A misty forest scene with large trees and a hiker in the background. The text "RE-CLOAKING PAPATŪĀNUKU" is overlaid in white serif font.

RE-CLOAKING PAPATŪĀNUKU

A close-up view of lush green ferns.

PureAdvantage



Ō Tātou Ngahere
RECLØAKING PAPATŪĀNUKU

**WEAVING CLIMATE
AND ECOLOGICAL RESILIENCE
INTO OUR WHENUA**

PureAdvantage™



Tāne's Tree Trust
NATIVE FORESTS FOR OUR FUTURE
Herehera te Wao-nui-a-Tāne

AND A GROWING ALLIANCE OF SIGNATORIES

Restoring the mauri of our ngahere // Weaving climate and ecological resilience into our whenua

A CALL TO ACTION

November 2023

Aotearoa New Zealand's rivers are polluted and choked with sediment, and forests are falling silent. Storms rage across our landscapes, driven by human-induced climate change, destroying communities and livelihoods, taking lives, and scarring the land. Ecosystems are collapsing, and sea levels and temperatures are rising.

Papatūānuku is in trouble. And so are we, her people.

The interrelated climate, fresh water and biodiversity crises are driven by human action, and *inaction*.

We now face an existential crisis. We caused this mess; we must fix it.

To this end, Pure Advantage and Tāne's Tree Trust, with a growing alliance of signatories, including mana whenua groups with their ancestral connections to the land, are **calling on Government, businesses, local communities, and every person in Aotearoa New Zealand to support and commit to**

Recloaking Papatūānuku - an urgent and ambitious programme to restore our Indigenous forests.

By **strategically reforesting and restoring 2.1 million hectares of Indigenous forests over the next 10 years**, we can start to reverse the alarming decline of our Indigenous species; protect and improve our soils and waterways; secure enduring, long term carbon sinks; and weave climate and ecological resilience into our landscapes.

The New Zealand Government has committed to prioritising domestic action to meet our climate obligations. As a relatively wealthy, developed nation, and also one of the highest-emitting per capita, we could - and *should* - be doing considerably more to 'play our part' and demonstrate global leadership in addressing our climate and biodiversity crises *together*.

Recloaking Papatūānuku presents a well-researched, cost-effective, multi-win and high value opportunity for Aotearoa New Zealand to globally pioneer the nationwide implementation of a nature-based solution to the climate and biodiversity crises.

Recloaking Papatūānuku is not a substitute for deep and urgent emissions reductions; rather, it is a necessary complement.

It is a solution to address a range of critical and interlinked ecological issues synergistically, and with the degree of urgency and ambition of action that Papatūānuku needs and deserves. Success could see Aotearoa become the first nature-positive nation in the world.

Informed and guided by mātauranga Māori, *Recloaking Papatūānuku* also acknowledges our collective responsibility for the well-being of Papatūānuku and her future mokopuna, presenting an intergenerational commitment to create a lasting legacy for them.

With multi-stakeholder support and collaboration across Aotearoa New Zealand, it is entirely achievable. But we need to start on this transformative initiative **now**.

Join the movement.

The growing Recloning Papatūānuku alliance of signatories includes

PureAdvantage™

 **Tāne's Tree Trust**
NATIVE FORESTS FOR OUR FUTURE
Herēhera te Wao-nui-a-Tāne

Mana Taiao Tairāwhiti

Te Weu


 **The Tindall Foundation**

 **TREES THAT COUNT**
TE RAHI O TĀNE

 **Environmental Defence Society**

FOMA
HE URU NAHIRĀTEA

 **Forest & Bird**
TE REO O TE TAIAO | Giving Nature a Voice

GREENPEACE

 **WWF**

Riversun
Growing Excellence

 **FUTURE FARMERS**

NEXT FOUNDATION

 **NEW ZEALAND FARM FORESTRY ASSOCIATION**

 **THE REFORESTATION FUND**

CarbonDrop

 **TITOKI NURSERY**

 **Meridian.**

 **Climate Action Company**

 **Wairarapa Pūkaha to Kawakawa Alliance**

 **EIT**
TE AHO A MĀUI

 **Te Pūkenga**

 **KAIPARA MOANA REMEDIATION**

The *Recloning Papatūānuku* Proposal is a living document open for input as we continue to engage with the Government, Māori, experts, environmental and community groups. This Proposal outlines some possible features thereof, in the expectation of further developing and progressing these in collaboration with stakeholders.



INTRODUCTION

1. ***Recloaking Papatūānuku: A nation-wide Indigenous forest initiative***

- 1.1. Once, New Zealand was cloaked in a rich array of Indigenous forests, alive with the song of birds, and our rivers and streams ran clear. Yet, since settlement began 800 or so years ago, we have progressively removed 82%¹ of the natural forest cover, destroying the habitat of many plant and animal species, and increasing the vulnerability of our landscapes at great cost to our economy, our biodiversity, and our future.
- 1.2. At the same time we have introduced deliberately or by accident a multitude of invasive plant animal and fungal species that are further impacting our Indigenous biodiversity. And these impacts will only get worse with climate change.
- 1.3. Today, we face a climate and biodiversity crisis. In 2020, Aotearoa’s Government declared a climate emergency, recognising climate change as “one of the greatest challenges of our time”.² Since then, the risk of surpassing irreversible climate and ecological tipping points has continued to increase,³ and we are already witnessing the devastating effects of increasingly frequent and severe weather events, prompting the United Nations Secretary General to announce recently that “the era of global boiling has arrived.”⁴
- 1.4. Despite this alarming context, our current regulatory settings and incentives for mitigating climate change are failing to:
 - (a) Drive urgent gross emissions reductions at source and at scale;
 - (b) Secure enduring, biodiverse and resilient long-term carbon sinks for future generations;
 - (c) Reverse the catastrophic decline of our Indigenous flora and fauna;
 - (d) Protect our freshwater and marine ecosystems;
 - (e) Encourage land-use diversification over intensification; and
 - (f) Harness opportunities to weave climate and ecosystem resilience into our landscapes and our communities.

¹ Ewers et al. 2006 Biological Conservation doi:10.1016/j.biocon.2006.06.018

²<https://www.rnz.co.nz/news/political/431942/climate-emergency-declaration-by-new-zealand-government-includes-commitment-to-2025-targets>.

³<https://www.theguardian.com/environment/2022/sep/08/world-on-brink-five-climate-tipping-points-study-finds>.

⁴<https://www.theguardian.com/science/2023/jul/27/scientists-july-world-hottest-month-record-climate-temperatures>

- 1.5. These are critical and interdependent issues, requiring a step change in urgency and ambition of action.
- 1.6. A national initiative of Indigenous reforestation and restoration presents a cost-effective, high value opportunity to address all of these comprehensively, and simultaneously.
- 1.7. Pure Advantage⁵ and Tāne's Tree Trust, with a growing alliance of signatories, including mana whenua groups, have scoped the need and potential for such an initiative.
- 1.8. The outcome of considerable research, outreach, and multi-stakeholder input and support,⁶ *Recloaking Papatūānuku* proposes to deploy Indigenous reforestation and restoration at scale as a nature-based solution to climate change and biodiversity loss,⁷ and to build resilience to gradual onset change and sudden shocks across the whenua.
- 1.9. In support of these ends, this national initiative seeks to expand the seed of an idea planted in 2021 by whānau living on highly erodible, flood-prone land in Tairāwhiti. In a regional event called "Recloaking the Whenua", whānau focused on how best to get diverse Indigenous forest back on the land. *Recloaking Papatūānuku* aims to realise that aspiration for not only Tairāwhiti, but across all of Aotearoa New Zealand.
- 1.10. The support of, and partnership with, mana whenua for this initiative are essential to its success. Its approach must recognise the unique connection mana whenua share with their land, be informed by mātauranga and tikanga Māori, and fully realise Te Tiriti's principles of partnership, protection, participation, and equity.

⁵ Pure Advantage has been exploring the potential for 'Nature-Based Solutions' through forestry for some time, producing *Our Forest Future* (2015), partnering with Tāne's Tree Trust to produce the *Ō Tātou Ngahere - Regenerating our Landscape with Native Forest* campaign (2021) and convening the country's largest ever forestry gathering at the 2022 *Ō Tātou Ngahere Conference*.

⁶ Including from Pure Advantage and Tāne's Tree Trust comprehensive *Ō Tātou Ngahere – Our Forest* research programme, speaker series and conference.

⁷ Consistent with proposals outlined in Chapter 4 of Aotearoa's first Emissions Reduction Plan ('Working with Nature'). Ministry for the Environment (May 2022) "Te hau mārohi ki anamata | Towards a productive, sustainable and inclusive economy - Aotearoa New Zealand's First Emissions Reduction Plan".

What is proposed?

- 1.11. Specifically, this national initiative proposes to strategically **reforest and restore 2.1 million hectares of Indigenous forest over the next 10 years**, comprising:⁸
 - the enhancement of existing but degraded private and public forest ;
 - supported natural reversion of marginal high country and Crown land; and
 - the reforestation of protected, non-forested land; low productivity land; and riparian planting.
- 1.12. These figures are conservative and are informed by analysis that identifies up to **5 million hectares** of land in Aotearoa New Zealand with ecological potential to support large-scale Indigenous reforestation or restoration (i.e. excluding urban and smaller, community-scale opportunities).
- 1.13. *Recloaking Papatūānuku* is not a substitute for deep and urgent emissions reductions; rather, it is a necessary complement to it. This initiative will aspire to achieve all of that potential.
- 1.14. In practice, target areas across a range of private, public, Crown and Māori land will be identified in close collaboration with interested stakeholders, and a programme of action, and associated funding and investment model(s), developed to optimise and realise the many co-benefits that Indigenous forests deliver.
- 1.15. But we need to start on this initiative **now**.



GUIDING PRINCIPLES

2. The importance of having an Indigenous context

- 2.1. Papatūānuku, our Earth mother, is in trouble. And so are we, her people. The interrelated climate, fresh water and biodiversity crises are driven by human action, and inaction. We now face an existential crisis. We caused this mess; we must fix it and restore the connections which enable life to thrive.

⁸ Refer to Pure Advantage secretariat for pending supporting research.

- 2.2. Reconnecting Papatūānuku, our Earth Mother in her embrace with Ranginui, the Sky Father, is key to doing this. In Māori narratives, Earth and Sky are joined. This basic idea provides the perspective that helps us orient pathways to restoration and climate resilience. Both Papatūānuku and Ranginui need to be thought of together. Actions on land (Papatūānuku) can have short and long-term effects on the other (climate, which is the realm of Ranginui).
- 2.3. Papatūānuku works with Ranginui in a reciprocal dynamic. This dynamic though has been significantly altered from decades of human-induced actions, and most of which has been driven by capitalist resource extraction [etc]. Natural environmental and ecological systems, therefore, no longer have the ability to function well in many parts of our country.
- 2.4. But Papatūānuku still has the capacity to restore and rejuvenate her troubled lands and waters. If we let her. And if we help her to do this, together with her children Tāne Mahuta, who presides over our forests, alongside other children who oversee the health and growth of the living in seas and in land. To do this work, we must focus on three core principles:

- The first is **Kaitiakitanga**, or guardianship, which is informed by past precedents of what our ancestors did to care for the environment around them, informed by new knowledge and technology.

Kaitiakitanga is about looking after our lands, habitats and ecosystems to preserve good forest health and human health, and to help restore natural and climate systems. It also means recognising the innate self-healing abilities of lands, waters and forests. But self-healing in many parts of our country can only happen when we help return them to their former states, or states of ecological, environmental and social balance.

Kaitiakitanga will guide what will be the right trees and the right place, recognising the vital support role of modern knowledge and tools. Our ancestral knowledge on lands, forests and trees, and on waters, ecosystems and species provides a foundational beginning for this Papatūānuku restorative pathway and economics.

- The second is **Whakapapa**. This is our term for genealogy and the layering of past, present and future goals and actions. Papa means layer. We therefore need to understand our current actions in the context of what has happened, both good and bad, and for a particular place.

We need to know that past in situ and with as much korero or information as possible. Papatūānuku is showing us the scarred landscape from slips and erosion caused by high intensity and more frequent storms. We see the charred landscape remains from fires. Once we have a good understanding of what has happened and where, as well as the damages, threats and challenges for a landscape, we are better informed and know what specifically to respond to. This is the past-present dynamic inherent in whakapapa. Then we plan for intergenerational preservation, like returning trees to their homes, to grow and to recarpet lands into forests as carbon sinks, as cultural icons, as ecological homes and as economic assets.

All of these actions, past, present and future are framed by whakapapa thinking, again helping Papatūānuku towards a restorative pathway. Whakapapa reminds us that we might need to revisit our actions and review. We might plant an idea, a tree or a whole forest. But we need to go back and check that Papatūānuku is embracing the ideas, trees and forest. If not, then we need to find out why. This is one way about how whakapapa frames our actions in kaitiakitanga.

- The third core idea is **Mauri**, or energy systems of and within an environment. All living things - whether it be a single species or a whole ecosystem - has an energy system or essence. Mauri changes and shifts in response to inputs. So if we see a freshwater system that is polluted, it has changed from its normal equilibrium. The same could be said in relation to a forest system if a storm or a fire has caused system damage or destruction. Change also occurs much more slowly such as when a warming climate invites new species to occupy a habitat, which may of course have dramatic consequences for existing species. In either case, new life may or may not be able to live in the changed environment.

Managing mauri means understanding the factors that have led to change and supporting the right response depending on ecological, environmental, climate, human (that is, community) factors at play. Our ancestral knowledge systems tell us about signposts of nature regarding seasonal change and environmental health. This knowledge, together with new knowledge, helps us focus on what to do, how to do it and who should be involved. Mauri is at the heart of these decisions.

- 2.5. These three principles - kaitiakitanga, whakapapa and mauri - must guide our solutions to the climate crisis and the injustices that envelope human and natural worlds. Our argument is simple. Without them, actions will likely fail in the long term. It is not enough to take a simple

mathematical or economic approach to solving complex, intertwined environmental, social and climate problems. This Indigenous framing will enable us to carry out an ambitious and transformative programme which focuses on the healing ability of the natural forests of Papatūānuku. We have the numbers, the economic modelling and other western science to back us up. This is our programme, *Recloaking Papatūānuku*.

Community-led, locally appropriate, intergenerationally enduring

- 2.6. To work, *Recloaking Papatūānuku* needs to be embraced by Māori and non-Māori; by rangatahi, whose future relies so heavily upon us taking transformative action now; by local communities and local governments across the nation; by urban and rural people; and by representatives across the political divide.
- 2.7. A suite of universally accepted guiding principles would facilitate such widespread support, uptake, and multi-stakeholder ownership of this initiative. These would be formulated around ensuring Indigenous reforestation and regeneration projects are:
 - (a) Community/catchment-led and place-based (i.e. approaches that honour the mauri of each catchment and landscape);
 - (b) Biodiverse, bio regionally-appropriate, and ecologically resilient;
 - (c) Informed by mātauranga and tikanga Māori, as well as other science-based research;
 - (d) Inclusive, collaborative, participatory, and culturally respectful, engaging and enabling tangata whenua to fully realise the commitments of Te Tiriti;
 - (e) Inclusive of rangatahi, with their involvement in project governance and operational oversight;
 - (f) Affordable and economically and ecologically sustainable; and
 - (g) Intergenerationally enduring.



RATIONALE

3. Seizing a multi-win opportunity: Why is this initiative critical?

Taking the lead on addressing climate change and biodiversity loss together

- 3.1. For millions of years, Indigenous forests cloaked Aotearoa, protecting the land with their tiered canopies and entangled root networks. Different kinds of forests across Aotearoa cleansed waterways, enriched the soil, and provided habitat for a vast array of Indigenous species.
- 3.2. Since human occupation, many Indigenous forests have been cut down or burned, leaving the land bare and exposed, stripping it of topsoil; choking waterways and harbours with sediment; and coupled with the impacts of invasive exotic species, driving many Indigenous species of plants and animals towards extinction. In many places they have been almost entirely replaced by exotic monocrops of trees and herbaceous plants.
- 3.3. A significant part of Aotearoa New Zealand’s contribution to global warming is a result of deforesting our Indigenous forests. As the first Emissions Reduction Plan notes:⁹

“Since human arrival in Aotearoa, deforestation to make space for settlements, farms and other land uses has decreased native forest cover from around 80% to 23%. **That deforestation has released an estimated 12 Gt CO₂ into the atmosphere. Today, native forests cover around 7.8 million hectares and store approximately 1.8 Gt CO₂.**”

- 3.4. The first Emissions Reduction Plan thus recommends that:¹⁰

“**Looking after these forests is one of the most important contributions Aotearoa can make to combating global climate change. We also have a significant opportunity to develop native forests that both act as long-term carbon sinks and support biodiversity, which aligns with the goals of the Biodiversity Strategy.**”

- 3.5. In recognition of the opportunity to secure these synergistic outcomes, Chapter 4 of the first Emissions Reduction Plan sets out the Government’s commitment to taking an integrated approach to climate policy, planning and regulation that protects, enhances and restores nature, including prioritising nature-based solutions.

⁹ Aotearoa’s first Emissions Reduction Plan (2022), at 85.

¹⁰ Ibid.

3.6. Aotearoa has made international commitments to similar effect having adopted the Kunming-Montreal Global Biodiversity Framework in late 2022. This framework acknowledges how fundamental thriving biodiversity is¹¹

“to human well-being, a healthy planet, and economic prosperity for all people, including for living well in balance and in harmony with Mother Earth. We depend on it for food, medicine, energy, clean air and water, security from natural disasters as well as recreation and cultural inspiration, and it supports all systems of life on Earth.”

3.7. The framework also observes that “biodiversity is deteriorating worldwide at rates unprecedented in human history”¹² and that a whole-of-government and whole-of-society approach is critical to restoring the integrity, connectivity and resilience of all ecosystems, arresting the alarming decline of our Indigenous flora and fauna.

3.8. Our Indigenous forests are home to a vast range of unique plant, animal, fungal and microbial species. Their diverse structure and composition are key to maintaining healthy and productive ecosystems, which cannot be replicated on intensive farmland or in monoculture tree plantations.

3.9. Indigenous forests and their flora and fauna are taonga and are central to Māori whakapapa or genealogical ties. For Pākehā and New Zealanders from other backgrounds, they are a key part of our cultural and national identity, and our spiritual and recreational wellbeing. *Recloaking Papatūānuku* presents a crucial and compelling pathway to their restoration.

Widening the lens: from optimising short-term profitability to maximising co-benefits for long-term prosperity

3.10. The desire to optimise short-term profitability has resulted in land-use intensification and a lowest-cost (exotic) monocultural approach to pastoral farming and forestry management practices. A permissive regulatory regime has supported this singular focus. As a result, most of our exotic tree plantations fail to secure a holistic set of values, or to realise the many ecosystem benefits that diverse, Indigenous forests provide, and which are vital to our long-term prosperity.

3.11. Exotic monocultures also impose considerable risk and liabilities for current and future generations, risks and liabilities that are not accounted for in regulatory frameworks or economic systems.

¹¹ Section A(1).

¹² Ibid.

- 3.12. *Recloaking Papatūānuku* is both an opportunity and an *imperative* to fundamentally transform our forest future. It seeks not only to incentivise carbon storage in perpetuity, but also the optimisation of ecological integrity, Indigenous flora and fauna biodiversity and habitat protection, long-term climate and hazard resilience, soil health and stability, water purification and secure yields, air quality, temperature management, sustainable timber and bioenergy production, visual amenity, spiritual connection, recreational and cultural opportunities, and associated livelihoods.

Securing an intergenerationally enduring carbon sink

- 3.13. Reforesting and restoring our Indigenous forests is not a substitute for deep and urgent emissions reductions. Rather, it is a necessary complement to it. Securing an intergenerationally enduring, biodiverse, climate-resilient and naturally regenerative carbon sink is necessary to draw down and store historic and hard-to-abate emissions, and to achieve a net-negative emissions and nature positive future.
- 3.14. Recognising that to fully remove carbon emissions can “take thousands of years”¹³ and that the “addition of fossil carbon into the atmosphere is therefore effectively permanent on human timescales”,¹⁴ the role of forests to sequester carbon *in perpetuity*. Old growth Indigenous forests have done this for millennia.
- 3.15. The Climate Change Commission has been unequivocal in recommending that:¹⁵

“[i]n general, permanent forests established as carbon sinks should be native species and support biodiversity gains. To provide a long-term carbon sink beyond 2050, ... such forests would have long-lived tree species that grow and sequester carbon for hundreds of years.”

- 3.16. Although Indigenous species capture carbon at a slower average rate than exotic species, biodiverse Indigenous forests are longer lived, self-sustaining, more resilient to disruption and sudden shocks due to their species richness and ecosystem complexity, and ultimately store more carbon¹⁶ for centuries, securing an enduring carbon sink for future generations. Carbon stocks in New Zealand’s temperate rainforests are also amongst the highest in any forest system globally.¹⁷ Enhancing and expanding Indigenous forests will enable Aotearoa’s landscapes to thrive, while achieving carbon removals in support of its 2050 target and net-negative obligations beyond.

¹³ Climate Change Commission, *2023 Draft advice to inform the strategic direction of the Government’s second emissions reduction plan*, at 47.

¹⁴ Ibid.

¹⁵ As referenced in the Ministry for Primary Industries’ Permanent Forest Category 2022 consultation document, at 26.

¹⁶ Aotearoa’s old growth native forests are among the most carbon dense in the world: Keith et al. 2009 <https://doi.org/10.1073/pnas.0901970106>, Paul et al 2021, <https://doi.org/10.1186/s40663-021-00312-0>.

¹⁷ Paul et al 2021. Forest Ecosystems 8, <https://doi.org/10.1186/s40663-021-00312-0>

Prioritising domestic action to meet our nationally determined contributions under the Paris Agreement

- 3.17. Under the Paris Agreement, nation states commit to “nationally determined contributions” (NDC(s)) towards holding the increase in global temperatures within 1.5C above pre-industrial levels.
- 3.18. The New Zealand Government updated Aotearoa’s NDC on 4 November 2021, which requires us to reduce net greenhouse gas emissions to 50% below gross 2005 levels by 2030. The International Monetary Fund recently warned that Aotearoa remains significantly off-track to meet this commitment.¹⁸
- 3.19. According to Climate Action Tracker, that target is “insufficient” having regard to our fair share, and reliance on significant offset purchasing to meet our 2030 NDC target. It submits that:¹⁹
- “New Zealand is set to meet by far the highest proportion of its target (two thirds of the action required) through buying international offsets compared with any other OECD country” [which] “would set an alarming precedent”.**
- 3.20. This is contrary to the emphasis on meeting our global commitments primarily²⁰ through domestic efforts (as required under the Paris Agreement and first Emissions Reduction Plan), and our responsibility, capacity, and quite simply the need to do so.
- 3.21. As it is not currently clear when, how, or at what cost New Zealand will source its significant NDC offset shortfall, it also presents an uncertain level of fiscal and reputational risk to the New Zealand economy.
- 3.22. By contrast, *Recloaking Papatūānuku* presents a multi-win domestic investment opportunity that could materially reduce our economy’s NDC exposure whilst potentially attracting international climate and biodiversity/nature-related financial investment.

¹⁸<https://www.stuff.co.nz/business/132817501/nz-wont-meet-2030-emissions-promise-without-further-action-imf-warns>

¹⁹ <https://climateactiontracker.org/countries/new-zealand/> (accessed 26.07.2023).

²⁰ It is acknowledged that we will not be able to meet our global obligations 100% through domestic efforts, nor should we; that is because international funding is part of our obligation as a wealthy developed nation, whether via carbon markets or climate finance.

Weaving climate and ecosystem resilience into the landscape

- 3.23. In addition to tackling climate change by drawing down carbon, Indigenous reforestation and restoration will strengthen Aotearoa's climate, ecosystem and landscape resilience, and reduce the socio-economic and ecological costs associated with increasing climate-related risks. In this regard, the health of our Indigenous forests should be viewed as vital natural infrastructure, and insurance against future risks.
- 3.24. Like other land uses, Indigenous forests are also subject to sudden shocks, including storm events and fire risk, as well as gradual onset events like drought, disease and pest incursions. But the natural ecology, heterogeneity and complexity of Indigenous forests, in age and species, ensures that climate-related risks are less uniform and severe, making them better able to withstand, absorb and naturally regenerate from disturbance,²¹ and less vulnerable to catastrophic loss.²²
- 3.25. *Recloaking Papatūānuku* aims to increase landscape resilience by promoting a mosaic land use approach. Under this approach, the mixing, mingling and co-existence of a diverse palette of land uses at varying scales is supported over single use, single system, monocultural intensification, and opportunities to interweave Indigenous trees and forests with other land uses are encouraged.²³

Rebuilding Aotearoa's clean, green brand: an opportunity for global leadership

- 3.26. Restoring and regenerating the mauri of Aotearoa's ngahere and Indigenous biodiversity will help to rebuild the clean green image that we have historically traded on for tourism and primary export competitiveness. This has been undermined by weak leadership, variable efforts in land stewardship, poor environmental standards, and by prizing short-term profitability over long term ecological sustainability.
- 3.27. In an era of increasing international scrutiny of plans to deliver on climate and biodiversity commitments, implementing an ambitious programme of action to re-establish and restore our Indigenous forests is a huge opportunity to enhance our clean, green credentials and to pioneer this nature-based solution at scale.
- 3.28. If successful, *Recloaking Papatūānuku* could even enable Aotearoa to champion a nature-positive economy.

²¹ Ogden et al 1991 J Vegetation Science <https://doi.org/10.2307/3235948>, Wyse et al 2019 NZ Journal of Ecology SOI:10.20417/nzjcol.42.18.

²² The vulnerability of even-aged monocultures of exotic trees, especially under clear-cut harvest regimes, to extreme weather events was well-evidenced by the impacts of Cyclone Gabrielle, where catchment and landscape scale resilience were compromised.

²³ For more on the merits of an interwoven approach to land use, see Hall, D (June 2018) *The Interwoven World | Te Ao I Whiria: Toward an Integrated Landscape Approach in Aotearoa New Zealand* (Discussion Paper) Auckland: The Policy Observatory.

Counterbalancing the incentives that prize short-term carbon sequestration

- 3.29. The New Zealand Emissions Trading Scheme (ETS) is Aotearoa’s primary tool for driving the transition to a low emissions economy through pricing emissions and rewarding removals. Fast growing exotic species that bring higher carbon stock yields across a 50-year horizon comparative to other species, are favoured.
- 3.30. By adopting a short-term approach to carbon accrual, the ETS fails to recognise, and therefore secure, the much longer-term and enduring carbon yields that our Indigenous forests deliver (aside from their multiple and superior co-benefits).
- 3.31. The ETS also fails to account for the risks and liabilities associated with short lived exotic tree monocultures beyond 50-years. These risks and liabilities are effectively being “kicked down the road” for future generations in Aotearoa to deal with. This is not the legacy we should be leaving our children and grandchildren.
- 3.32. For ETS registrants relying on the ETS’s carbon stocks look-up tables, which present default yields according to species and region, Indigenous species are presented as one homogenous category. No differentiation is made for individual species, or for regional carbon stock variances, thereby failing to accurately recognise and account for the true carbon sequestration potential across a range of Indigenous species and forests. The look-up tables also do not go beyond 50-years when most carbon sequestration occurs in Indigenous forests.
- 3.33. The differences between planted versus regenerating Indigenous forest are also ignored. Furthermore, the measurements are based on naturally regenerating shrubland (not, for example, planted and well managed Indigenous forest stands, or strategically enriched regenerating Indigenous forests).²⁴
- 3.34. Recent research has shown that, with regard to relative growth and carbon sequestration rates, “[t]he difference between exotic species and well managed planted native forest is much less than is often suggested.”²⁵
- 3.35. Furthermore, the accrual of New Zealand Units is not discounted for emissions across the value chain for New Zealand exotic plantation forests,²⁶ nor the limited additionality rotational clear felled exotic forests achieve if any (for “replanting pines only restores the carbon lost from harvesting rather than increasing our sequestration”,²⁷ and the implications of clear fell harvesting on our soil carbon stores are not well understood).

²⁴ <https://pureadvantage.org/carbon-sequestration-by-native-forest-setting-the-record-straight/>.

²⁵ Ibid. We understand that research is underway with a view to addressing this through the Maximising Forest Carbon Programme.

²⁶ <https://www.newsroom.co.nz/ideasroom/greenwashing-and-the-forestry-industry-in-nz>. See also <https://www.newsroom.co.nz/ideasroom/nzs-fatally-flawed-climate-change-strategy>.

²⁷ Oram, R., “World has co-crises it must solve in tandem”, <https://www.newsroom.co.nz/world-has-co-crises-to-solve-in-tandem>.

- 3.36. Carbon prices, agreement to reverse the original proposal to restrict the ETS's permanent forest category to Indigenous species only from 1 January 2023, and the absence of a countervailing biodiversity credit scheme are making these market distortions worse. As a consequence, the quantum of exotic planting committed and forecast is well in excess of the Climate Change Commission's net-zero modelling recommendations.²⁸ The resulting oversupply of ETS units and its effect on carbon prices will stymie the rate of gross emissions reductions in Aotearoa,²⁹ with attendant reputational³⁰ and market risks.
- 3.37. The implication that large areas of even-aged *Pinus radiata* represent 'permanent forest' is misleading. Given their comparatively short natural lifespan (relative to most Indigenous species), increased vulnerability to fire, windthrow, disease and pest incursions, and the ability to harvest ETS-registered 'permanent' forests down to just 30% canopy cover per hectare of forest (and a prohibition on clear-felling of just 50 years), the claim to permanence is inappropriate.
- 3.38. It is often submitted that exotic carbon forests can be transitioned to Indigenous forests. However, the costs, practicalities, timeframes and risks associated with realising these proposals is presently unproven universally or at scale.³¹ The risk of their failure will fall to future generations, while critical time is lost to establish slower growing Indigenous species in the meantime.³²

Facilitating the retirement of production forests that cannot or should not be harvested

- 3.39. Permissive regulatory settings under the National Environmental Standards for Plantation Forestry have allowed large scale exotic afforestation and clear fell harvesting to occur on land highly vulnerable to erosion. This was confirmed in the findings of the "*Ministerial Inquiry into Ministerial Inquiry into land uses associated with the mobilisation of woody debris (including forestry slash) and sediment in Tairāwhiti/Gisborne District and Wairoa District*", which consequently recommended (among other things):

²⁸ The Climate Change Commission's net-zero pathway modelling estimated that Aotearoa New Zealand could meet its net-zero goals by planting around 25,000 hectares of exotics per annum (in addition to complementary actions). Current and projected exotic afforestation rates appear to be around double that.

²⁹ In addition to a range of ETS design (and re-design) flaws:

<https://www.linkedin.com/pulse/five-things-wrong-nz-ets-christina-hood>,

<https://thekaka.substack.com/p/labours-climate-policy-bonfire-just#details> and

<https://www.newsroom.co.nz/sustainable-future/govt-to-lower-bar-for-subsidies-for-carbon-polluters> all refer.

³⁰ <https://www.nzherald.co.nz/the-country/news/ets-report-shows-nz-at-odds-with-rest-of-world-on-carbon-offsetting-says-beef-lamb-nz/UYBDZSKFWBDQHDU26XICYOBFOY/> shows that New Zealand's approach to offsetting and the inclusion of forestry in the ETS makes us an outlier by international standards.

³¹ Forbes & Norton 2021 Transitioning Exotic Plantations to Native Forest: A Report on the State of Knowledge. MPI Technical Paper No: 2021/22.

³² <https://www.newsroom.co.nz/exotic-tree-crops-established-for-carbon-credits-morally-corrupt>

- (a) prohibiting plantation forestry on ‘extreme’ erosion-prone land and returning it to permanent forest, preferably Indigenous; and
- (b) an immediate cessation of large-scale clear-fell harvesting within Tairāwhiti and Wairoa districts and adoption of staged coupe harvesting methods instead.

3.40. Despite the uncertainties, practicalities, long timeframes, risks, and costs associated with transitioning exotic plantation forests to Indigenous forests (to which we refer in paragraph 3.37 above), we accept that there are some plantation forests that will not, cannot, or should not be harvested, for economic and/or ecological reasons, and will need to be carefully managed for transition.

3.41. Support for, and alternative opportunities, that facilitate regenerative land use and align with Indigenous values, kaitiakitanga and community wellbeing will be needed to facilitate and manage the transition of these forests to permanent Indigenous forests.

3.42. *Recloaking Papatūānuku* similarly provides a transition pathway for farmers looking to retire and destock marginal and low productivity land through Indigenous reforestation.

Supporting an integrated work programme that will deliver climate, biodiversity and wider ecological outcomes³³

3.43. In *Ināia tonu nei*,³⁴ the Climate Change Commission recommended a comprehensive national programme to establish more Indigenous forests. It noted that:³⁵

- (a) “There is an estimated 1.2 to 1.4 million hectares of erosion prone land in Aotearoa, some of which is government owned. Much of this is not suitable for production forestry but could be suitable for native forest”; and
- (b) “Manaaki Whenua estimated in the Aotearoa Circle *Native Forests Report* that there is around 740,000 hectares of less versatile private land, which is not suitable for commercial forests but could naturally revert if pests are managed. Some of this will be pockets of land within the existing farming system that might be steeper and/or erosion prone.”

³³ In accordance with Action 4.2 of the Aotearoa New Zealand’s first Emissions Reduction Plan.

³⁴ Climate Change Commission, (31 May 2021) *Ināia tonu nei: a low emissions future for Aotearoa - Advice to the New Zealand Government on its first three emissions budgets and direction for its emissions reduction plan 2022 – 2025, Chapter 18.*

³⁵ *Ibid*, at 318.

3.44. Although the Climate Change Commission recently observed that:³⁶

“There were a few steps toward this in the first emissions budget period, including more accurate yield tables in the New Zealand Emissions Trading Scheme (NZ ETS) and research into the reduction of costs associated with Indigenous afforestation ... **progress to date is unlikely to deliver large-scale Indigenous planting or reversion in the second budget period.**”

This is the goal of *Recloaking Papatūānuku*.



IMPLEMENTATION

4. How will we do this: A Programme of Action

- 4.1. This Proposal outlines the many reasons why *Recloaking Papatūānuku* presents such a critical national initiative. But it will require multi-scale, multi-stakeholder support and commitment to fully realise the scope of its aspirations and the multiplicity of benefits it would deliver.
- 4.2. Importantly, *Recloaking Papatūānuku* must recognise and empower the stewardship of those who live on and care for the land. Accordingly, landowner, catchment group, and community-led replanting and restoration projects are to be prioritised and enabled, respectful of and enhancing place-based relationships between people and land.
- 4.3. As a result, this Proposal does not attempt to articulate a comprehensive implementation strategy or programme of action. Rather, it outlines some possible features thereof, in the expectation of further developing and progressing these in collaboration with stakeholders.

What planting, where and why: Identifying target land

- 4.4. Based on some initial data analysis informed by geospatial and biophysical constraints mapping, we have identified potential target land, and described three reforestation scenarios (new restoration planting, supported regeneration/reversion, and enrichment of existing Indigenous forest) that could apply depending on the land in question.
- 4.5. The analysis anticipates the reforestation and restoration of 2.1 million hectares of target land, with up to 5 million hectares of land with ecological potential to support large-scale reforestation or restoration is potentially possible.

³⁶ Climate Change Commission, 2023 *Draft advice to inform the strategic direction of the Government's second emissions reduction plan*, at 126. Ibid.

- 4.6. The purpose of *Recloaking Papatūānuku* is to facilitate collaboration across a range and scale of stakeholders to identify land for reforestation or restoration, and work with stewards of the land to realise this aspiration for the long term prosperity of Aotearoa New Zealand.

Developing funding and investment models

- 4.7. With input from a number of different sources, we have been exploring the economic case to support this Proposal, including high level cost analyses for the three reforestation scenarios it outlines, a recommended funding model, and the potential to develop innovative or access existing investment models and instruments. This modelling and analysis in support of our Proposal will be provided separately.

Governance and operational entities

- 4.8. Appropriate and effective governance and operational models will be further explored with *Recloaking Papatūānuku* signatories and stakeholders.
- 4.9. We note that the Predator Free 2050 movement might provide a potentially workable precedent that captures the inclusive, collaborative, participatory, multi-scale, and multi-stakeholder approach around which this Proposal was formed.
- 4.10. The involvement of mana whenua and rangatahi in both governance oversight and at the operations level are fundamental to upholding Te Tiriti, ensuring decision-making is informed by mātauranga and tikanga Māori, and safeguarding the commitment to intergenerational equity and well-being.
- 4.11. For *Recloaking Papatūānuku* to be successful, we need to ensure that funding does not get tied up in a costly administrative and auditing bureaucracy. It is essential that funding leads to direct on-the-ground mahi through community groups, mana whenua entities and other land managers. The National Catchment Community Trust and Federation of Māori Authorities are likely to be key organisations to ensure that funding reaching those doing the mahi is maximised.


Objectives and outcomes

- 4.12. To ensure the aspirations of *Recloaking Papatūānuku* are realised, clearly defined and measurable objectives and outcomes will need to be developed and defined. We expect these would be designed around material improvements across a range of climate, ecological and landscape resilience indicators, as well as economic, research and education, cultural and community.

Monitoring and measurement of outcomes against key milestones

- 4.13. Target land will need to be monitored to ensure successful establishment, reversion, or regeneration and ongoing maintenance pursuant to species and forest management plans. Plant stocking rates, and suitable targets and timeframes for increases in species composition / diversity, carbon stores, water quality, erosion control, associated jobs and revenue streams appropriate to the relevant target land will need to be agreed, and progress against these indicators (and any others) reviewed and reported on at regular intervals.



A lush, misty forest scene featuring large, moss-covered trees and a dense carpet of ferns in the foreground. A hiker with a blue backpack is visible on the right side, walking through the forest. The overall atmosphere is serene and natural.

RE-CLOAKING PAPATŪĀNUKU

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