exotic forests will play a role in meeting our climate targets.”*¹
- *“Clarity on the role of forestry is critical for Aotearoa New Zealand's climate response.”*²

¹ Review of the 2050 emissions reduction targets, April 2024. (See page 17)

² Ibid.

- More native afforestation can result in *“improved biodiversity and resilience to the physical effects of climate change (such as flooding and land erosion in high rainfall events),”*³
- *“Facilitating planting on agricultural land to support more diverse or ‘mosaic’ landscapes can provide greater biodiversity, and more diverse income, as well as improve soil and water quality.”*⁴
- There is potential for *“adding value to forests and establishing new manufacturing processes...”* and that; *“Native forests also create opportunities for jobs in honey, recreation and ecotourism, and forest-based pharmaceuticals.”*⁵

We also agree that: *“exotic and native forests are likely to be established on parts of sheep and beef land, particularly areas with low economic viability (for example erodible areas)”*⁶ – indeed we contend that it is highly desirable! This will help give effect to the ‘mosaic-like’ landscape pattern of well-integrated land uses.

The Trust agrees with the following statement in the discussion document *“capacity building and advisory services for landowners focused on integrating trees or forestry onto farms rather than wholesale land-use change could also limit the [negative] impacts of afforestation.”*⁷

We support the Commission’s recommendation for a continuing and significant role for forestry and, particularly, increasing emphasis and support for native afforestation, for the multiple co-benefits and values that native forests can provide. While the Trust is focussed on increasing the extent of native forest, we support a mix of different types of sustainable forestry with different species, complementing rather than competing with existing land use.

The Trust contends that there is strong public support for our country’s climate change response to include native reforestation and management. However, our submission will also highlight some of the challenges and requirements to achieve that.

Native afforestation at large scale

The documents state New Zealand is not on-track to meet our commitments. And the following is used as an example of the type of changes required to meet our emission scenario pathway:

*“Afforestation of sheep and beef land on land use classes (LUC) 7 and 8, all land classed as LUC 8 and erosion prone LUC 7 retired to natives.”*⁸

In general, we support increased afforestation (both native and exotic), although not in a way that promotes simplistic, blanket, or single-purpose land-use outcomes. Carefully integrating forests for multiple values, in all their various forms, into their local landscape contexts for the most sophisticated and appropriate outcomes, is an important goal to keep in mind.

³ Draft advice on Aotearoa New Zealand’s fourth emissions budget. (See page 112)

⁴ Ibid. (See page 113).

⁵ Ibid. (page 118).

⁶ Ibid. (page 119).

⁷ Ibid.

⁸ Tables 3.1, & 4.2, respectively in: Review of the 2050 emissions reduction targets, April 2024, and; Draft advice on Aotearoa New Zealand’s fourth emissions budget

Furthermore, areas of LUC 7 & 8 will tend to have severe productivity limitations and limited potential for significant carbon sequestration (some areas will not support tall forest). Weaving more forests throughout our landscapes, including the areas of land use classes <7 will be very important.

The greatest carbon sequestration in our native species is in our lowland and midland areas. Coupled with this, there is strong interest from landowner groups to restore forest throughout rural working lands, particularly in riparian areas and on erodible and flood-prone land, i.e., not just marginal land. For example, we have catchment groups in the Waikato region pleading for help (advise and funding) with restoration of their kahikatea forests, particularly in riparian zones and flood-prone areas – a demand we currently cannot meet.

Aside from carbon sequestration, there are multiple other benefits of restoring native forest in riparian areas including: (i) buffering impacts of plantation forestry, intensive agriculture, and urban development, thus protecting water quality; (ii) increased climate resilience - decreased run-off and flood peaks, protecting downstream infrastructures and ecosystems; (iii) increased biodiversity and cultural values due to creation of ecological corridors, protection of aquatic habitats and mahinga kai; and (iv) support for apiculture and pollination services for nearby horticultural and agricultural industries⁹.

We note the stated assumption that “17% of land used for sheep and beef is converted to native and exotic forestry by 2050, relative to 2021 (similar to current trends)”¹⁰, and hope this envisages weaving multi-purpose forests, especially native forests, throughout our rural landscapes.

The documents state “*The Government has committed to setting restrictions on the types of land that can be registered for forestry in the NZ Emissions Trading Scheme, although the details are not yet available.*” Presumably this is intended to avert losing quality farmland to carbon-farming. However, it would be unhelpful if this restricts the weaving of more native forest into the rural production environment. It is imperative that native afforestation is encouraged throughout the landscape and not perversely affected by forestry and land use restrictions.

Specific comments

Although we are keen proponents for native forests and their sustainable management, we also have a realistic understanding of the costs, difficulties, and risks associated with establishing and managing native forests. This leads to cautious expectations concerning what can be achieved and maintained. However, our research and experience also enable us to highlight some of the opportunities and to recommend strategies. And these form the **key points** and comments of our submission:

1. Planting and establishing native forest is typically very costly - often around \$20,000/ha, with costs ranging considerably depending on site conditions and access. Therefore, large-scale native afforestation by planting alone is unrealistic. Planting needs to be viewed as complementary to natural reversion and regeneration. Working

⁹ Aimers, J., Bergin, D., Horgan, G. (2021). Review of non-timber values in sustainably managed native forest in New Zealand. Tāne’s Tree Trust bulletin, Hamilton, New Zealand. 119 pages.

https://www.tanestrees.org.nz/site/assets/files/1099/non_timber_values_in_native_forests_-_web.pdf

¹⁰ Draft advice on Aotearoa New Zealand’s fourth emissions budget (See page 99).

with nature (i.e., natural regeneration and forest successional processes) is the essential strategic approach.

2. While there is considerable scope for large-scale natural reversion, especially on ‘marginal farmland’, many of those areas will involve low-productivity shrublands with very slow sequestration rates and limited potential to support tall forest. Time and scale are significant factors to understand.
3. All forests require active and *ongoing* management. “Ongoing” means in perpetuity and is associated with financial costs. Encouraging a significant increase in native forest cover on private land will need to be economically incentivised.
4. Pest animals and plants pose significant risks to the establishment and enduring success of native forests, especially their biodiversity values.
5. The dichotomous classification of forests as being either exotic or native will become increasingly problematic in the future, especially in highly modified environments. Weed invasions, wildings, climate change, transitions from exotic forest, and continuous cover forestry practices, will require many permanent forests to be managed as hybrid forests and novel ecosystems. The relative representation of indigenous species within many permanent forest areas will tend to fluctuate over time.
6. There are still knowledge gaps concerning cost-effective ways to accelerate and manage natural regeneration. Capacity building and advisory services for landowners focused on integrating trees or forestry onto farms rather than wholesale land-use change are also required.

Despite the sober cautions above, we still support the proposed strategy to promote native forests as an integral part of our country’s climate change response strategy. The unquantifiable co-benefits of native forest were well set out in a TTT publication on non-timber values¹¹, our O Tatou Ngahere conference¹², and have influenced subsequent initiatives such as Recloaking Papatuanuku¹³.

We support the Commission’s appreciation that climate change responses will have much wider potential effects – and should be utilised for maximum social, environmental, and economic benefits. In this respect, we also foresee positive opportunities arising from creating significant exotic and native forest assets (e.g., potential new jobs in training and silvicultural tending and management of native and exotic forests – including Continuous Cover Forestry, etc.). Getting the details right to encourage and realise such co-benefits will inevitably be imperfect and a continual work-in-progress. The remainder of this submission offers some general comments, rather than answers to some of the detailed questions relevant to forestry.

¹¹ Aimers, J., Bergin, D., Horgan, G. (2021). Review of non-timber values in sustainably managed native forest in New Zealand. Tāne’s Tree Trust bulletin, Hamilton, New Zealand. 119 pages.

https://www.tanestrees.org.nz/site/assets/files/1099/non_timber_values_in_native_forests_-_web.pdf

¹² <https://www.otatoungahereconference.org.nz/>

¹³ <https://pureadvantage.org/recloaking-papatuanuku/>

Pre-1990 forests and additionality

The discussion documents outline the complexity of these matters. We contend that owners of native forests need to be able to realise some financial return for the ecosystem services their pre-1990 native forests provide (e.g., via the NZ ETS, or biodiversity credit schemes, etc.). And, in the past, we have submitted that the principle of ‘additionality’ maybe a useful way to enable such payments and avoid unwarranted payments for business as usual. However, we appreciate the difficulty in devising robust and cost-effective methods to assess and administer such options, and the high risk of perverse outcomes.

Unfortunately, we do not have solutions to recommend at this stage. But we have been involved in stakeholder engagement with government regarding a biodiversity scheme, and with organisations developing voluntary schemes. We are also involved in a project valuing ecosystem services of native vegetation on farmland before and after intervention – a multi-agency collaboration with Pāmu Farms (see APPENDIX 1).

Our position on this matter is that we remain supportive in principle of the idea that additionality could be a useful concept to help make native forest management a viable land use activity. Moreover, we submit that when policymakers are considering this matter for forestry generally, it is essential that they are cognisant of potential implications for *native* forests and their management. And the option for pre-1990 native forests to remain outside the ETS would seem to be an important freedom to preserve.

Summary

We support continuing and expanding the roles for native forests as part of our country’s climate change response strategy, especially for their multivalent potential. However, our submission points out some of the challenges involved with native forest establishment and management, but also some of the opportunities. Hopefully our specific comments provide helpful advice at a strategic level.

Prepared by Paul Quinlan on behalf of Tāne’s Tree Trust, with input from other trustees,
31st May 2024.

APPENDIX 1 - Tane's Tree Trust's Research & Development Programme

TTT undertakes applied research to deliver practical science-based technical information. Projects are based around forest establishment (planting and assisted natural regeneration) through to supporting long-term sustainable management of permanent native forest.

A summary is provided below. More information is available in the TTT Annual Report¹⁴.

Normalising Native Forestry (core research programme)

This is funded by The Tindall Foundation, with support leveraged from other funders. It includes six workstreams:

1. Working with nature to establish native forests at scale through planting and encouraging natural regeneration.
2. Promoting continuous-cover native forestry for sustainable harvesting.
3. Making the most of TTT's growth and reference databases.
4. Incentivising landowners by developing an economic case for native forestry and supporting incentive schemes.
5. Evaluating novel, transitional ecosystems – transitioning of exotic species to native forest.
6. Collaboratively building capability by working with others involved in, for example, pest animal, bird predator and selective weed control.

Other ongoing and recently completed work

- Native Forest Toolkit – calculators developed for: (i) planting and budgeting; (ii) productivity; (iii) carbon sequestration; and (iv) economics (returns and benefits). Largely funded by the Sustainable Farming Fund (SFF) and based on the Trust's Indigenous Plantation Database. These web-based tools are free to access via our website - <https://toolkit.tanestrees.org.nz/>
- Adaptive Management of Coastal Forestry Buffers, with the Coastal Restoration Trust. Preliminary guidelines are available for this recently completed SFF-funded project.
- Fact sheets on forest establishment (planting and assisted natural regeneration) funded by Te Uru Rākau. These will soon be freely available on our website.
- Re-measurement of farm-tōtara trials established by the Northland Tōtara Working Group.
- A practical guide to the management of tōtara on private land, co-funded by Te Uru Rākau.
- Videos and workshops on best practice restoration and management of native forests – a collaborative project, co-funded by the Department of Conservation.
- Demonstrating the establishment of seed islands to bring back natives and encourage natural regeneration in collaboration with Trees That Count; Waikereru Ecosanctuary, Tairāwhiti; Pāmu Farms; and other partners.
- Monitoring system for early survival and growth of plantings, in collaboration with Trees That Count, Tasman Environment Trust, Auckland Council and Pāmu Farms.
- Transitioning exotic forest to natives – a 5-year project, largely funded by the Sustainable Food and Fibre Futures Fund (SFFF).
- Valuing ecosystem services – a multi-agency collaboration with Pāmu Farms, largely funded by SFFF. This involves creating a web-based tool for landowners to use to assess the ecosystem quality of degraded natural vegetation on farms, before and after intervention.
- Ongoing work on submissions and consultation with the Government, advocating for all aspects of native forestry, and incentives for landholders.

¹⁴ Tane's Tree Trust Annual Report 2023 -

https://www.tanestrees.org.nz/site/assets/files/1037/ttt_agm_final_report_2023_ws.pdf