



Motu
economic & public policy research

EECA
TE TARI TIAKI PŪNGAO
ENERGY EFFICIENCY & CONSERVATION AUTHORITY

Boosting voluntary climate action in Aotearoa New Zealand

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Report commissioned by EECA (The Energy Efficiency and Conservation Authority)



Foreword

EECA is pleased to have commissioned Motu to investigate, and then prepare this report, exploring new approaches to incentivise and future-proof voluntary carbon mitigation in Aotearoa New Zealand in line with the Paris Agreement, the Climate Change Response Act 2002, as well as evolving market expectations.

Worldwide, a conversation is happening about what the voluntary carbon market could look like from now on, how to address previous shortcomings and how to scale it up to a 100 times its current size. We believe there is no reason why Aotearoa couldn't lead the way, as it already has on many occasions.

There is no question that, domestically, the pace of decarbonising the economy needs to pick up, as has been reinforced by the Climate Change Commission.

Through our work across sectors and with some of the largest energy users in Aotearoa, we at EECA know that the tools and technologies already exist to do this, and there are untapped cost-effective domestic opportunities, especially in clean and clever energy use.

As our economy continues to recover from the pandemic, it seems even more important to fund projects in Aotearoa to accelerate the energy transition, rather than buying offshore credits. A domestic voluntary carbon market would also improve trust by bringing the outcomes of the

spending closer to New Zealanders, as trust is key in the success of any voluntary action.

Motu's Voluntary Mitigation Dialogue in 2020, which brought together a group of cross-sector experts and stakeholders, was invaluable in forming the foundation of this work. We thank them for their input and sustained interest in solving this challenge.

When EECA commissioned this work, we were acutely aware of the problems and the opportunities, and we wanted to kick-start collective thinking about practical solutions for the country. It has taken great work by sector experts to produce this report, and we now look forward to being a key contributor in the discussions with a wider range of stakeholders to continue this conversation and so move faster towards a clean energy transition in Aotearoa.

Andrew Caseley
EECA CEO



Motu Economic and Public Policy Research is an independent economic research institute which never advocates an expressed ideology or political position.

A charitable trust, Motu is founded on the belief that sound public policy depends on sound research accompanied by well-informed and reasoned debate.

Motu is the top-ranked economics organisation in New Zealand. It is in the top ten global economic think

tanks, according to the Research Papers in Economics (RePEc) website, which ranks all economists and economic research organisations in the world based on the quantity and quality of their research publications.

It also ranks in the top ten climate think tanks in the world according to the International Center for Climate Governance.

Our work can be found on our website www.Motu.nz.

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Summary haiku
 Voluntary claims
 can unlock climate action
 above and beyond.

Executive summary

Voluntary greenhouse gas mitigation by organisations can help unlock and accelerate domestic progress on climate change action and generate market advantages. However, new approaches are needed in Aotearoa New Zealand to ensure the environmental integrity, transparency and credibility of voluntary mitigation under the Paris Agreement and domestic climate change policies.

To prevent dangerous levels of climate change, the world must overcome serious gaps in financing and action to reduce greenhouse gas (GHG) emissions. Voluntary efforts by organisations can help to bridge those gaps — if effective incentives and systems are in place.

‘Voluntary mitigation’ means reducing emissions and increasing removals of GHGs beyond government requirements (including requirements in the New Zealand Emissions Trading Scheme (NZ ETS)). For many organisations, voluntary mitigation is becoming integral to demonstrating environmental and social responsibility and leadership, retaining social license to operate, managing exposure to climate-related risk and increasing market advantage.

Past approaches to voluntary mitigation will not work in the new context of the Paris Agreement and domestic climate change policies. Organisations, markets and regulators want assurance that future organisational claims to voluntary mitigation will have environmental integrity, transparency and credibility — at home and overseas. In Aotearoa, clarifying Government policy and market practice is essential to support organisations which already have voluntary targets and/or carbon-neutral commitments. Clarifying Government policy and market practice will also unlock future potential for voluntary domestic mitigation.

A key question being debated internationally is what mitigation claims can be made by organisations that voluntarily help governments to meet their Paris targets (called Nationally Determined Contributions, or NDCs) versus those that increase global mitigation beyond NDCs.

To help support decision making in Aotearoa, this paper proposes an innovative two-track system, aimed at scaling up voluntary climate action. As shown in Figure 1, organisations could get recognition for:

Carbon Horizon: Financing (or otherwise supporting) external GHG mitigation beyond government requirements to help bridge the gap to **meet** Paris NDCs

Carbon Frontier: Financing external GHG mitigation **beyond** Paris NDCs.

The features of each track (relative to the status quo) are summarised in Table 1. This proposal expands the scope of eligible voluntary mitigation to include recognition for more diverse forms of cooperation with shared gains — and greater valuation of environmental, social cultural, and economic co-benefits. It is scalable for the global transition toward net-zero emissions. As a next step, it is essential to test this proposed system in key markets — and ensure its compatibility with evolving international standards.

Figure 1: A two-track system for voluntary mitigation in Aotearoa New Zealand

Organisations' own emissions

Requires organisations to set internal mitigation targets (Scopes 1, 2 and 3) in line with the temperature goal of the Paris Agreement.

Track 1: Carbon Horizon

- > Bridges the gap to **meet** Paris NDCs
- > Provides certification or carbon credits for financing or otherwise supporting external GHG mitigation beyond government requirements
- > Focuses on cooperation with shared claims to mitigation
- > Enables a Carbon Contribution, Carbon Neutral, or Carbon Positive claim with Horizon status.

Track 2: Carbon Frontier

- > Supports global mitigation **beyond** Paris NDCs
- > Provides carbon credits with corresponding adjustments for financing external GHG mitigation beyond government requirements
- > Focuses on single claims to mitigation
- > Enables a Carbon Neutral or Carbon Positive claim with Frontier status.



Table 1: A two-track system for voluntary mitigation in Aotearoa New Zealand

FEATURE	VCM TO DATE IN AOTEAROA	CARBON HORIZON	CARBON FRONTIER
THE GOAL			
	Increase global mitigation beyond Kyoto targets (developed countries) or business as usual (developing countries).	Help countries bridge the gap to meet NDCs.	Increase global mitigation beyond NDCs.
INTERNAL MITIGATION			
	The scope and ambition of organisational targets have varied widely.	Organisations must set ambitious targets to reduce their own net emissions (Scopes 1, 2 and 3 ¹) in line with the temperature goal of the Paris Agreement.	
EXTERNAL MITIGATION			
	Organisations could finance eligible mitigation projects outside their supply chain.	Organisations can finance or otherwise support ² eligible mitigation projects outside their supply chain.	Organisations can finance eligible mitigation projects outside their supply chain.
ADDITIONALITY			
	External mitigation projects have had to meet additionality criteria relative to business-as-usual.	External mitigation projects must meet additionality criteria for bridging the gap to meet an NDC.	External mitigation projects must meet additionality criteria for mitigation beyond meeting an NDC.
EXTERNAL MITIGATION AND GOVERNMENT TARGET ACCOUNTING			
	External mitigation claimed by organisations could not count toward government targets.	External mitigation claimed by organisations can count toward one government's NDC. A corresponding adjustment is not required from the project's host government for activity within the NDC scope. ³	External mitigation claimed by organisations is not claimed under any NDC. A corresponding adjustment is required from the project's host government for activity within the NDC scope.
OTHER NZ GOVERNMENT ADJUSTMENTS			
	Domestic mitigation through government mechanisms (PRE, PFSI) ⁴ has been additional to the NZ ETS cap. VCCs issued offshore have not been recognised by the government.	For domestic mitigation projects, an ex post adjustment will be needed to the NZ ETS cap and/or emissions budgets to prevent the "waterbed effect" (the displacement of project benefits by increased emissions elsewhere under the system). The Carbon Horizon track could operate with or without waterbed adjustments.	
SUPPLY CHAIN ACCOUNTING			
	A single organisation could claim credited voluntary mitigation as an offset.	Voluntary mitigation can be counted and reported across supply chains (Scopes 1, 2 and 3). A single organisation can claim financing (or other support) of credited voluntary mitigation as an offset.	
ORGANISATIONAL GHG REPORTING			
	Organisations have used net emissions reporting.	Organisations can choose between: » Dashboard reporting: distinguishing emissions reductions from removals and own mitigation from external mitigation (best practice) » Standardised net emissions reporting.	
ORGANISATIONAL REPORTING OF CO-IMPACTS			
	Organisations have provided limited and inconsistent reporting of co-impacts from voluntary mitigation.	Environmental, social, cultural and economic co-impacts from voluntary mitigation are reported where possible.	
INSTRUMENT OF RECOGNITION FOR FINANCE OF EXTERNAL MITIGATION			
	Mitigation funders received: » Tradable carbon credits which got cancelled in a registry. Some of these were eligible in both voluntary and compliance markets.	Mitigation funders receive: » Tradable voluntary carbon credits (not eligible in the NZ ETS) which get cancelled in a registry, or » Certificates or other proof of financing and mitigation recorded in a registry.	Mitigation funders receive: » Tradable voluntary carbon credits (not eligible in the NZ ETS) which get cancelled in a registry and which carry a corresponding adjustment (or equivalent) from the host government.
CARBON CLAIM FOR EXTERNAL MITIGATION			
	» Carbon Neutral (net zero emissions) » Carbon Positive (net negative emissions)	» Carbon Contribution (Horizon) (support for external mitigation) » Carbon Neutral (Horizon) (net zero emissions) contribution to the government's target » Carbon Positive (Horizon) (net negative emissions contribution to the government's target)	» Carbon Neutral (Frontier) (net zero impact on global emissions) » Carbon Positive (Frontier) (net negative impact on global emissions)



1

Introduction

Faced with the urgency of preventing dangerous levels of climate change, an increasing number of organisations are seeking to go beyond government requirements to reduce their own GHG impact and support others to do the same. To date, organisations wanting to boost climate action have set voluntary mitigation targets to reduce their own net emissions and offset residual emissions using the voluntary carbon market (VCM). The VCM enables organisations to buy and cancel voluntary carbon credits (VCCs) representing certified emission reductions or removals by mitigation providers. Essentially, the VCM brings organisations holding emission reduction and removal opportunities together with organisations prepared to finance their efforts for the greater good. However, past approaches to operating the VCM are not compatible with the Paris Agreement, recent changes to domestic climate change policies and market expectations.

The purpose of this paper is to explore new approaches to recognise and incentivise voluntary mitigation in Aotearoa. It begins by defining the concept of 'voluntary mitigation' and exploring its potential to help address climate change. It then evaluates why the past approaches to voluntary mitigation will need to change under the new international and domestic climate change policy frameworks. To stimulate further stakeholder discussion of these issues, it concludes by presenting a straw proposal for a two-track solution to help overcome barriers to voluntary mitigation in Aotearoa and open up its potential.

The ideas in this paper were informed by two meetings of Motu's Voluntary Mitigation Dialogue in 2020, funded by the Energy Efficiency and Conservation Authority (EECA), a New Zealand Crown entity. The dialogue brought together a group of cross-sector expert individuals to explore options for the future of voluntary mitigation in Aotearoa. This paper does not reflect the views of reviewers or dialogue participants, their organisations, the project funder, or He Pou a Rangi (the New Zealand Climate Change Commission).

2

How voluntary mitigation can help address climate change

2.1 The Paris Agreement sets goals to avoid dangerous levels of climate change

Under the Paris Agreement, countries have committed to limit temperature rises to well below 2°C while striving toward 1.5°C above pre-industrial levels. This means reaching peak global emissions as soon as possible and achieving a balance between emissions by sources and removals by sinks of GHGs in the second half of this century. Current country commitments fall far short of this goal, putting the world on track toward a temperature increase of 3°C or more.

According to the Intergovernmental Panel on Climate Change, to limit warming above pre-industrial levels to 1.5°C with no or limited overshoot, global net CO₂ emissions across sources and sinks need to be reduced by about 45 percent below 2010 levels by 2030 and reach net zero by 2050. This needs to be accompanied by deep reductions in non-CO₂ GHGs. A slower transition will require more net-negative emissions later in the century to compensate.

2.2 Voluntary mitigation means taking climate action beyond government requirements

'Voluntary mitigation' means reducing emissions and increasing removals of GHGs beyond government requirements (including requirements in the New Zealand Emissions Trading Scheme (NZ ETS)).⁵ Voluntary mitigation can help to bridge current gaps in mitigation ambition, financing and speed – gaps that could undermine the long-term goals of the Paris Agreement. These gaps exist because:

- government policies and regulations are falling short of requirements to meet NDCs and NDCs themselves are falling short of requirements to prevent dangerous climate change
- current emission price signals are insufficient to incentivise low-emission technologies which are not yet cost competitive
- people and organisations face further barriers to change, like the force of habit and social norms, risk aversion, competing priorities, or limited access to capital or technology, information and technical support.

Voluntary mitigation can take place within an organisation's own boundaries, within its supply chain (sometimes referred to as insetting),⁶ or externally (sometimes referred to as offsetting).⁷ Insetting and offsetting work best alongside ambitious targets to reduce the organisation's own net emissions. They should not become a license to emit more – but help when organisations can't reduce further.

Achieving 'carbon neutrality' or 'net zero emissions' is one form of voluntary mitigation. Under a commonly followed approach, this involves measuring an organisation's own emissions footprint across sources and sinks within an appropriate boundary, reducing those net emissions as far as possible and compensating for (or neutralising) remaining emissions using insetting or offsetting.⁸ Organisations that offset beyond their residual emissions generate 'net negative' emissions; this is sometimes referred to as being 'carbon positive' or 'climate positive'. Some of the challenges associated with conventional approaches to carbon-neutral offsetting are detailed in Section 3.1

2.3 The voluntary carbon market connects mitigation opportunities with carbon finance

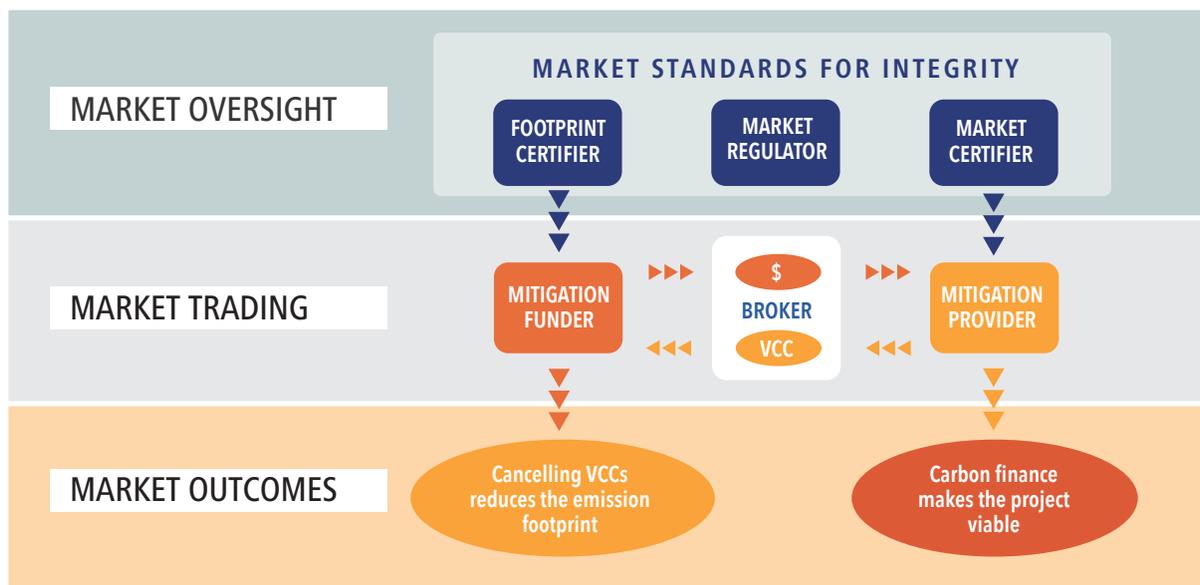
As shown in Figure 2, the VCM is a mechanism enabling mitigation funders to purchase VCCs representing certified emission reductions or removals generated by mitigation providers. In this paper, we assume VCCs are not eligible in government-driven compliance markets (like emissions trading systems) unless stated otherwise.⁹ For mitigation providers, the additional finance obtained by selling VCCs helps to boost the return on investment and enable projects otherwise unviable. For mitigation funders, buying VCCs enables them to fund projects which would not have happened otherwise. Cancelling VCCs allows them to claim a reduced impact on climate change (their net emission footprint) beyond their own boundaries or supply chains.

- for mitigation funders, their emission footprint and the cancellation of VCCs in a registry are certified by independent third-party organisations
- independent certifiers must be accredited and adhere to widely accepted standards and processes
- trading transactions, whether facilitated by brokers or conducted bilaterally, are subject to market oversight through standard governance processes
- the issuance of VCCs and subsequent trading and cancellation transactions are recorded transparently in a registry.

To ensure the environmental integrity of the trading system:

- for mitigation providers, mitigation outcomes are certified by independent third-party organisations and listed in a registry

Figure 2: How the voluntary carbon market works



Note: \$ = carbon finance; VCC = voluntary carbon credit.

The distinctions between compliance carbon markets (e.g., emissions trading systems and government-managed project crediting mechanisms) and the VCM are significant. Compliance carbon markets are controlled by government under legislation and emission prices are managed to incentivise change in line with national targets. In contrast, the VCM is

driven by participant supply and demand and guided by market standards rather than laws (although the VCM is subject to standard government commerce requirements). Compliance and voluntary carbon markets may involve different types of mitigation activities with different ranges for mitigation costs.

2.4 External voluntary mitigation can be supported in other ways

While the VCM has evolved as a prominent mechanism for helping with financing of external voluntary mitigation, it is not the only option. Organisations can also support voluntary mitigation by:

- participating directly in mitigation projects as partners
- contributing funding, technical support, equipment, or other resources to organisations doing mitigation projects

- marketing low-emission goods and services.

These types of activities may or may not involve issuing and trading VCCs, depending on the nature of the projects and the needs of the mitigation supporters and providers. Many organisations choose to support external voluntary mitigation as a public good, without claiming it as an offset for their own emissions.

2.5 Voluntary mitigation can benefit organisations and accelerate decarbonisation

Voluntary mitigation can benefit organisations by:

- demonstrating environmental and social responsibility and leadership
- retaining social licence to operate
- managing exposure to climate-related risk
- increasing market advantage among environmentally aware consumers and investors.

Over time, these benefits can prepare organisations to thrive throughout the national and global transition to net-zero emissions.

Voluntary mitigation can produce broader benefits to Aotearoa by:

- boosting innovation and investment in climate change solutions to accelerate progress
- redistributing mitigation costs to support a just transition to a low-emission economy
- educating people about climate change
- shifting social norms.

Over time, these benefits could result in increased domestic mitigation ambition and reduced dependence on offshore mitigation to meet Aotearoa's international climate change commitments.

2.6 To be effective, voluntary mitigation must have environmental integrity

Voluntary mitigation applied for offsetting should have comparable value to the climate as an organisation's own mitigation. Therefore, it should:

- be transparent, real, measurable, verified and additional¹⁰ to what would have happened otherwise
- transparently account for any double counting and leakage which negate its benefits

- be permanent or compensate fully for any future loss or reversal.

VCCs traded in the VCM for offsetting purposes are typically verified or certified by independent accredited organisations to ensure their environmental integrity. However, standards can vary.



3

Why systems for crediting voluntary mitigation need to change

3.1 Existing mechanisms for voluntary offsetting have room for improvement

Even before considering the new context of the Paris Agreement, it is important to evaluate how well voluntary offsetting mechanisms have operated to date. It has taken time for international crediting standards to evolve. Past examples where non-additional activities or activities with negative local impacts were credited at the international level have tarnished the reputation of voluntary offsetting among some stakeholders. Even when crediting standards suitably address issues like additionality, double counting, leakage and non-permanence, some of the conventional approaches to voluntary offsetting at the international level have had further shortcomings, including:

1. accounting boundaries are inconsistent across organisations, particularly regarding Scope 3 emissions
2. organisations can use offsetting to rationalise or conceal failures to reduce their own net emissions in line with targets
3. low-cost forestry removals can displace higher-cost decarbonisation of energy and industrial systems, essential for stabilising long-lived emissions
4. the reporting of broader environmental, social, cultural or economic co-impacts from voluntary mitigation (both positive and negative) has been inconsistent
5. with carbon-neutral branding, organisations may set goals to each net-zero emissions but not beyond (i.e., net-negative emissions).

The current system has created some paradoxical outcomes. For example, if an emitting organisation owns sufficient forest to neutralise its gross emissions, it can make a carbon-neutral claim and the sequestration is double counted by the government under its target. This is not considered a problem. However, if the same organisation purchases and cancels external forestry VCCs to make a carbon-neutral claim, the sequestration cannot be double counted by the government. Similarly, under its internal mitigation target, an organisation can report direct and indirect mitigation across Scopes 1, 2 and 3 although the mitigation under Scopes 2 and 3 is double counted by other organisations. However, the mitigation from external offsetting cannot be double counted by other organisations.

A further question is which types of emission reduction and removal activities should remain eligible to offset organisations' gross emissions in the longer term. Some organisations have proposed offsetting should transition toward long-lived removals only (e.g., carbon capture and storage), whereas others support retaining a broad range of options.

Importantly, the current approach to offsetting is not easily scalable or durable in a world moving toward net zero emissions, broad NDC coverage and broad adoption of organisational mitigation targets. We need a system for incentivising voluntary mitigation at a transformational scale.

3.2 The Paris Agreement is changing the playing field for voluntary mitigation

The VCM framework which evolved through 2020 was grounded in features of the Kyoto Protocol which will not continue under the Paris Agreement. This creates problems in three areas: double counting of mitigation by organisations and governments, trading mitigation between countries and defining carbon neutrality at an organisational level.

Double counting of mitigation by organisations and governments

Under the Kyoto framework, developed countries' international targets were delineated in emission units which could be redistributed through domestic project mechanisms, traded internationally, or cancelled. Developing countries did not have international

targets and generated tradable project-based emission units certified through Kyoto or voluntary crediting mechanisms. In contrast, under the Paris Agreement:

- all participating countries have NDCs (although some have limited scope) and compliance is determined through GHG inventory reporting rather than emission unit accounting
- domestic mitigation projects will automatically be captured within the scope of a national GHG inventory and counted toward the host's NDC. This is unless the mitigation falls outside the scope of the NDC, or the host government makes a corresponding adjustment to its inventory, essentially adding the reduced emissions back in.

This limits the scope for voluntary mitigation which is not double counted by a government toward its NDC.

Trading mitigation between countries

The Paris Agreement also creates a new framework for transferring mitigation between countries. This could affect the VCM. The Paris Agreement enables a country to transfer surplus mitigation to another country to help with meeting the recipient's NDC. To ensure environmental integrity, transferred mitigation cannot be counted by both countries toward their respective NDCs. If the transferred mitigation falls within the scope of the provider's NDC, the provider must make a 'corresponding adjustment' to its national GHG inventory, essentially adding the amount of transferred mitigation back in. This process is illustrated in Figure 3. The rules for managing internationally transferred mitigation outcomes (ITMOs) between countries are still under negotiation. It is possible some countries will need time to build institutional capacity before they can provide corresponding adjustments for transferred mitigation.

It is important to note that under the Paris Agreement, the trading of mitigation between countries currently can only take place at the government level under Article 6.2. There currently is no way for organisations in Aotearoa to directly buy or sell Paris-compliant mitigation generated in another country – or to export Paris-compliant domestic mitigation from Aotearoa. This could be enabled in the future under a new UN mechanism being developed through Article 6.4, but the rules for how that would work are still under negotiation.

Defining carbon neutrality at an organisational level

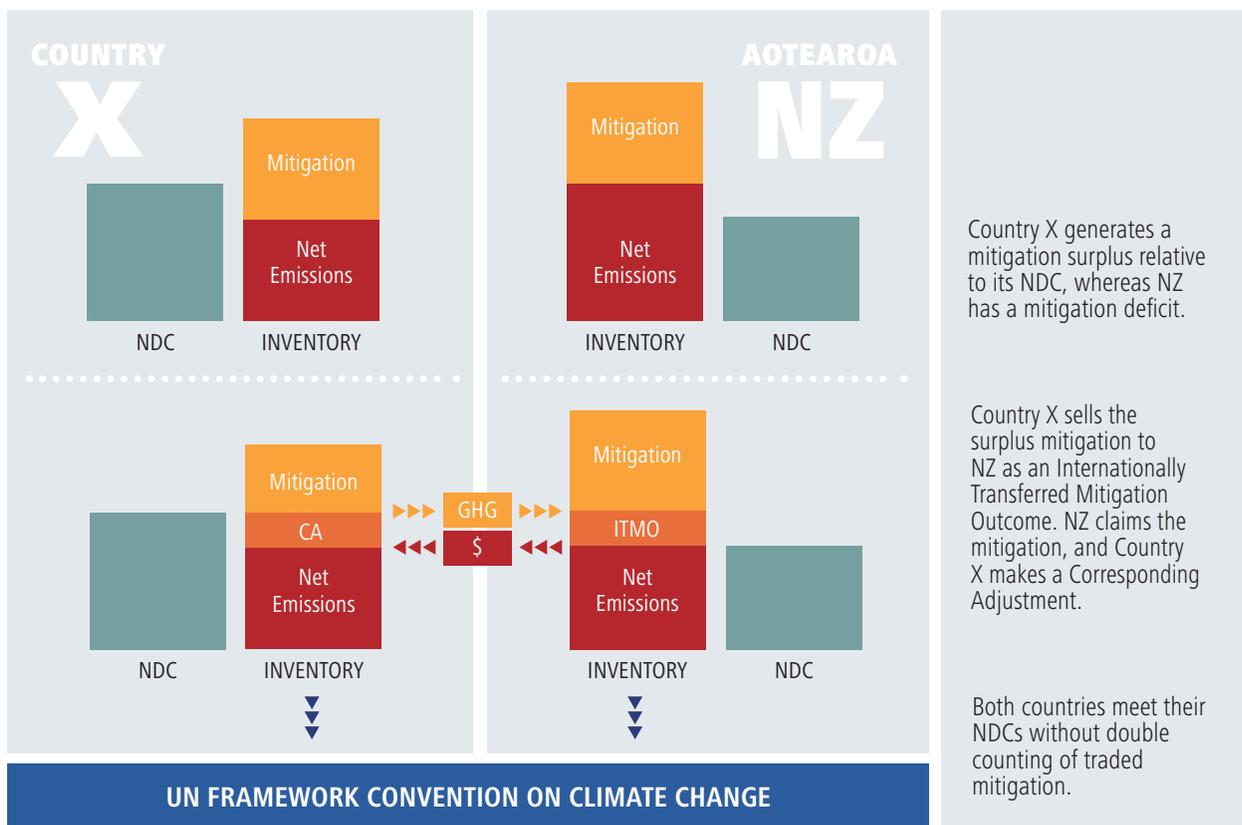
In this context, it is not clear how organisational carbon-neutral offsetting will work under the Paris Agreement. Under the current convention, credited mitigation used by one entity to claim carbon neutrality must not be double counted by any other entity. If this convention were maintained, then credited mitigation claimed as offsets for organisational carbon neutrality would have to carry a corresponding adjustment and not count toward any government's NDC.

This has important long-term implications. First, overcoming this hurdle would become increasingly difficult as NDCs evolve toward comprehensive sector coverage and net zero emissions. The potential market supply of mitigation with corresponding adjustments would be expected to contract markedly over time. Second, providing a corresponding adjustment means the mitigation is not available to the host government for meeting its NDC. This increases both fiscal costs and target delivery risks. There are equity implications for taxpayers and other sectors tasked with making up the difference.

As a result of these factors, the definition of carbon-neutral offsetting at an organisational level will need to be clarified or changed to fit the new context of the Paris Agreement.

Standards and norms for the VCM and carbon-neutral claims are rapidly evolving at the international level.¹¹ The outcomes could have significant implications for Aotearoa, especially for its producers which trade internationally.

Figure 3: Corresponding adjustments under the Paris Agreement



Note: NDC = Nationally Determined Contribution; NZ = Aotearoa New Zealand; GHG = surplus GHG mitigation; \$ = carbon finance; CA = corresponding adjustment; ITMO = internationally traded mitigation outcome.

3.3 Aotearoa presents unique challenges for crediting domestic voluntary mitigation

Aotearoa operates with a single power grid embedded in a broad-based emissions trading system (the NZ ETS), which in turn is embedded within economy-wide targets and emissions budgets under the Climate Change Response Act 2002, which in turn are embedded within an economy-wide NDC under the Paris Agreement. In such a highly integrated system, emissions reductions and removals by one organisation have consequential impacts on everyone else. These relatively unique national circumstances do not fit neatly into international conceptual frameworks for crediting voluntary domestic mitigation.

Emission unit interactions between the VCM and the NZ ETS

The emission unit interactions between the VCM and the NZ ETS have not always been well understood by market participants. Here are examples of some of the complexities:

- When the NZ ETS was linked to the global Kyoto market, each eligible offshore Kyoto unit could be used for either voluntary or compliance purposes, but not both. De-linking occurred in mid-2015 and the NZ ETS currently operates as a domestic-only market. Voluntarily cancelled offshore Kyoto units did not count toward government targets.
- Each New Zealand Kyoto unit previously issued under government mechanisms can be used for either voluntary or compliance purposes, but not both. Voluntarily cancelled New Zealand Kyoto units are removed from the national account and do not count toward government targets (discussed further below).
- Surrendering New Zealand Units (NZUs) or Kyoto units to meet NZ ETS compliance obligations or paying the NZ ETS price in goods and services does not qualify as voluntary offsetting. These practices reduce the net emissions of regulated sectors to the level of the ETS cap, not to zero.

- Voluntarily cancelling NZUs does not produce an additional global mitigation benefit unless the government adjusts its national GHG inventory, emissions budgets and/or NDC in response.¹² Following the 2019 and 2020 amendments to the Climate Change Response Act 2002, voluntary NZU cancellation can lead to:
 - subsequent ETS cap increases by the government, or subsequent increases in non-ETS emissions, to maintain alignment with emissions budgets
 - triggering the new Cost Containment Reserve, thereby adding new unit supply to the market and making it more difficult for Aotearoa to meet its NDC.

Interactions between voluntary domestic mitigation and Aotearoa’s contribution to global mitigation

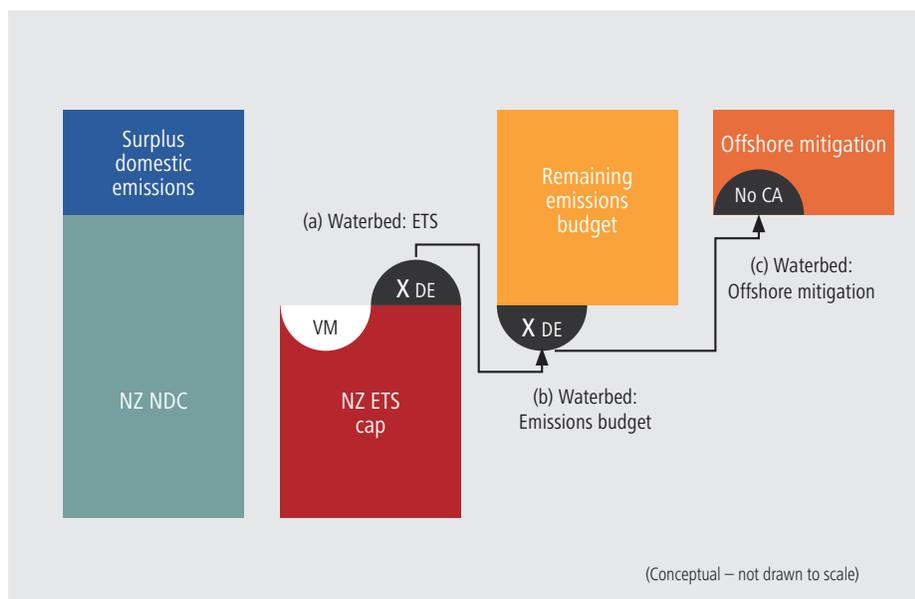
Through 2021, a form of adjustment to government targets to avoid double counting of voluntary mitigation has been enabled through the government’s Kyoto Voluntary Cancellation Workflow. Under that mechanism, participants could buy and cancel emission units (either New Zealand Kyoto units or NZUs) issued under the Permanent Forest Sink Initiative as voluntary offsets, without double counting by the government toward its pre-2021 international targets. That mechanism was linked to Kyoto-era target accounting and is sunsetting with the introduction of the Paris Agreement.¹³

Without changes to Aotearoa’s integrated system, any gains from voluntary domestic mitigation projects could be displaced by increased emissions elsewhere, instead of boosting Aotearoa’s domestic contribution beyond current policies and/or its global contribution beyond its NDC. This is sometimes referred to as the ‘waterbed effect’. In Aotearoa’s context, there is a potential cascade of waterbed effects.

- Voluntary mitigation at one point within a fixed and binding ETS cap will enable others to emit relatively more at lower emission prices unless the government then reduces the ETS cap accordingly.¹⁴
- Reducing the ETS cap will enable higher emissions in non-ETS sectors unless, the government reduces emissions budgets accordingly.
- Reducing emissions budgets will enable less purchasing of offshore mitigation to achieve a fixed NDC, unless the government either makes a corresponding adjustment to the national GHG inventory or reduces its NDC accordingly.¹⁵

The waterbed effect is illustrated in Figure 4.

Figure 4: Managing the waterbed effect from voluntary domestic mitigation



Note: VM = voluntary mitigation; DE = displaced emissions; CA = corresponding adjustment.

To avoid the ‘waterbed effect’ for voluntary mitigation in NZ ETS sectors, the government needs to prevent displaced emissions in the NZ ETS cap (point a) and elsewhere in the emissions budget (point b). When voluntary domestic mitigation counts toward the NDC (with no corresponding adjustment as shown at point c), the government will purchase less offshore mitigation to achieve the same NDC. When voluntary domestic mitigation carries a corresponding adjustment, the government will purchase the same offshore mitigation as without the voluntary mitigation to meet its NDC and Aotearoa’s global contribution will increase beyond its NDC.

With or without displacement elsewhere in the system, the GHG benefits from all voluntary mitigation activities are automatically accounted for in Aotearoa's national GHG inventory. The inventory is used to determine compliance with the government's domestic and international targets.

As a matter of policy, the government could choose to ringfence voluntary mitigation and adjust subsequent ETS caps and emissions budgets downward to prevent displaced emissions. Adjustments to previously decided ETS caps are already enabled with some restrictions under the legislated process for annual ETS cap extensions. Adjustments to previously decided emissions budgets are subject to more substantial restrictions, but in theory the Climate Change Response Act 2002 could be amended to enable subsequent adjustments reflecting certified voluntary mitigation.

Even if the government did not counteract the waterbed effect by adjusting ETS caps and emissions budgets, voluntary mitigation could still produce valuable benefits for Aotearoa. In contrast to organisations that continued emitting under the cap and drove up emission prices for everyone else, organisations that voluntarily mitigated more both internally and externally would reduce emission price pressure on the rest of the system and support a more just transition. Bringing strategic investments forward in time would create new market opportunities,

generate learning benefits and help to shift social norms. This momentum could make it easier for the government to adopt more ambitious ETS caps, emissions budgets and NDCs in the longer term.

Organisations might be more motivated to participate in voluntary mitigation if the government was committed to counteracting the waterbed effect domestically. Using voluntary mitigation to redistribute domestic mitigation costs might offer a less compelling marketing narrative than using it to keep more mitigation investment onshore, accelerate domestic transformation and reduce Aotearoa's reliance on offshore purchasing to meet its NDC.

The government could also provide a corresponding adjustment in its national GHG inventory to prevent double counting of voluntary domestic mitigation under its NDC. However, as noted above, this would make it harder and more costly for Aotearoa to meet its domestic and international targets. It could also raise equity considerations about the private versus public distribution of benefits versus costs to meet mitigation targets in an integrated system. The government would only be incentivised to do this if the voluntary mitigation were truly additional to the considerable effort already required to meet its targets. In this case, such mitigation would likely come at a discouragingly high cost to voluntary mitigation participants.

3.4 Decisions on voluntary domestic mitigation will have further policy implications

Government decisions on the future of voluntary mitigation in Aotearoa could affect other policy areas, including mitigating emissions from international aviation and implementing the new Carbon Neutral Government Programme announced in 2020.

Aotearoa is participating in the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which started in 2019. CORSIA is a global market mechanism for mitigating carbon dioxide emissions from international aviation, which are not covered in the Paris Agreement. Airplane operators are required to offset future growth in emissions post-2020 by purchasing eligible emission units. Mitigation claimed under CORSIA cannot be double counted under the Paris Agreement. In November 2020, CORSIA issued guidance on eligible emissions units generated from mitigation activities from 2016 to 2020.¹⁶ CORSIA's unit eligibility from post-2020 mitigation has not yet been decided. Conceptually, it would not be possible for Air New Zealand or other carriers to use domestic mitigation from Aotearoa as offsets under CORSIA unless it carried a corresponding adjustment

from the government. This is not possible under current government policy. Enabling corresponding adjustments for voluntary domestic mitigation under the Carbon Frontier track could potentially make it available for trading in the CORSIA market, if it met other eligibility criteria.

In December 2020, the government announced a goal for Aotearoa's public sector to be carbon neutral by 2025.¹⁷ Public sector agencies must measure and report their emissions and offset those which cannot be reduced by 2025. Additional measures include phasing out large coal boilers, requiring electric vehicles to be purchased for the government fleet and applying green standards for public buildings. The government is developing further policy for achieving this goal. It is not yet clear if the additional mitigation claimed by public agencies to achieve carbon neutrality would also count toward the NDC – with or without preventing emissions displacement in the NZ ETS and emissions budgets – or whether it would constitute an additional cost to taxpayers beyond meeting the NDC.

3.5 Managing double counting is also a challenge within supply chains

In national GHG inventories used to demonstrate performance against international targets, most emissions are accounted for on a production basis, not on a consumption basis. The exception is fossil fuels, for which emissions are based on net consumption (calculated as domestic production plus imports minus exports).

In contrast, when calculating their emission footprints, organisations are typically required to measure their direct (production) emissions (Scope 1) and their indirect (consumption) emissions from purchasing electricity or heat (Scope 2). They are increasingly encouraged to measure other indirect (consumption) emissions upstream or downstream in the supply chain (Scope 3) – at least to some degree.¹⁸ Efforts by one organisation to reduce its direct emissions may also reduce the indirect emissions of other organisations in the supply chain. A cooperative mitigation project with offset trading between a funder and provider will

affect the supply chain emissions associated with both participants. Essentially, every organisation's emission footprint involves double counting of upstream and downstream emissions by design. For this reason, GHG accounting at the organisational level does not align with that at the national level. This can complicate the assessment of double counting across the two levels.

At the level of a voluntary mitigation project, an important distinction needs to be made between the mitigation funder (who claims an offset) and the mitigation provider (who reports reduced emissions). To maintain the integrity of the accounting system, external mitigation used for offsetting should only be claimed once for that purpose in the system. However the mitigation provider and other entities in the supply chain will still be able to report the mitigation in their own emission footprints. The following case study explores some of these issues.

Hypothetical case study on accounting for voluntary domestic mitigation in Aotearoa

Company X provides funding to Greenhouse Y to replace a coal boiler with a biomass boiler fueled by farm waste. Greenhouse Y generates emission reductions that are independently verified and Company X claims those reductions against its own operational emissions. Greenhouse Y benefits from the new asset and reduced exposure to ETS emission costs.

- » In Aotearoa's context, the ETS emission price as well as other government incentives and policies for boiler fuel switching will need to be factored into the additionality assessment for the project.
- » If both Company X and Greenhouse Y have voluntary mitigation targets for corporate and marketing purposes, both will report the emission benefits from the new boiler in their respective emission footprints. Company X will report the external offsetting and Greenhouse Y will report lower Scope 1 emissions. Further upstream and downstream operators in the supply chain will reflect the mitigation in their Scope 3 emissions.
- » In addition, the project will help to prepare the farm for a low-emission future, demonstrate low-emission technology with spillover learning benefits for the sector and shift social norms.
- » Reduced boiler emissions by Greenhouse Y will enable emissions to increase elsewhere at lower prices under the ETS cap, unless the government subsequently adjusts the ETS cap downward. If it adjusts the ETS cap, the government will also need to adjust the emissions budget downward to prevent emission increases in non-ETS sectors.
- » If it adjusts the ETS cap and the emissions budget and does not provide a corresponding adjustment, the government will need to purchase less offshore mitigation to meet its NDC – a benefit to Aotearoa. Aotearoa's overall contribution to global mitigation will be the same as before the boiler replacement.
- » If it adjusts the ETS cap and the emissions budget and provides a corresponding adjustment, the government will have to purchase the same amount of mitigation as before the boiler replacement to meet the NDC. Aotearoa's overall contribution to global mitigation will be greater than before the boiler replacement.

4

A two-track solution for voluntary mitigation in Aotearoa

This paper presents a straw proposal for a two-track system intended to boost voluntary mitigation at scale with benefits for both organisations and government. This proposal is still at an early stage of development. It is presented with the goal of stimulating further stakeholder discussions on these issues.

4.1 Voluntary mitigation should begin with ambitious organisational targets

Before conducting voluntary offsetting through external mitigation, organisations should adopt ambitious voluntary targets for reducing their own net emissions. This should be part of a broader strategy to transition toward net zero emissions of long-lived GHGs and significant reductions in other GHGs in line with the temperature goal of the Paris Agreement (preferably limiting temperature rises to 1.5°C above pre-industrial levels, rather than ‘well below’ 2°C). The boundaries of these targets should be clearly defined and should encompass net emissions from Scopes 1, 2 and 3¹⁹ to the extent feasible.

Each organisation’s own net emission reductions will automatically be captured in the national GHG inventory and help Aotearoa meet its targets. By current convention, double counting of internal emission reductions by an organisation and the government is not considered a problem.

As noted above, if an organisation reduced its internal net emissions to zero, it could be considered carbon neutral, regardless of if those reductions also counted toward the NDC.

As organisational mitigation targets become more central to marketing claims and climate risk reporting, increased levels of target standardisation in terms of scope and ambition may become necessary to compare efforts across organisations. This is already evident at both the international and domestic levels with the growing interest in science-based targets. This will also help voluntary external mitigation be understood as ‘going the extra distance’ to take responsibility for residual emissions unable to be reduced inside the organisation (due to being either impossible or prohibitively expensive).

4.2 A two-track system could support a broad range of stakeholders

Organisations have different interests and needs around external voluntary mitigation. With a shared goal of producing credible mitigation outcomes, some organisations may prefer to support countries in reaching challenging Paris Agreement targets. Others may want to push progress beyond Paris Agreement targets, which collectively fall short of preventing dangerous climate change. Some may seek domestic recognition for financing mitigation external to their organisation. Some may wish to claim carbon-neutral offsetting in line with international norms.

Applying a ‘one size fits all’ policy solution could constrain both participation and climate benefits. A fragmented system could be confusing and undermine market confidence in its environmental integrity.

In this proposal, organisations could choose between two tracks for voluntary mitigation external to their boundary and supply chain, as described next.

Track 1: Carbon Horizon

In the Carbon Horizon track, organisations could claim recognition for financing or otherwise supporting voluntary mitigation beyond their own boundary and supply chain and beyond government requirements, to help bridge the gap to meet NDCs. Alternative support beyond financing could potentially include activities like overcoming non-price barriers to adoption of low-emission technologies or marketing low-emission goods and services which displace higher-emission alternatives. Recognition for external voluntary mitigation could be achieved by:

- receiving a certificate or other proof of carbon financing and mitigation recorded in a registry
- purchasing and cancelling certified VCCs without requiring a corresponding adjustment by the project’s host government.²⁰

Only one organisation could claim having financed (or otherwise supported) a given amount of external voluntary mitigation as an offset. Beyond the specific offsetting claim, the Carbon Horizon track would explicitly allow reporting and double counting of the mitigation itself, at both the organisational and government levels, as well as across supply chains.

Under this track, external voluntary mitigation would complement, not displace, compliance mitigation by participants. Independent certification of financing and mitigation outcomes would help ensure the integrity of organisational claims and the overarching NDC framework would serve as a further safeguard for climate impacts.

Participation in the Carbon Horizon track would enable supporting organisations to claim a 'Carbon Contribution'. Those who wished to apply a conventional offsetting approach could use certified external voluntary mitigation to compensate for their residual internal emissions and make a claim for 'Carbon Neutrality (Horizon)'. Those who achieved net-negative emissions through certified external voluntary mitigation could make a claim for 'Carbon Positive (Horizon)'. The 'Horizon' status would indicate that the offsetting activity also counted toward the NDC of Aotearoa or another country.

The option to claim a 'Carbon Contribution' (using certification or other proof of carbon financing and mitigation as an alternative to VCCs) would open up new possibilities for recognising and rewarding voluntary actions whose mitigation benefits are less suitable for offsetting claims (e.g., are difficult to quantify precisely, or are not conducive to assigning legal ownership).

Importantly, the focus would shift from owning mitigation to facilitating it. This approach would encourage greater cooperation relative to the status quo because all participants in a voluntary mitigation activity could claim recognition for the mitigation benefits. It would better reflect the interdependence of organisations operating in an integrated economic system. It would be scalable and durable throughout the global journey toward net zero and eventually net negative emissions, enabling greater diversity, transparency and innovation in mitigation activity across organisations.

Depending on how it was implemented, this approach could facilitate integration of voluntary mitigation activity with other frameworks for managing climate-related risk, demonstrating corporate social responsibility, conducting social impact investment, implementing nature-based solutions, or crediting biodiversity or other ecosystem services.

Track 2: Carbon Frontier

In the Carbon Frontier track, organisations could claim recognition for financing voluntary mitigation beyond their own boundary and supply chain and beyond government requirements for meeting NDCs to boost global mitigation beyond NDCs. Recognition for financing external mitigation could be achieved by cancelling certified VCCs that carry a corresponding adjustment from a host government or were generated outside of the scope of the host government's NDC.

In Aotearoa, a key driver of this track would be if the government opted to make available corresponding adjustments for voluntary domestic mitigation to prevent double counting under its NDC. For example, the government could pre-select eligible domestic mitigation activities and/or develop additionality criteria for evaluating proposed mitigation activities relative to NDC compliance. Potential examples include activities that fall outside the current scope of the NDC (such as small-scale forest planting on farms) or bringing forward in time high-cost investments (like establishing hydrogen distribution infrastructure or carbon capture and storage). Without the option of a corresponding adjustment for domestic mitigation in Aotearoa, the Carbon Frontier track would involve only offshore mitigation, which either carried a corresponding adjustment by the host government or was generated outside the scope of the host government's NDC.²¹

Under this track, participants who used certified external voluntary mitigation to compensate for their residual internal emissions could make a claim for 'Carbon Neutrality (Frontier)'. Those who achieved net-negative emissions through certified external voluntary mitigation could make a claim for 'Carbon Positive (Frontier)'. The 'Frontier' status indicates the offsetting activity went beyond the NDC of Aotearoa or another country.

The Carbon Frontier track would suit organisations wanting to increase global mitigation beyond the scope of current NDCs or make carbon offsetting claims in markets requiring Paris-compliant corresponding adjustments. If the government wanted to limit its target and fiscal risk, it could potentially restrict eligibility for corresponding adjustments to producers exporting to sensitive markets or participating in other compliance systems (e.g., CORSIA).

Under this proposal, organisations could make differentiated carbon-neutral claims under either track. Under a Carbon Neutral (Horizon) claim, organisations would achieve a net zero contribution

toward the Government’s target. Under a Carbon Neutral (Frontier) claim, organisations would achieve a net zero impact on global emissions. In both cases, the claim would need to have a clearly defined organisational boundary, scope of emissions coverage

and time period. Before going ahead with a two-track approach, the acceptability of these claims (given evolving international standards) would need to be tested in domestic and international markets.

Figure 5:
The Net Zero Initiative Dashboard

		PILLAR A Reducing my GHG emissions	PILLAR B Reducing others’ emissions	PILLAR C Developing carbon sinks
In my value chain	In my operations	Direct emissions (scope 1)		Direct removals
	Upstream and downstream	Indirect emissions (scope 2+3)	Emissions avoided by my products and services	Indirect removals
Outside of my value chain			Emissions avoided through the financing of reduction projects	Removals through the financing of absorption projects

Source: Carbone 4 — Net Zero Initiative 2020.
See www.netzero-initiative.com/en and www.carbone4.com
Redrawn with permission.

4.3 Voluntary mitigation would benefit from transparent reporting

In practice, some organisations making a carbon-neutral claim report a net emission outcome which encompasses all GHG emissions and removals and combines mitigation within their boundaries and supply chain with external offsetting.

As an alternative to net emission reporting, organisations could use a ‘dashboard’ approach for reporting mitigation activity to a greater level of detail. This could prescribe distinct reporting of mitigation outcomes within and beyond an organisation’s own boundary and supply chain, making organisations transparently accountable for both their internal mitigation progress and their external contribution. The dashboard could distinguish between emission reductions and removals. It could accommodate separate reporting of carbon financing claims for which mitigation outcomes are difficult to quantify with precision or ascribe legal ownership. A useful model for a dashboard approach was developed by the Net Zero Initiative (see Figure 5).²² Alongside the benefits of greater transparency, flexibility and accountability, the dashboard reporting approach would pose challenges from added complexity.

Alternative approaches for reporting voluntary mitigation could enable inclusion of more detailed information about its environmental, social, cultural and economic impacts – both positive and negative. This could incentivise mitigation providers and supporters as well as consumers and investors to be more aware of measuring and managing co-impacts from voluntary mitigation and to include them in the market valuation of voluntary mitigation. This issue gets to the heart of how voluntary mitigation aligns with broader social and cultural values, including those reflected in te ao Māori. In Aotearoa, we have an opportunity to incentivise voluntary mitigation that delivers important benefits for iwi/Māori, communities and regions as part of a just transition. Benefits for the environment include improving water and air quality, conserving biodiversity, and reducing waste. Benefits for the economy include creating employment, developing new markets, and moving toward more circular production. In the past, offsetting was sometimes perceived as a least-cost option to comply with government requirements or achieve ‘green’ credentials for marketing purposes. Moving forward, we could reinvent voluntary mitigation as one means for achieving highest-value climate change outcomes for Aotearoa.

4.4 Additionality assessment would vary across tracks

The assessment of project additionality has been a challenge for the VCM since inception. In response to this challenge, a large body of work has been done to establish workable and credible additionality criteria. The proposed two-track system could build on the extensive foundation of past work. A key distinction would be that Carbon Horizon activities would help bridge the gap between implementing government policy and meeting Aotearoa's NDC, whereas Carbon Frontier activities would need to be additional to meeting Aotearoa's NDC. Figure 6 illustrates conceptual 'additionality zones' for Carbon Horizon and Carbon Frontier mitigation in relation to that required by government policy.

In Aotearoa's context, it could be difficult to distinguish which types of voluntary domestic mitigation qualified under each track relative to the government's policy commitments and aspirations. For example, the government relies heavily on the NZ ETS to drive mitigation. Price elasticities vary across market participants and future emission prices may prove unpredictable. Therefore, how individual organisations respond to regulatory emission pricing will vary widely under baseline conditions, making it hard to determine when voluntary carbon finance or support for overcoming non-price barriers would be needed to get additional low-emission investment over the line.

In another example, the government may set aspirational policy targets without implementing sufficient price and regulatory drivers to achieve them. It is not clear if the government's high-level commitments to achieve stipulated levels of energy efficiency improvements, uptake of electric vehicles, fuel switching for process heat, or planting of permanent native forests would exclude such activities from the scope of eligible voluntary mitigation. This is even if the government's emission price projections, regulatory standards and incentive programmes were clearly inadequate to achieve them.

Threshold and timing issues would also be a complication. For example, if the government set an intention to establish 300,000 hectares of new native forest across the public and private sectors through 2035, but could not control actual planting on private land, how could a mitigation provider demonstrate if a voluntary permanent forest would be additional to the government's intention? While a voluntary energy efficiency programme might legitimately accelerate household retrofits relative to a government target, how would the mitigation provider demonstrate those efforts were additional to that target — and for how long could voluntary mitigation benefits be claimed?

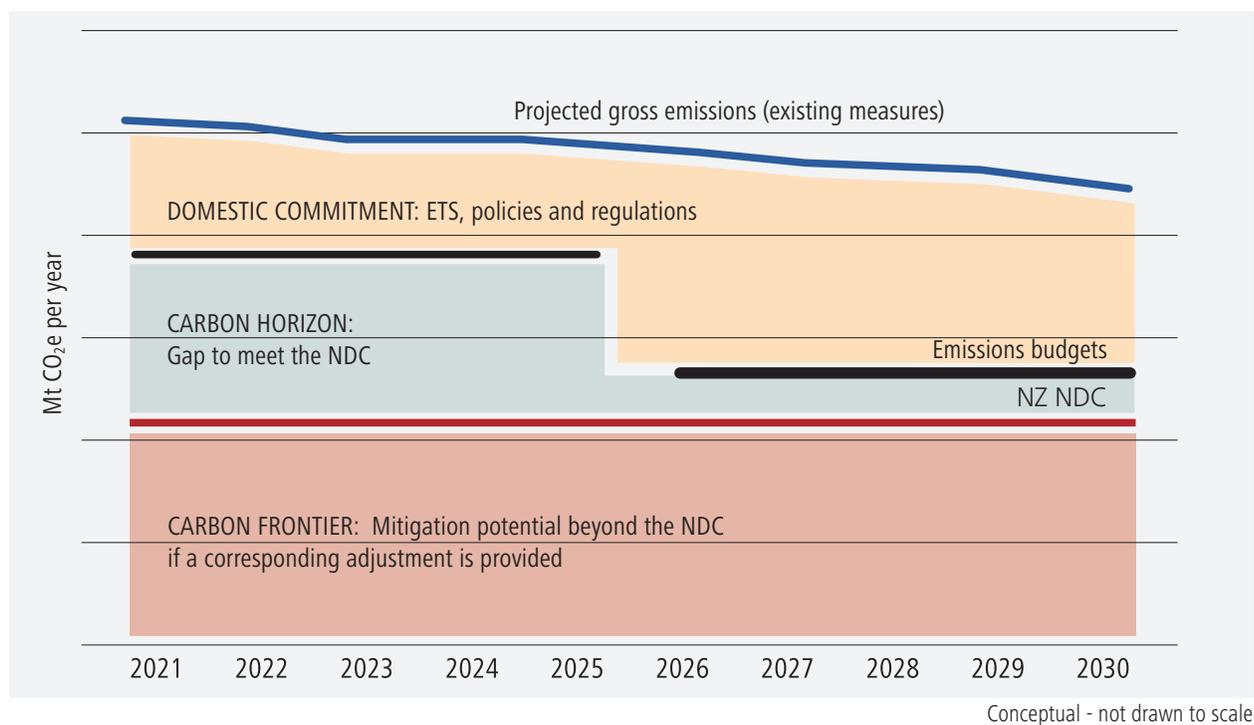
Developing appropriate and consistent methodologies for additionality assessment will clearly require careful consideration and further work. Importantly, the purpose of additionality assessment in Aotearoa's domestic context would be different under this framework than in the past. In this framework, the additionality test for Carbon Horizon would demonstrate if an organisation's claim to voluntary mitigation is credible and supports Aotearoa's low-emission transition beyond government requirements. For Carbon Frontier, the additionality test would ensure voluntary mitigation is worthy of a corresponding adjustment that makes Aotearoa's near-term NDC more difficult to meet. In both cases, while the additionality assessment would have domestic equity and reputational implications, the overarching operation of the NDC and Aotearoa's domestic regulations (including the NZ ETS) would mean the additionality assessment would not place the atmosphere at risk. In contrast, under the Kyoto-era framework, the additionality test was the primary safeguard for the environmental integrity of projects implemented in developing countries under the Clean Development Mechanism or in developed countries which overachieved on their Kyoto targets due to economic recession.

In both tracks, a staged process for additionality assessment could encompass:

- regulatory additionality (producing GHG benefits beyond government requirements – but perhaps not government policy aspirations)
- investment additionality (producing GHG benefits that depend on voluntary carbon finance to be financially viable, taking account of emission price incentives under the NZ ETS and other measures)
- barrier analysis (overcoming non-price barriers to implementation)
- technological additionality (meeting stringent technology standards and ensuring proposed technologies were consistent with a net-zero-emission future).²³

Although additionality assessment for projects could be conducted outside of government, the process for assessing additionality with consistency could be helped by government action to identify positive or negative lists of eligible activities, clearly define committed regulatory pathways aligned with emissions budgets and NDCs and issue performance standards.²⁴ If the government committed to reduce future NZ ETS caps and emissions budgets to reflect certified voluntary mitigation, it would require a high level of assurance about the additionality of credited activities.

Figure 6: Conceptual additionality zones for Carbon Horizon and Carbon Frontier voluntary mitigation



4.5 Both tracks would have a common foundation ensuring integrity

For both tracks, voluntary mitigation activities potentially could be implemented by the private, public, NGO and/or community sectors. Using this framework, market service providers and mitigation project developers (both public and private) could develop a range of offerings with their own branding, that applies common standards and meets market needs with transparency, consistency and environmental integrity. Organisations providing independent verification or certification of voluntary mitigation would need to be accredited and stick to internationally recognised standards and processes. Existing VCM service providers (both domestic and international) would be welcome to participate on those terms.

Across both tracks, features which could contribute to a successful outcome include:

- credible processes for ensuring environmental integrity across project registration, monitoring, reporting and verification/certification compatible with international and domestic standards
- traceability of tradable instruments
- transparent processes
- robustness of market oversight
- the ability for mitigation funders and providers to make clear marketable claims

- observable, real benefits
- incentives for faster and more ambitious action
- low transaction costs
- achieving a critical mass of supply and demand for voluntary mitigation.

Much of this foundation is already available under the VCM and could be adapted as necessary to enable a fast start. It would be useful to consider how this kind of framework for voluntary mitigation could interact with other frameworks for meeting compliance obligations under the NZ ETS and Paris Agreement, managing climate risk, crediting ecosystem services and making social impact investment – and how to leverage synergies.

The proposed approach to voluntary mitigation includes ambitious organisational mitigation targets and alignment with the NDC framework. As a result, organisations’ financial or other support for external voluntary mitigation would increase mitigation beyond what is feasible within organisations’ own boundaries, not displace compliance obligations. Aggregating investment from multiple funders could help mitigation through programmes of activities delivering outcomes at greater scale and with lower transaction costs compared to individual projects.



4.6 The motivation to participate would depend on the advantages it confers

In countries without emissions pricing mechanisms, the VCM can serve as a useful mechanism for introducing the concept and mobilising low-emission investment. One of the fundamental benefits of already having a broad-based ETS in Aotearoa is it creates price incentives for everyone to mitigate in line with targets, without having to certify individual mitigation projects requiring assessment of double counting, additionality, leakage, non-permanence and legal claims to ownership of direct versus indirect mitigation. It does not make sense to create a new voluntary projects mechanism that would essentially duplicate what the ETS is already intended to do.

However, there could be a legitimate role for a mechanism to incentivise incremental carbon finance and support for mitigation activities not required by regulation or economically viable under the ETS emission price, or that face non-price barriers. For example, under an ETS emission price of \$50 per tonne, an organisation willing to finance additional domestic mitigation at \$25 per tonne could bring forward in time new domestic mitigation possibilities viable at an emission price of \$75 per tonne. Under the Carbon Horizon track, with subsequent government adjustments to ETS caps and emissions budgets, such activity could displace purchasing of offshore mitigation to bridge the NDC gap, enabling more climate investment to remain within Aotearoa and accelerate our own low-emission transition.

In this context, a key question for both tracks is how motivated organisations would be to participate in voluntary domestic mitigation, in a future where domestic emission prices and regulatory stringency are increasing significantly. The answer to this question will depend on:

- transaction costs and administrative complexity associated with getting recognition for supporting additional voluntary domestic mitigation
- if voluntary mitigation is perceived to have environmental and social integrity by organisations, consumers and investors
- the willingness of consumers and investors to reward organisations that supply or otherwise support low-emission goods and services
- the cost, integrity and supply of domestic voluntary mitigation compared to offshore mitigation.

The following examples illustrate how recognition for voluntary mitigation could help get worthwhile projects over the line. Provided they went beyond regulatory requirements, the first five examples would qualify for Carbon Horizon, unless the Government agreed to provide a corresponding adjustment under the NDC. The sixth example would fall outside the scope of Aotearoa's NDC so would not require a corresponding adjustment to generate a climate benefit beyond the NDC.

Hypothetical case studies: examples of voluntary mitigation in action

Example 1: Changing the outcome of energy investment decisions*

A firm is evaluating boiler options. A biomass boiler would cost \$2 million more than the fossil fuel alternative. While the firm would prefer biomass, the near-term business case does not support it, leaving the firm with the choice of deferring the decision or investing in the higher-emission option. If the VCM could mobilise carbon finance of \$1 million, the project could reduce emissions by 90,000 tCO₂e during the asset lifetime. This would correspond to an incremental carbon cost of \$11/tCO₂e under the VCM. (Note: Numbers are illustrative only.)

Example 2: Overcoming barriers to energy efficiency

A local government invites businesses to help capitalise a revolving loan fund for energy efficiency improvements in low-income households. Households receive a zero-interest loan which they repay over time from their rates drawing from the energy cost savings. The supporting businesses can claim a pro rata share of the emission reductions generated by the project portfolio over time. Applying standardised parameters for defining eligible project activities, demonstrating their additionality and calculating emission benefits minimises transaction costs per household. A bulk supply agreement reduces the cost of materials and installation. By providing up-front finance and technical support beyond the scope of current government programmes, the project overcomes both price and non-price barriers to accelerate energy efficiency gains, improve health outcomes and reduce household power bills.

Example 3: Enabling an EV car share scheme in a low-income community

Local businesses which are upgrading their own vehicle fleets to EVs cooperate to implement an EV car share scheme for low-income households otherwise driving low-efficiency fossil fuel vehicles. The switch to EVs in the community helps to shift social norms, improve access to mobility for employment and leisure trips and reduce household vehicle emissions as well as maintenance and fuel costs.

Example 4: Upscaling new low-emission technology

A start-up company is trying to commercialise a new low-emission technology. A group of investors pool funds to accelerate domestic production and uptake of the technology before it is economic to do so, stimulating the development of a new market with export potential.

Example 5: Boosting native forest carbon sequestration

A landowner is considering establishing a permanent native forest on marginal land but cannot make the business case work. If the landowner can mobilise additional impact investment reflecting the combined value of carbon sequestration, biodiversity and other ecosystem services and cultural amenity from native afforestation, the business case will become viable.

Example 6: Incentivising small-scale forest carbon sequestration

An NGO seeks to plant native trees at scales below the eligibility threshold for crediting under the NZ ETS or under Aotearoa's NDC. Organisations helping to finance the planting receive certification of their carbon contribution, which they can report to Board members, shareholders and consumers.

** This case study was developed by EECA for discussion purposes.*

4.7 Further work would be needed to make this happen

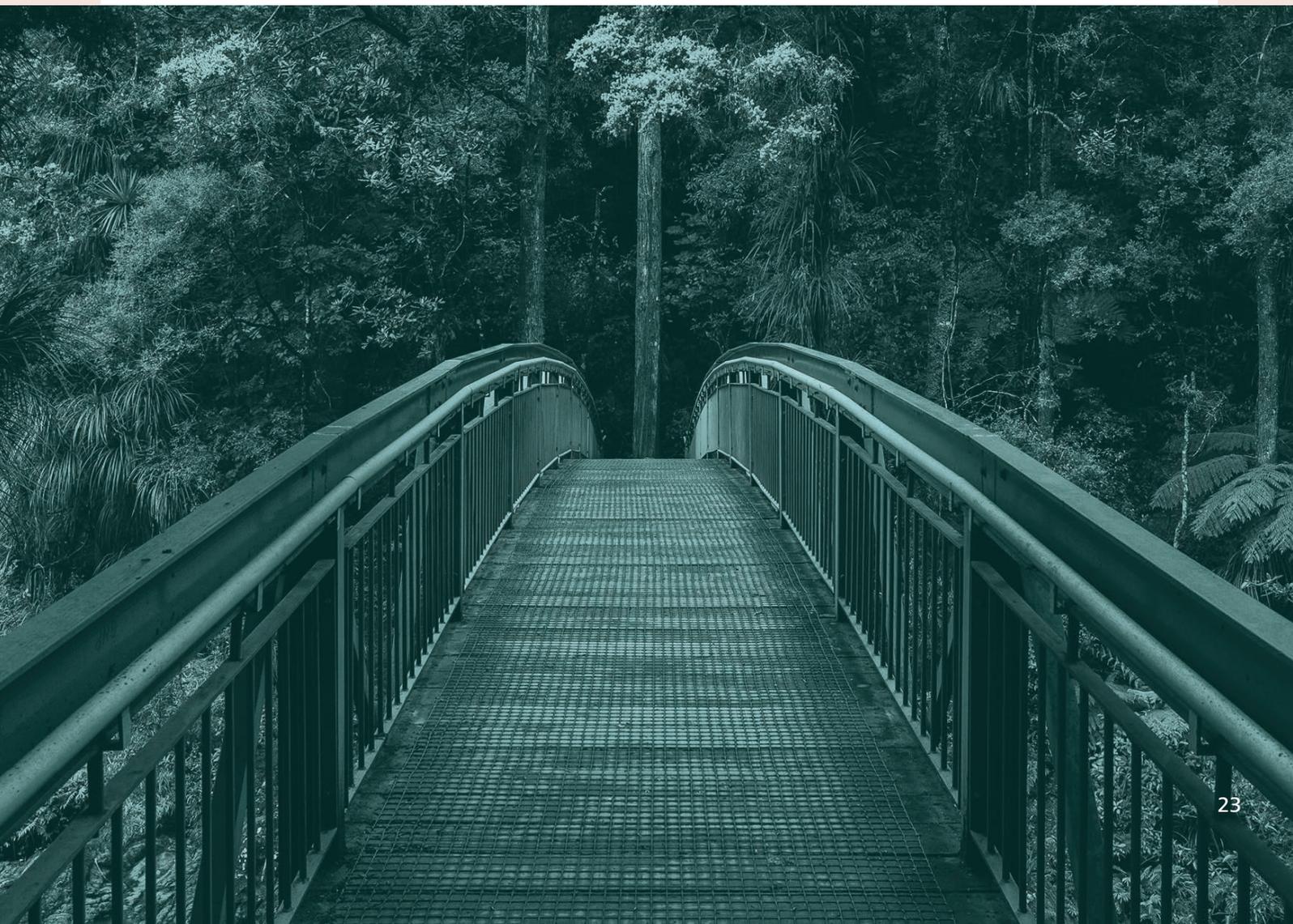
Developing a two-track system for voluntary mitigation that suits the unique national circumstances of Aotearoa requires further research, leadership, experimentation and collaboration across diverse stakeholders and government. Businesses, iwi/Māori, investors, consumers, NGOs and officials will have a range of interests and priorities for the future of voluntary mitigation in Aotearoa.

An effective process for system development should include information sharing and co-design involving diverse stakeholders and testing of key concepts with both domestic and export markets. In addition, the system would benefit from clear government policy direction and support in the following areas:

- policy decisions on providing corresponding adjustments
- guidance on organisational marketing claims
- a sound framework for market oversight and registry management

- regulatory pathways and standard assumptions to support additionality assessment
- constructive engagement in Article 6 negotiations under the Paris Agreement
- pursuing options for organisations in Aotearoa to access Paris-compliant offshore mitigation.

It would also be important for the New Zealand Government, businesses and research organisations to maintain linkages with international voluntary mitigation stakeholders and initiatives to ensure appropriate alignment with emerging norms in overseas markets.



Endnotes

- ¹ It may be appropriate to limit coverage to a subset of Scope 3 emissions due to the challenges of comprehensive accounting.
- ² Examples of other support include participating directly in mitigation projects as partners; contributing funding, technical support, or other resources to organisations conducting mitigation projects; or marketing low-emission goods and services.
- ³ It would still be possible – but not required – for a Carbon Horizon participant to include VCCs with a corresponding adjustment in their mitigation portfolio.
- ⁴ Projects to Reduce Emissions (PRE) and the Permanent Forest Sink Initiative (PFSI) were government-run voluntary programmes enabling participants to receive tradable emission units which were eligible for surrender in the NZ ETS, cancellation in the New Zealand Emissions Trading Register for voluntary offsetting, or sale overseas. PRE is no longer operating and the PFSI will be discontinued by 2023.
- ⁵ In this paper, we assume that both reducing emissions and increasing removals of GHGs have a role to play in voluntary climate action. We acknowledge this convention is not universally applied and the balance between voluntary emission reductions and removals may shift over time.
- ⁶ The term ‘insetting’ can be interpreted in different ways. For one example, see ICROA and University of Bristol (2016).
- ⁷ In this paper, the term ‘offsetting’ applies to claiming external mitigation to neutralise or otherwise compensate for an organisation’s residual emissions under its internal mitigation target. We acknowledge this convention is not universally applied.
- ⁸ In this paper, the terms ‘carbon neutral’ and ‘net zero’ are used interchangeably. We acknowledge this convention is not universally applied.
- ⁹ To date in Aotearoa, many participants in the VCM have not actually used VCCs issued in non-compliance markets. Under the Kyoto framework in place between 2008 and 2020, organisations could buy and cancel Kyoto units as a form of VCCs. Kyoto units were used for meeting countries’ Kyoto targets and some were eligible in ETS compliance markets. Some Kyoto units are eligible for offsetting under CORSIA, as discussed in Section 3.4.
- ¹⁰ The additionality test should eliminate any activity required or incentivised by government regulations, pricing mechanisms, financial incentives or policies.
- ¹¹ Examples of recent work include Carbon Disclosure Project (2020); Carbone 4 (2020); Doda et al. (2021); Gold Standard (2020); ICROA (2020); TSVCM (2021); Verra (2020); and WWF and BCG (2020).
- ¹² In the past, a significant number of organisations have voluntarily cancelled NZUs with the expectation this qualified as carbon-neutral offsetting when in fact it did not actually produce an additional global mitigation benefit.
- ¹³ For more information, see Ministry for the Environment (2020).
- ¹⁴ Note that if, due to voluntary mitigation, emission prices at auction dropped below the value of the auction reserve price (or confidential reserve price), unauctioned units would be cancelled if they remained unsold by the end of that calendar year. This would constitute an automatic reduction in the NZ ETS cap for that year.
- ¹⁵ There is a further layer of the waterbed effect at the level of international NDCs. If voluntary domestic mitigation enables Aotearoa to purchase less offshore mitigation to achieve its NDC, the surplus offshore mitigation may simply be purchased by another country which emits more domestically as a result. Voluntary domestic mitigation in Aotearoa will not increase global mitigation beyond the scope of NDCs unless the government makes a corresponding adjustment and the mitigation is subsequently cancelled.
- ¹⁶ See ICAO (2020).
- ¹⁷ See Ardern, Nash, and Shaw (2020).
- ¹⁸ Fully accounting for Scope 3 emissions can be very difficult. Many organisations which report Scope 3 emissions do so only for a subset. For more explanation of Scope 3 emissions, see the work of the Greenhouse Gas Protocol (available from <https://ghgprotocol.org/>).
- ¹⁹ As noted previously, it may be appropriate to limit coverage to a subset of Scope 3 emissions due to the challenges of comprehensive accounting.
- ²⁰ VCCs that carry a corresponding adjustment could still be applied in the Carbon Horizon track but would not be required. For example, an organisation could include in its mitigation portfolio both VCCs from mitigation in Aotearoa which do not carry a corresponding adjustment and VCCs from a developing country which do carry a corresponding adjustment.
- ²¹ If a host government initially lacked the capacity to issue corresponding adjustments, it could be possible to substitute independent certification of the mitigation activities as additional to the NDC during a transitional period.
- ²² For more information, see Carbone 4 (2020).
- ²³ For example, projects that improved the efficiency of fossil fuel assets and delayed their replacement with less emissions-intensive alternatives would be counterproductive in Aotearoa’s low-emission transition.
- ²⁴ Australia’s Climate Active programme is an example of a government-backed initiative for crediting voluntary mitigation. For more information, see <https://www.climateactive.org.au/what-climate-active>.

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