Working Paper 2025/07

Analysing Carbon Offset Information Disclosed in 2021–2024 Annual Reports and Sustainability Reports of NZSX-listed Companies

MCGUINNESS INSTITUTE
TE HONONGA WAKA

Title *Working Paper 2025/07 – Analysing Carbon Offset Information Disclosed in 2021–2024 Annual Reports and Sustainability Reports of NZSX-listed Companies*

Citation Please cite this publication as: McGuinness Institute. (2025). *Working Paper 2025/07 – Analysing Carbon Offset Information Disclosed in 2021–2024 Annual Reports and Sustainability Reports of NZSX-listed Companies* [online] Available at: www.mcguinnessinstitute.org/publications/working-papers [Accessed date].

Copyright © McGuinness Institute Limited December 2025
978-1-99-106520-9 (paperback)
978-1-99-106521-6 (PDF)

This document is available at www.mcguinnessinstitute.org and may be reproduced or cited provided the source is acknowledged.

Author McGuinness Institute

Research team Wendy McGuinness, Molly Woods, Paddy Shonakan, Mani McDougall and Greta Balfour

Designer Lucy Roughan

Editors Caren Wilton and Johanna Knox

For further information
McGuinness Institute
Phone (04) 499 8888
Level 1A, 15 Allen Street
PO Box 24222
Wellington 6011
New Zealand
www.mcguinnessinstitute.org

Disclaimer

This information has been prepared with the intention of exploring how the current system of reporting works in practice, with a particular focus on the quality and quantity of information available to the public (rather than to the shareholder or investor). It is not to be used for investment purposes and the Institute takes no responsibility for those who use this report for those purposes.

The McGuinness Institute has taken reasonable care in collecting and presenting the information provided in this publication. However, the Institute makes no representation or endorsement that this resource will be relevant or appropriate for its readers' purposes and does not guarantee the accuracy of the information at any particular time for any particular purpose. The Institute is not liable for any adverse consequences, whether direct or indirect, arising from reliance on the content of this publication. Where this publication contains links to any website or other source, such links are provided solely for information purposes and the Institute is not liable for the content of any such website or other source.

The Institute uses AI in our research and analysis. To view our AI protocol visit: www.mcguinnessinstitute.org/aiprotocol

Publishing The McGuinness Institute is grateful for the work of Creative Commons, which inspired our approach to copyright. Except where otherwise noted, this work is available under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International Licence. To view a copy of this licence visit: creativecommons.org/licenses/by-nc-nd/4.0

creative commons

Contents

Tables

Figures

Appendices

Acknowledgements

The Institute would like to thank Stewart McKenzie and Belinda Mathers at Toitū Envirocare for their expertise and insightful feedback. Their comments greatly helped in ensuring key terms and concepts were used and explained correctly and comprehensively. The Institute would also like to thank Ngaio Neumegen for her helpful insights, which, in particular, provided additional clarity on the distinction between compliance and voluntary markets in New Zealand.

Table 1: Government institutions involved in carbon offsetting

Name of institution	Core function	Role	Role in relation to carbon offsetting	Relevant legislation, standards or guidance
Ministry for the Environment (MFE)	Policy adviser and system steward	Leads the development of climate policy and plans and provides stewardship over the regulatory systems for environmental management and climate change.[1]	Manages policy and rules around the New Zealand Emissions Trading Scheme (NZ ETS) and provides guidance on voluntary climate change mitigation, including voluntary offsetting.[2]	*Interim guidance for voluntary climate change mitigation*[3]
Climate Change Commission (CCC)	Independent adviser	Provides independent, evidence-based advice to the Government to support New Zealand's transition to a climate-resilient, low-emissions future.[4]	Advises the government on emissions budgets, emissions reduction targets and policy, and the setting of the NZ ETS.[5]	*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*[6]
External Reporting Board (XRB)	Standard setter	Develops reporting strategies and frameworks, financial reporting standards, climate standards and auditing and assurance standards to ensure the provision of trusted, integrated information that meets users' needs.[7]	Sets mandatory climate related disclosure standards for climate reporting entities (CREs).[8] See Table A8.1 on p.95.	Financial Sector (Climate-related Disclosures and Other Matters) Amendment Act 2021 *Aotearoa New Zealand Climate Standard 1: Climate-related Disclosures (NZ CS 1)*[9]
Financial Markets Authority (FMA)	Regulator	Principal conduct regulator for financial markets, ensuring they are fair, efficient and transparent.[10]	Monitors and enforces compliance with New Zealand Climate Standards (NZ CS) and ensures disclosures are substantiated and not misleading. Provides guidance to support compliance.[11]	*Proposed guidance and expectations for keeping proper climate-related disclosure records*[12] *Climate-related Disclosures Monitoring Plan 2023–2026*[13]
Commerce Commission (ComCom)	Regulator	Enforces laws relating to competition, fair trading, consumer credit and economic regulation.[14]	Ensures environmental claims, including 'carbon offset' and 'carbon-neutral' claims, are substantiated and not misleading, and therefore comply with the Fair Trading Act 1986. Provides guidance to support compliance.[15]	*Environmental Claims Guidelines: a guide for traders*[16]
Environmental Protection Authority (EPA)	Regulator	New Zealand's national environmental regulator, ensuring New Zealand is meeting its international obligations around environmental protection.[17]	Manages the New Zealand Emissions Trading Scheme (NZ ETS) (with MFE), including compliance, reporting and market information, and operates the New Zealand Emissions Trading Register.[18]	*Climate Change (Unique Emissions Factors) Regulations 2009 (*for NZ ETS regulatory units only)
Energy Efficiency & Conservation Authority (EECA)	Promoter	Delivers regulations, standards, guidance and grants to promote and support energy efficiency, energy conservation and the use of renewable energy sources.	Provides insights on voluntary carbon mitigation and commissioned Motu to produce a report on this topic.[19]	Energy Efficiency and Conservation Act (2000), s20 *Boosting voluntary climate action in Aotearoa New Zealand – an overview* [20]

Preface

Carbon offsetting has become increasingly controversial as an approach to addressing climate change. Many see it as a form of greenwashing or as a way for companies to reduce their emissions without having to make any changes to business practices. The unregulated nature of the Voluntary Carbon Market (VCM) has also fuelled uncertainty about the reliability, quality and price of carbon credits. However, we believe that carbon offsetting has the potential to accelerate the reduction of global emissions, and in so doing, deliver real benefits to countries, companies and other stakeholders.

Transparent, reliable and useful information on carbon offsetting will be critical if we wish to deliver on this potential.

Our research found that disclosure requirements for carbon offsetting, both internationally and in New Zealand, are minimal, and tend to focus on planned future use rather than current use. This has resulted in a sustained lack of confidence in and understanding of carbon markets among the public, among businesses and among investors.

Variability in both the quality and cost of carbon credits contributes to ongoing market uncertainty. Mandatory disclosure standards for the users of carbon credits, supported by clearer guidance, would play a significant role in restoring confidence and encouraging greater investment in carbon markets.

We hope this paper helps challenge prevailing scepticism about the role and value of carbon credits, particularly regarding the purchase and retirement of offshore (international) units. Although the current Government has characterised the purchase of offshore credits as too costly and not in New Zealand's interests, the country's global brand and export driven economy remain highly exposed to the impacts of climate change. Investing in tools such as carbon offsetting is therefore not only prudent but aligned with New Zealand's long term economic and environmental interests. In our view, no tool should be ruled out until a comprehensive emissions-reduction strategy has been developed, consulted on, tested, and approved by Cabinet. The stakes for New Zealand's international reputation are too high for this issue to be addressed in an ad hoc or piecemeal way.

Additionally, decisions must be considered in light of the costs of inaction or delay. Climate change has already cost trillions of dollars in damages globally, and these costs will rise exponentially as temperatures increase and climate tipping points are crossed. Postponing actions such as purchasing carbon credits will likely prove more expensive in the future, given that credit prices are projected to rise significantly. The challenge is to use the tools that we have available today to deliver outcomes that are in the best interests of New Zealanders, now and in the future.

The three key takeaways of this paper are:

1. Carbon offsetting, particularly through the purchase of international carbon credits, is a valuable and cost effective tool for reducing global emissions.
2. New Zealand may be an island, but we cannot afford to think like one. Upholding our international commitments and maintaining global trust is essential; the alternative is neither credible nor sustainable.
3. Mandatory offsetting disclosure standards, supported by clearer guidance, would significantly improve transparency, restore confidence, and encourage greater investment in carbon markets.

Wendy McGuinness

Chief Executive

1.0 Introduction

In 2024, average global temperatures exceeded 1.5°C above pre-industrial levels for the first time, with the frequency, length and severity of extreme weather events being almost double the 2003–2020 average, according to new satellite data from NASA.[21] This led to the highest number of new displacements of people since 2008.[22] Extreme weather events are projected to increase further, as are the deaths and displacements they cause.

Reducing global temperatures back down to below 1.5°C above pre-industrial levels must be achieved as quickly as possible in order to minimise irreversible damage to ecosystems and maintain habitable conditions for humans. However, the world is currently not on track to achieve this; far from it. Even if all nationally determined contributions (NDCs) are met, warming will reach 2.6°C by 2100, and many countries are not on track to meet their NDCs, including 11 G20 members and New Zealand.[23]

Offsetting emissions, by investing in the removal or reduction of emissions elsewhere, is a key part of the solution to this emissions gap, especially for New Zealand (see Section 2.2 on p.13). In relation to compliance markets, carbon credits can be purchased through employing Article 6 of the Paris Agreement to offset New Zealand's hard-to-abate emissions and be counted towards its NDC target. In relation to the voluntary market, offsetting can increase investment in developing countries and accelerate global emissions reduction (see Section 2.1 on p.11 for an explanation of compliance and voluntary markets). As the market develops and the quality and reliability of carbon credits increase, offsetting is becoming an increasingly valuable investment. International cooperation in implementing NDCs has significant economic and efficiency benefits. A 2019 International Emissions Trading Association (IETA) report estimated that application of Article 6 of the Paris Agreement could cut the cost of achieving NDCs by more than 50%, which would save an estimated US$250 billion per year from 2030.[24]

Offsetting has huge potential but also risks undermining climate change mitigation if overused and if carbon credits are not high quality. Therefore, there is an ongoing need for more research into offsetting to identify what works and what does not. This working paper contributes to addressing that need by identifying the extent to which carbon offsetting information has been disclosed in the 2021 to 2024 annual reports and sustainability reports of NZSX-listed companies. Tracking and evidencing change over time in this space is particularly important given the rapid evolution of carbon markets and climate standards. However, more detailed reporting is needed to incentivise investment and ensure that the most effective approach to offsetting, and climate change mitigation as a whole, is adopted.

1.1 Purpose

This paper aims to contribute to a quantitative assessment of the state of climate reporting in New Zealand, and in turn contribute to the dialogue on how New Zealand might manage risks and maximise opportunities in the transition to a low-carbon economy. We also hope that this research can be used to benchmark the progress of climate-related disclosures made by entities over the coming years.

The content of this paper can be summarised as follows:

- Section 2.0 discusses background information on carbon offsetting, including offsetting in national and international contexts.
- Section 3.0 outlines the method used for the analysis contained in this paper, and the limitations and assumptions.
- Section 4.0 provides the results of our research into NZSX-listed companies, with a particular focus on companies that mention carbon offsetting information in their annual reports or sustainability reports (including climate statements, Task Force on Climate-related Financial Disclosures [TCFD] reports and environmental, social and governance [ESG] reports).
- Section 5.0 details the observations made across the FY21–FY24 reports, including general observations, good news, and areas for improvement; and specific observations from FY24 reports.
- Section 6.0 explains the Institute's recommendations related to the provision of carbon offsetting information in the reports of NZSX-listed companies in New Zealand.

1.2 Purpose of Project *ReportingNZ*

This working paper forms part of Project *ReportingNZ*, which aims to contribute to a discussion on how to build an informed society, with regard to the important role that businesses play within society. When businesses operate efficiently and with similar values to the communities in which they operate, they add value through employment, taxation revenue and the support of community initiatives. However, businesses can also present challenges if they do not reflect societal values or do not operate in a transparent manner. Project *ReportingNZ* looks specifically at the role of annual reports as a tool for improving the relationship between entities and the communities in which they operate. It also examines annual reports as one of the few mechanisms to collect readily available data on businesses for use as an evidence base in policy development.

An underlying assumption of Project *ReportingNZ* is that the purpose of New Zealand's reporting framework must be continually reviewed and assessed, and that existing standards and guidance should be evaluated against that purpose. We need to regularly explore and assess what users of reports need to know, in what format and in what timeframe, to ensure reports are timely, relevant, cost-effective and useful. The specific assumption underlying this working paper is that reporting on climate change is new, challenging and complex. As a result, all parties are required to cooperate to ensure that regulation, standards and guidelines work together to produce timely, cost-effective, accessible and comparable reports. The adage 'we manage what we measure' highlights that what is not measured is not managed. This working paper has been developed under the assumption that having a source of accessible, comparable and meaningful information gathered over an extended period of time creates a fundamental basis for informing public policy decisions. The Institute also hopes that by displaying the aggregate contribution of companies to mitigating climate change so far, companies will be incentivised to take more ambitious climate action going forward.

1.3 Series of working papers on NZSX-listed companies

In 2025, the Institute published three separate but related working papers.

1. **Working Paper 2025/05 – Reviewing Non-GAAP Financial Information in Annual Reports and Market Announcements of NZSX-listed Companies**

This paper identifies and examines the extent to which non-GAAP information is currently being presented in annual reports, and in some cases financial statements and NZX announcements. The relevance of this paper is that reporters are currently preparing a lot of additional information outside of GAAP that is not required under the accounting standards issued by the External Reporting Board (XRB). They are doing this voluntarily and at considerable cost, without common terms that enable investors and other stakeholders to compare companies.

2. **Working Paper 2025/06 – Analysing Climate Statements Contained in 2023 and 2024 Annual Reports of NZSX-listed Companies**

This paper examines some aspects of recently published climate statements. It aims to contribute to research on how New Zealand might better report and manage climate risks and maximise opportunities in the transition to a low-carbon economy. It provides a quantitative assessment of the state of climate reporting in New Zealand through the lens of NZSX-listed companies that have published annual reports that mention New Zealand Climate Standards (NZ CS). The Institute was encouraged by progress in climate reporting, with 68% of companies making full or partial NZ CS disclosures in 2024, up from 34% in 2023. This regime provides a clear template for consistent reporting across time and companies, whether in annual reports or linked external documents, and shows that adoption is achievable. However, the Institute noted with concern that the Financial Markets Conduct Amendment Bill 2025 (Amendment Paper 446) proposes to significantly reduce the number of climate reporting entities (CREs). MBIE stated if the reporting threshold was raised to $1 billion, the number of CREs would be reduced from 164 to 34.[25]

3. **Working Paper 2025/07 – Analysing Carbon Offset Information Disclosed in 2021–2024 Annual Reports and Sustainability Reports of NZSX-listed Companies [this paper]**

This paper examines and identifies the extent to which carbon offsetting information has been disclosed in the 2021–2024 annual reports and sustainability reports of NZSX-listed companies. This paper aims to contribute to the dialogue on how New Zealand might manage risks and maximise opportunities of carbon offsetting, and in turn, contribute to the country's transition to a low-carbon economy. The reporting of carbon offsetting commitments can be considered a type of anticipated financial effect (AFE) in the International Financial Reporting Standards (IFRS S2). Similarly, in New Zealand, it can be considered a type of anticipated financial impact (AFI) in NZ CS, in climate-related financial disclosures. Hence, the recommendations from *Working Paper 2025/07* should be read in conjunction with the 16 recommendations in Section 8 of *Working Paper 2025/06*.[26]

2.0 Background

2.1 Terminology

This is a relatively new and evolving area. Terms are often used inconsistently and their meanings are misunderstood. To ensure clarity, this section discusses a number of the key terms and concepts mentioned in this paper. For more detailed definitions see the Glossary on p.47.

Carbon credits

A carbon credit represents one tonne of carbon dioxide or GHG equivalent. They can be generated through projects that reduce or avoid emissions or remove emissions from the atmosphere. In compliance markets (see subsection below), they can also be issued as part of an emissions allowance, in which case they do not equate to any removal of or reduction in emissions.

In 2021, Ecosystem Marketplace identified 170 types of carbon credit. These types will change over time. As new technologies emerge, so will new credit types. Some types will fade out. For example, once renewable energy generation becomes more economical than generating energy from fossil fuels, and as policies and regulations are introduced that mandate a transition to renewable energy, renewable energy credits are unlikely to meet 'additionality' requirements and therefore cannot be verified.[27]

Carbon credit retirements

For a carbon credit to offset emissions it must be retired. Retirement means it is removed from the market and labelled as retired on any registry it is listed on. This ensures no carbon credit can be used more than once (i.e. double-counted).[28]

Carbon credits used

This paper refers to a carbon credit that has been both purchased and retired as 'used'.

Carbon credit verifiers versus carbon market service providers

Carbon credit verifiers operate on the supply side, verifying that credits meet the criteria required under their respective standards. Verifiers include Gold Standard and Verra. In contrast, carbon market service providers operate on the demand side and support companies by ensuring they purchase and use high-quality, independently verified credits. Carbon market service providers include Toitū Envirocare and Climate Active. See Section 2.3.2 on p.19 for the different roles in the Voluntary Carbon Market (VCM); see Appendix 3 on p.56 for Toitū Envirocare's role in the life cycle of a carbon credit.

Carbon offsetting

Carbon offsetting is a widely recognised mechanism that allows individuals, organisations and countries to reduce their net carbon footprint by investing in external initiatives that reduce, avoid or remove GHG emissions. These initiatives generate carbon credits which allow offsets to be quantified and can be traded commercially, effectively assigning a monetary value to emissions. In the private sector, offsetting is used to compensate for emissions produced within a company's value chain, i.e. emissions from sources that are owned or controlled by the company (Scope 1); emissions from the generation of purchased electricity consumed by the company (Scope 2); and emissions related to goods and services purchased, acquired and sold by the company which occur at sources owned or controlled by another company (Scope 3).[29] See Appendix 1 on p.50 for an illustration of value chain emissions that can be offset.

Carbon offsetting information

In this paper, 'carbon offsetting information' refers to information related to the use of carbon credits to compensate for a company's greenhouse gas (GHG) emissions. This could include: what types of carbon credits are used (e.g. afforestation or landfill gas capture); where the carbon credits were generated (e.g. New Zealand or internationally); and who has verified them (e.g. Gold Standard or Verra). Note that the term 'certified' is also used in the context of quality checking carbon credits. As 'verified' and 'certified' refer to the same process and 'verified' has become the favoured term in this space, the Institute has used the term 'verified' to mean both 'verified' and 'certified' (see Glossary on p.47).

Compliance versus voluntary markets

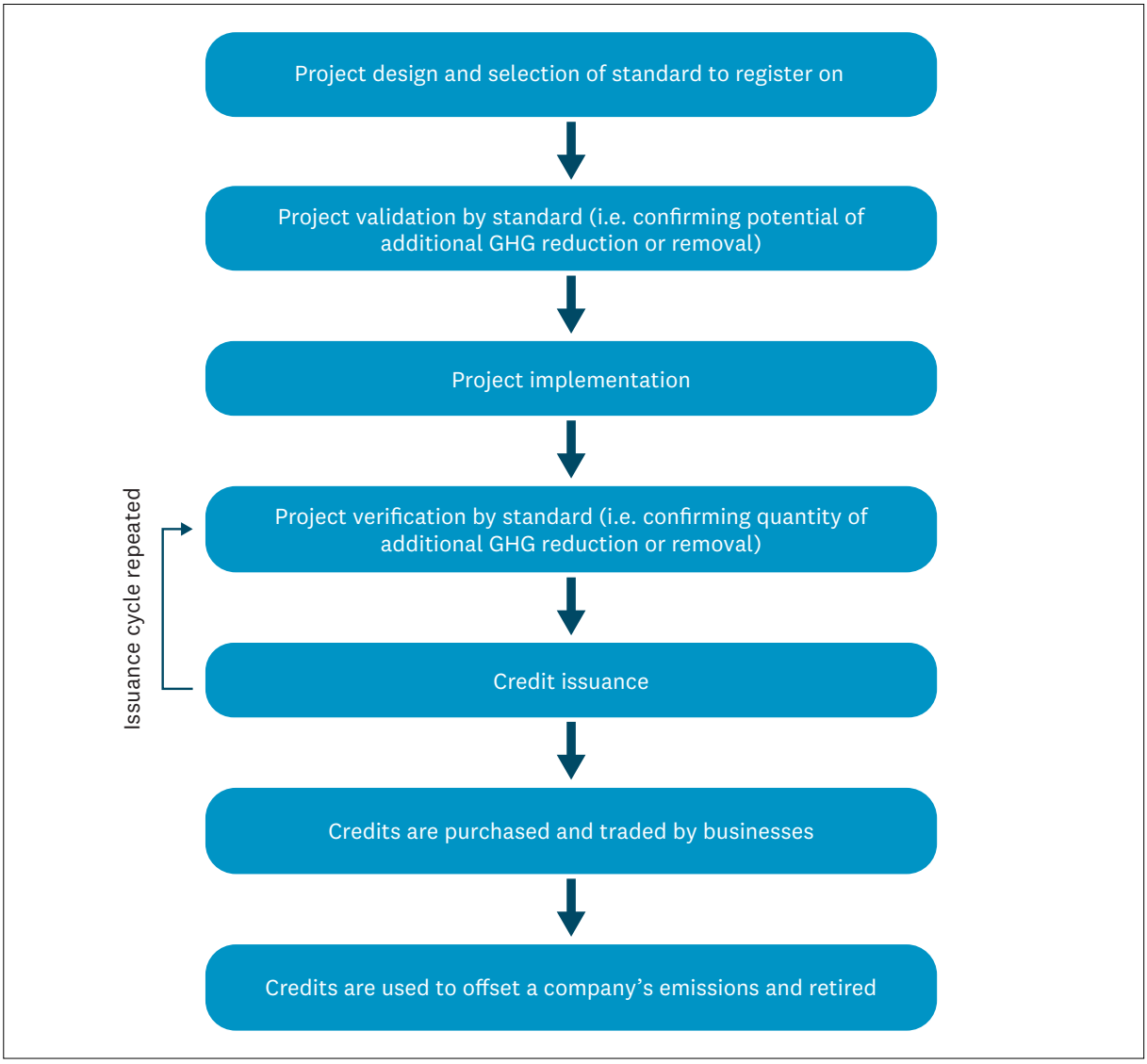
A compliance carbon market is a system established and regulated by a government body which caps or taxes GHGs emitted by covered entities, such as industries or power plants. All covered entities are required to participate in order to operate in that jurisidiction. Compliance markets are designed to ensure international climate targets, such as nationally determined contributions (NDCs), are met. Compliance systems include emissions trading systems/schemes (ETSs); carbon tax systems, like the EU's Carbon Border Adjustment Mechanism (CBAM); and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), a compliance scheme requiring airlines to offset emissions through purchasing carbon credits.[30]

The Voluntary Carbon Market (VCM) incorporates all buying and selling of carbon credits that goes beyond compliance requirements. These credits are generated by projects overseen by carbon credit standard setters like Verra or Gold Standard, which verify the credits and issue them onto registries. Companies then purchase and retire these carbon credits, often with the support of a third party, like Toitū Envirocare, and following an internationally recognised framework such as those established by the Science Based Targets Initiative (SBTi) and Voluntary Carbon Markets Integrity Initiative (VCMI).[31] See Figure 1 below for the life cycle of a carbon credit in the VCM.

Increasingly, the distinction between compliance markets and the VCM is becoming blurred as voluntary-based standards and credits enter compliance markets, like CORSIA, and compliance market mechanisms, like the Paris Agreement Crediting Mechanism (PACM), produce credits available in the VCM.[32] However, in New Zealand, the two market types remain relatively distinct. Credits issued in the NZ ETS cannot be counted towards a company's voluntary targets, meaning all voluntary offsetting only entails investment in carbon credits outside of the regulated market.

Figure 1: Life cycle of a carbon credit in the Voluntary Carbon Market (VCM)

Source: Toitū Envirocare, pers. comm., August 2025.[33]



2.2 Offsetting in the national context

New Zealand's NDC

Under the Paris Agreement, New Zealand is required to produce an NDC every five years. NDCs set a limit on net emissions over a certain period based on the sum of gross emissions and removals within the national inventory boundary and offshore carbon credits purchased. Each subsequent NDC is made with a lower net emissions limit. The first NDCs (NDC1s) apply to the period 2021–2030.[34] Each subsequent NDC will cover a five-year period. New Zealand produced its NDC1 in 2016 and updated it in 2021. Its NDC2 was released in 2025.

Table 2: Emissions reduction commitments under the Paris Agreement

Source: Ministry for the Environment (MFE), *New Zealand's second Nationally Determined Contribution (NDC2)*, January 2025.[35]

NDC	Target	Deadline
NDC1	Reduce net greenhouse gas emissions to 50% below gross 2005 levels.	2030
NDC2	Reduce net greenhouse gas emissions to 51–55% below gross 2005 levels.	2035

Unlike most countries, New Zealand set its NDC1 with the express intention of using offshore carbon credits to meet it. Its intended NDC (INDC) was submitted in July 2015 and committed to reducing GHG emissions to 30% below gross 2005 levels by 2030. The New Zealand submission, *New Zealand's Intended Nationally Determined Contribution* (7 July 2015) to the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) (the body that ultimately produced the Paris Agreement) recognised that:

> New Zealand's INDC will remain provisional pending … confirmation of access to carbon markets …
>
> The limited domestic abatement potential available to New Zealand requires us to make use of global carbon markets to be able to make a contribution that progresses beyond our current target, as this INDC does.[36]

In October 2021, New Zealand increased its NDC commitment to 50% below 2005 levels, with Minister for Climate Change James Shaw reinforcing the commitment to offshore mitigation:

> The Paris Agreement recognises that while countries need to take action at home, they can also work with other nations to cut emissions. That is why New Zealand's new NDC goes beyond the domestic emissions budgets Cabinet has agreed to in principle … To meet our new NDC the first priority will be to reduce emissions at home … We will then add to this by working to reduce emissions in other parts of the world.[37]

Based on the Government's two emissions reduction plans, in order for New Zealand to meet its obligations under the Paris Agreement, it would need to purchase carbon credits to cover two-thirds of emissions reductions, equivalent to between 84 and 89 million tonnes of carbon dioxide equivalent (Mt CO_2e).[38] Despite this, the Government is yet to confirm any deals to purchase offshore carbon credits and has been openly resistant to doing so.[39] Most recently, in December 2025, Finance Minister Nicola Willis confirmed that the Government had no plans to purchase offshore carbon credits.[40]

New Zealand's first Biennial Transparency Report (BTR1) and NDC2 report have also been criticised for the absence of a plan to address the emissions gap, instead only providing vague statements about 'exploring options for international cooperation' and that New Zealand 'may participate in cooperation under Article 6 [of the Paris Agreement]'.[41]

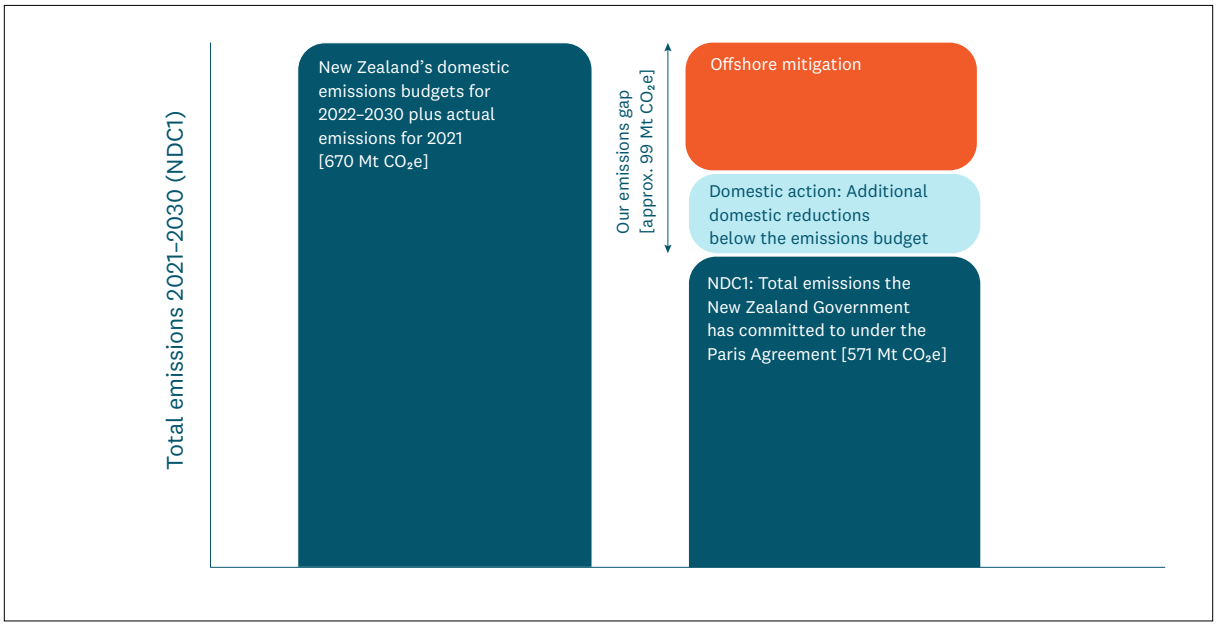
The absence of an offsetting plan, alongside the curtailing of domestic initiatives to cut emissions, has led many to question whether New Zealand will abandon its Paris Agreement commitments altogether, with climate analysts now saying that meeting NDC1 will be impossible without offshore mitigation.[42] The New Zealand Government urgently needs to finalise deals to purchase offshore carbon credits if it is to meet its climate targets, especially as credits are forecast to become more expensive as 2030 nears.[43]

In 2024, the Institute published *Discussion Paper 2024/01 – Risks hiding in plain sight: Does a commitment under the Paris Agreement to purchase offshore carbon credits create a requirement to report that commitment in the financial statements of the New Zealand Government?*.[44] An addendum to this paper was published in October 2024.[45] The purpose of the discussion paper and addendum was to explore whether a commitment by the New Zealand Government to purchase offshore carbon credits to offset emissions should be disclosed in the Government's financial statements. The size of this commitment, what is called our emissions gap, is shaped by the difference between our projected emissions and our NDC (see Figure 2 below). Once expected

emissions reductions from country-wide actions are deducted, a shortfall is created. This shortfall can only be met through offsetting. The paper concludes offsetting commitments should be recognised as a liability and/or contingent liability in New Zealand's financial statements. In 2023, the Treasury calculated the potential cost of offshore mitigation to be between NZ$3 billion and NZ$24 billion. In December 2025, Treasury indicated that it intends to produce an updated cost assessment in 2026.[46]

Figure 2: New Zealand's emissions gap

Source: McGuinness Institute, *Discussion Paper 2024/01 – Risks hiding in plain sight: Does a commitment under the Paris Agreement to purchase offshore carbon credits create a requirement to report that commitment in the financial statements of the New Zealand Government?*, June 2024.[47]



Voluntary offsetting in the private sector

In the private sector, many entities are now reporting that they are net zero or becoming carbon-neutral.[48] These claims often depend on reducing the net emissions balance through offsetting. From the Institute's preliminary review, these terms can be misleading and the types of carbon credits used (purchased and retired) may not be of sufficient quality. Entities need to be aware of this so that they are not misled and do not mislead investors. See Section 2.3.2 below for examples of organisations, standards and guides that ensure carbon credits are high quality.

Ensuring quality and transparency will become increasingly important as the number of credits generated and used in New Zealand grows, which the Government is now actively supporting. In June 2025, it announced its intention to support the expansion of New Zealand's voluntary nature credits market. This is an integrated market, incorporating both biodiversity credits (see Glossary on p.47) and carbon credits generated in New Zealand. Credits issued in this market would have to meet a set of seven integrity principles established by the New Zealand Government.

Drawing on recent developments in international markets, these principles would require that credits:

- are additional to business as usual
- are durable
- have real, measurable and verifiable outcomes and risk mitigation
- are accessible
- are transparent
- are respectful of rights
- use appropriate terminology to support accurate claims.

This would not negate credits generated from projects operating under other domestic or international standards. However, it would signal to the market which standards and methodologies the Government has reviewed.[49]

On the demand side, the Government has emphasised its role in promoting transparency through 'requiring disclosure of core project information and reporting basic transaction data to a national registry'.[50] The Government does not define what 'core project information' incorporates (see Recommendation 1 for what the Institute considers 'core project information', and Recommendation 5 for the Institute's proposed model for a national registry). In November 2025, the Government announced it would update its Guidance for Voluntary Carbon Markets in 2026.[51]

Disclosure requirements for voluntary carbon offsetting

The legitimacy of credits is fundamental to the integrity and efficacy of the Paris Agreement. Transparency is an essential part of ensuring legitimacy. However, recent studies have found that the majority of carbon credits do not equate to real emissions reductions or removals due to over-crediting (see Section 2.3.1 below and Glossary on p.47). This has increased public scepticism, and as a result, companies and governments are more reluctant to explore offsetting options or openly discuss their use.

Nonetheless, offsetting will remain an essential part of the New Zealand Government's and many New Zealand businesses' approaches towards meeting domestic emissions targets and international commitments, and this should be reported on in a timely, accurate and accessible manner.

Aotearoa New Zealand Climate Standards (NZ CS)

In New Zealand, climate-related disclosures that include targets dependent on offsets must specify the extent to which offsets will be used; whether those offsets are verified; and which scheme they are verified under. This requirement is outlined in paragraph 23(e)(iv) of NZ CS 1 (see Figure 3 below). NZ CS became mandatory for climate reporting entities in FY24. Notably, the number of CREs is currently set to decrease from 164 to 34 in 2026 due to the proposed amendment to the Financial Markets Conduct Act 2013.[52] For more information, see the Institute's *Working Paper 2025/06 – Analysing Climate Statements Contained in 2023 and 2024 Annual Reports of NZSX-listed Companies*.[53]

Figure 3: NZ CS disclosure requirements for climate-related targets

Source: External Reporting Board (XRB), *Aotearoa New Zealand Climate Standard 1: Climate-related Disclosures (NZ CS 1)*, December 2022.[54]

Targets

23. An entity must include the following information when describing the targets used to manage climate-related risks and opportunities, and performance against those targets (see paragraph 21(d)):

- (a) the time frame over which the target applies;
- (b) any associated *interim targets*;
- (c) the *base year* from which progress is measured;
- (d) a description of performance against the targets; and
- (e) for each GHG emissions target:
  - (i) whether the target is an *absolute target* or *intensity target*;
  - (ii) the entity's view as to how the target contributes to limiting global warming to 1.5 degrees Celsius;
  - (iii) the entity's basis for the view expressed in 23(e)(ii), including any reliance on the opinion or methods provided by third parties; and
  - (iv) the extent to which the target relies on offsets, whether the offsets are verified or certified, and if so, under which scheme or schemes.

Fair Trading Act 1986 (FTA)

The FTA can be seen as the primary legal backstop around carbon offsetting claims. It prohibits companies from making false, misleading or unsubstantiated claims and is enforced by the Commerce Commission. In 2020, the Commission published *Environmental Claims Guidelines: a guide for traders*, which laid out the information companies should provide when making claims about the environmental impact of the production, distribution, use and disposal of a good or service, in order to comply with the FTA. This includes 'carbon-offset' and 'carbon-neutrality' claims.[55] The guidelines were based on seven key principles. The three most relevant to offsetting are:

- Be specific: environmental claims should provide **complete and detailed information** to prevent giving a misleading impression of general environmental claims made.
- Substantiate claims: environmental claims should be **supported by credible information** that indicates a solid factual foundation such as research, test results or evidence.
- Do not exaggerate: environmental claims should **not overstate an environmental benefit** by making general claims.[56] [bold added]

Applying these to offsetting, the guidelines state 'carbon-offset claims should clearly inform consumers about what is being offset and how it is being offset'.[57] The Institute argues that the Commerce Commission's guidance should be far more specific and detailed about what information companies should disclose about carbon offsetting (see Recommendation 6 in Section 6.0).

2.3 Offsetting in the international context

Carbon offsetting remains controversial as a solution to climate change. Often seen as a form of 'greenwashing' or a 'licence to pollute', many fear that it disincentivises investment in real emissions reduction.[58] Uncertainty around carbon credit prices, credibility and integrity has further increased scepticism among investors, businesses and governments. Despite this, the use of carbon offsetting is predicted to increase and many businesses and governments will depend on them to meet climate targets in 2030 and beyond. In the long term, carbon reduction credits will need to be phased out and removal credits only used to neutralise 'hard-to-abate' residual emissions. However, offsetting could accelerate short-term progress if adequate systems and standards are in place. With average temperatures reaching 1.5°C above the pre-industrial level for the first time in 2024, businesses and governments need to rapidly scale up climate action to keep the planet habitable for humans.[59] Carbon offsetting can be a key enabler of this.

2.3.1 An overview of the drawbacks and advantages of offsetting

Below is a summary of the drawbacks and advantages of offsetting. In general, the drawbacks tend to reflect short-term considerations, while the advantages are associated with longer-term outcomes.

A: The drawbacks of offsetting

1. Carbon prices

With the lack of a universal mechanism that standardises the cost of carbon and no centralised voluntary carbon credit market, the price of carbon credits is uncertain and highly variable.[60] A carbon credit can cost anywhere from US$1 to more than US$500 depending on the type and location of projects.[61] Emissions reduction is cheaper than emissions removal; renewable energy projects are cheaper than fuel-switching projects; and both increasingly so.[62] The average global carbon price in 2024 was around US$6/t CO_2e, reflecting a low demand and a low level of confidence in credit quality.[63] Both the OECD and High Level Commission on Carbon Prices state that carbon prices need to increase considerably in order to meet the temperature goals outlined in the Paris Agreement, with the correlation between price and quality strengthened.[64]

2. Credibility

Offsetting is also problematic due to the difficulties of measuring levels of emissions impact and additionality. Additionality relates to emissions reductions or removals that would not have occurred without investment from the carbon offset project.[65] These difficulties have resulted in the proliferation of concerns about

'phantom credits', which are carbon credits that will not result in any real emissions reduction or removal. Such concerns have been substantiated by recent research into Verra's Verified Carbon Standard (VCS), the world's leading carbon crediting programme. This research, published by The *Guardian* in January 2023, found that more than 90% of Verra's rainforest offset credits, which are among the most commonly used by companies, were phantom credits.[66] Verra strongly denied this claim, emphasising that the research methods used did not account for project-specific factors that cause deforestation.[67] Nonetheless, the study is certainly a cause for concern, with Verra having issued more than one billion carbon credits, approving three-quarters of all voluntary offsets. Another study from July 2023 found that only 12% of carbon credits across over 2,000 projects constituted real emissions reductions. Renewable energy projects were found to be particularly ineffective, producing 0% of emissions reductions claimed. Forestry and chemical processes came out slightly better at 25% and 27% respectively.[68] However, this suggests that many project developers are vastly overstating emissions reductions and over-issuing carbon credits.

3. Campaigns against offsetting

The studies above have driven a growing campaign to place much tighter restrictions on the use of offsetting. In July 2024, 80 organisations from around the world signed a joint statement asking that voluntary and regulatory frameworks on climate transition planning exclude offsetting.[69]

In October 2024, the Lethal Humidity Global Council, a group of scientists, health experts and policymakers, set up the 'real zero pledge', urging corporations and government entities to map out strategies for phasing out their use of fossil fuels entirely. It was signed by nine countries.[70]

Both groups see offsetting as delaying climate action and undermining climate targets. The Council summarises these concerns in its critique of the concept of 'net zero': 'where carbon offsets, unproven technologies like carbon capture and storage and over-inflated estimates of natural carbon sinks are used to create the appearance of reduced emissions without meaningful changes to business practices'.[71]

B: The advantages of offsetting

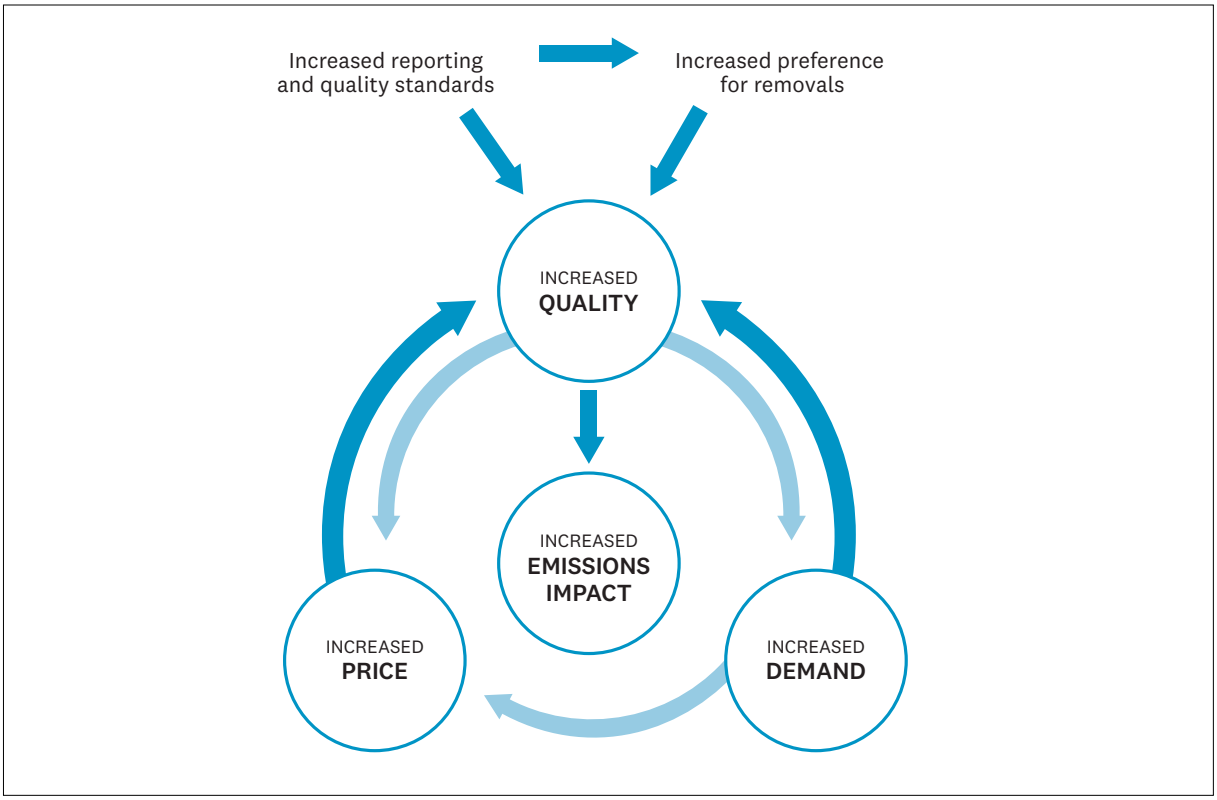
A 2024 report by Ernst & Young (EY) argues that rather than being a cover for inaction, carbon credits can enable faster, more impactful action. Its evidence shows that businesses using carbon credits often set more ambitious emissions reduction targets than those that do not.[72] Offsetting also has potential to help bridge the climate finance gap by mobilising private investment for emerging carbon removal technologies and developing economies.[73] Carbon credits often have socioeconomic or nature-related co-benefits, with new crediting standards embedding these as requirements for carbon credits to be verified.[74]

Importantly three interrelated trends around carbon offsetting suggest the integrity, effectiveness and value of carbon credits will increase significantly in the coming years:

1. Increased preference for carbon removal credits over carbon reduction credits
2. Increased demand for carbon credits
3. Increased reporting and quality standards.

See Figure 4 below for how these trends interrelate.

Figure 4: The relationship between key carbon offsetting trends and real emissions reduction



1. **Increased preference for carbon removal credits over carbon reduction credits**

   Historically, most carbon credits have come from projects that reduce the amount of GHG emissions entering the atmosphere. These made up 91% of credits used in 2024.[75] They are much cheaper than removal credits, which in 2024 were 381% more expensive. Nonetheless, demand for removal credits is increasing. Between 2023 and 2024, the average price of a removal credit increased by 13%.[76] Limited supply meant that the market share of removals only increased from 4% to 5%, but Allied Offsets predicts this growth will accelerate, with removals making up 60% of carbon credits by 2040.[77] This is partly because, in order to reach net-zero emissions globally, only removals can compensate for residual emissions from hard-to-decarbonise industries.[78] It is also because removals are more credible than reduction credits. This is because, unlike reduction credit projects, removal projects do not depend on counterfactual analysis to determine additionality, resulting in a higher level of certainty and lower risk of over-crediting. Removal credits also offer potential permanence, especially engineered removals, which are proliferating due to the development of new technologies such as Direct Air Carbon Capture (DACC) and Bioenergy Carbon Capture and Storage (BECCS). In 2024, a record US$14 billion was invested in these technologies.[79] These interrelated factors mean that many companies are now exclusively purchasing removal credits, particularly in the technology sector, where AI has massively increased emissions.[80] In May 2025, Microsoft signed a deal for 18 million carbon removal credits, which is one of the largest single buyer agreements to date.[81] The greater permanence of engineered removal credits and the greater certainty around their additionality and emissions impact mean that, as demand for this credit type increases, so will confidence in credit quality. This initiates a positive feedback loop, as illustrated in Figure 4, increasing the value of offsetting in global efforts to reduce emissions.

2. **Increased demand for carbon credits**

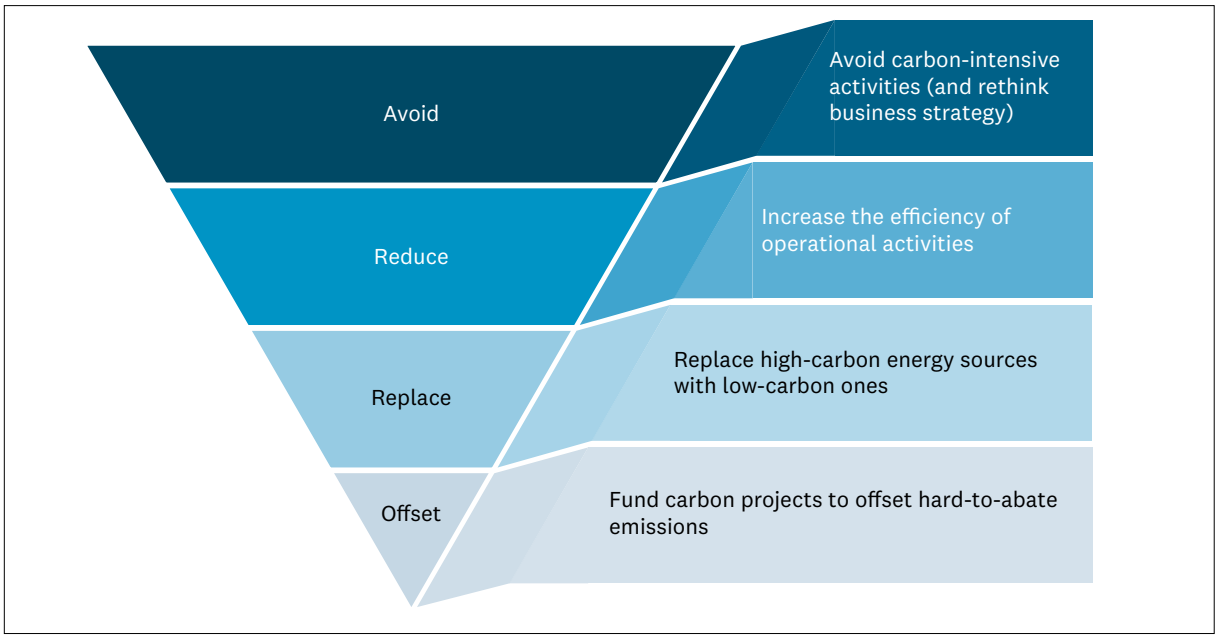
   Although demand for carbon credits stagnated after their market value peaked at US$2.1 billion in 2021, this is expected to change.[82] As more companies make climate commitments and as AI increases energy usage, companies will be looking to rapidly shrink net emissions as the benchmark year of 2030 approaches. Policy improvements, new standards and new carbon removal technologies are also restoring confidence among businesses and investors. MSCI, a global financial services provider, estimates that the global carbon credit market could rise in value to between US$7 and US$35 billion by 2030 and Allied Offsets predicts the market will grow by 4.5 times by 2040.[83] Increased demand will increase prices and continue to accelerate technological advances to enhance the quality of credits.

3. **Increased reporting and quality standards**

New standards, frameworks and guidelines are emerging that will benchmark the quality of carbon credits at a much higher level (see Section 2.3.2 for more detail). As with climate-related disclosures more generally, carbon crediting mechanisms and disclosure requirements are becoming centralised and standardised, enhancing clarity and accountability and incentivising greater use of carbon credits and transparency about their use. These standards are also ensuring that offsetting is only used as a last resort or in addition to internal emissions-reduction efforts, applying models such as the mitigation hierarchy (see Figure 5 below).

Figure 5: Emissions mitigation hierarchy

Source: Adapted from HansFriederich, *Green House Gas reductions and removal - opportunities and challenges*, August 2021; Toitū Envirocare, pers. comm., August 2025.[84]



Note to Figure 5:
Each source of emissions should be regularly reviewed to see if it can be addressed higher up the hierarchy as new technologies emerge and costs fall.

2.3.2 Initiatives increasing the quality of carbon credits

The following section outlines the initiatives and organisations involved in raising the quality of carbon credits on both the supply side and demand side. It provides examples of new reporting and quality standards that are emerging around carbon markets and carbon offsetting.

A: Supply-side quality initiatives

The following initiatives ensure that the carbon credits issued onto registries are high quality and equate to real emissions reductions (see Figure 6 for an illustration of how these initiatives work together as part of an intergrated system).

1. Paris Agreement Crediting Mechanism (PACM)

At COP29, in November 2024, the PACM was established, creating a UN-backed international standard for high-quality carbon credits. Whilst this standard is primarily for use in compliance markets, it will have knock-on effects in the VCM. According to a survey conducted by Ecosystem Marketplace, 58% of respondents (38 out of 66) from across the private sector think this mechanism will positively impact the VCM, though there are concerns about how quickly the mechanism can be operationalised.[85]

2. Integrity Council for the Voluntary Carbon Market (ICVCM) Core Carbon Principles (CCPs)

Established in 2021, the ICVCM has emerged as an industry-wide benchmark setter for the quality of carbon credits and the VCM's ways of operating. Acting as high-level quality control, it approves methodologies used to generate carbon credits and standards that issue them (see Filter 1 in Figure 6). Many see it as setting the foundations for scaling the VCM under a 'version 2.0'.[86]

In 2023, the ICVCM set out ten science-based principles, labelled CCPs, based around programme governance, verified emissions impact and contributions to sustainable development, in order to raise carbon credits to a consistent minimum level of quality.[87]

In 2024, the first CCP-approved credits were traded. Although these credits were limited to three project types, they indicate a positive shift towards high-integrity carbon credits, ensuring greater emissions impact and price increases. For example, following CCP approval in mid-2024, the average price of Landfill Gas credits increased by 35% from the first half to the second half of the year, with a 149% increase in Landfill Gas credits traded from 2023.[88] Ecosystem Marketplace found that 64% of its respondents (42 out of 66) thought these principles would have a positive impact on the VCM.[89]

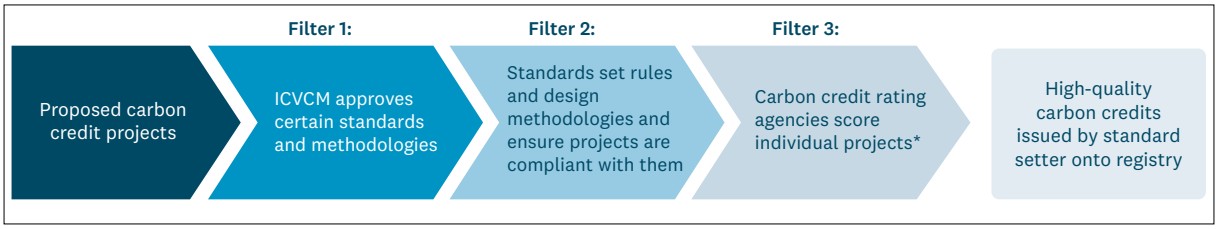
3. Voluntary carbon credit standards

A voluntary carbon credit standard is a set of criteria that carbon offsetting projects must meet for the carbon credits they generate to be verified and issued onto a registry. These standards are created and maintained by independent crediting programmes, referred to in this paper as carbon-credit standard setters or verifiers, and are continually updated as technology evolves, markets mature, and expectations for credit quality rise (see Filter 2 in Figure 6). For example, Verra updated its methodology for assessing the credibility of REDD+ forest conservation projects in November 2023 and, in June 2024, introduced the VCS Methodology for Carbon Capture and Storage.[90] Carbon-credit standard setters ensure that carbon credits represent real, measurable, additional, and independently verified emissions reductions or removals. They operate outside of government-run regulatory schemes such as the NZ ETS.

4. Carbon credit rating agencies

Functioning in the same way as credit ratings agencies in financial markets, carbon credit rating agencies assess the probability that a carbon credit delivers a tonne of avoided or removed carbon dioxide and produce a rating based on this. Whereas the ICVCM and carbon credit standards assess methodologies and project types, carbon credit rating agencies assess value at the project level. By quantifying quality and risk, these agencies are increasing buyer confidence and the price–quality correlation of carbon credits.[91] A relatively new addition to the VCM, with BeZero Carbon becoming the world's first publicly available global carbon rating framework in April 2022, they are expected to become more common as demand for high-integrity carbon credits increases.[92] See Filter 3 in Figure 6.

Figure 6: Supply-side quality control



Note to Figure 6:

* Ratings are given according to the rating agency's own timeline and are not coordinated with carbon credit standard setters. Therefore, some projects are assigned ratings after credits have been issued.

Demand-side quality and transparency initiatives

The following initiatives ensure that companies use carbon offsetting in an appropriate and transparent manner, and that the carbon credits they purchase are of high quality (see Figure 7 for an illustration of how these initiatives work together as a system).

1. International Carbon Reduction and Offset Alliance (ICROA) Code of Best Practice

The *ICROA Code of Best Practice* is recognised as setting the industry standard for VCM services providers, like Toitū Envirocare. Importantly, the Code is regularly reviewed and revised, with the latest version published in July 2025, and providers are assessed annually.[93] This ensures that providers are adhering to the latest standards around transparency, credibility and environmental integrity. See Filter 1 in Figure 7.

2. The Science Based Targets initiative (SBTi)

SBTi develops standards, tools and guidance for companies to set GHG emissions reductions targets. 8,715 companies have set targets under this initiative globally, including 30 New Zealand companies.[94] The *SBTi Corporate Net-Zero Standard* requires companies to work towards near-term (five to ten years) emissions-

reduction targets and a long-term (by 2050 at the latest) net zero target. Offsetting, referred to as 'beyond value chain mitigation', is encouraged on top of, not as part of, meeting these targets, except through the use of carbon removals to neutralise residual emissions.[95] See Filter 1 in Figure 7.

Version 2 of this standard, due to be finalised in early 2026, proposes extending the use of offsetting to allow companies to compensate for missed near-term targets. This has been met with some criticism.[96] However, SBTi emphasises that these offsets cannot contribute to achieving net zero and carbon credits used must be high integrity, align with third-party frameworks, and be removal credits.[97] Companies must also give a detailed description of any carbon offset purchases made to address ongoing emissions.[98] Net-zero targets set after 31st January 2028 will be required to use Version 2.

3. International Sustainability Standards Board (ISSB) IFRS S2

IFRS S2 Climate-related Disclosures, published in 2023, encourages greater transparency and accountability around carbon credits, standardising disclosure requirements to enable a more informed comparison of company performances.[99] See Filter 1 in Figure 7. Paragraph 36(e) summarises what companies are required to disclose in relation to carbon credits:

> The entity's planned use of carbon credits to offset greenhouse gas emissions to achieve any net greenhouse gas emissions target. In explaining its planned use of carbon credits the entity shall disclose information including, and with reference to paragraphs B70–B71:
>
> (i) the extent to which, and how, achieving any net greenhouse gas emissions target relies on the use of carbon credits;
>
> (ii) which third-party scheme(s) will verify or certify the carbon credits;
>
> (iii) the type of carbon credit, including whether the underlying offset will be nature-based or based on technological carbon removals, and whether the underlying offset is achieved through carbon reduction or removal; and
>
> (iv) any other factors necessary for users of general purpose financial reports to understand the credibility and integrity of the carbon credits the entity plans to use (for example, assumptions regarding the permanence of the carbon offset).[100]

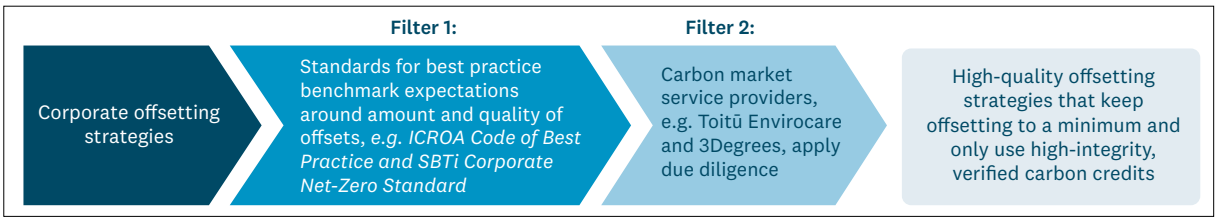
4. Voluntary Carbon Markets Integrity Initiative (VCMI) Claims Code of Practice

In August 2025, the VCMI published the latest version of its *Claims Code of Practice*, first introduced in 2023, which aims to 'provide clear requirements, recommendations, and supporting guidance to companies and other nonstate actors on when they can credibly make voluntary use of carbon credits as part of their near-term emission reduction objectives and long-term net-zero commitments' and 'provide guidance on how to describe the use of those credits'. It also has a validation scheme in the form of Silver, Gold and Platinum 'Carbon Integrity' claims.[101] See Filter 1 in Figure 7.

5. Carbon market service providers

Intermediary carbon market service providers, such as Toitū Envirocare, ensure that companies are using high-quality verified carbon credits.[102] This takes the burden off companies and allows them to be more ambitious in their climate strategies and targets, as well as raising stakeholder and consumer confidence. See Filter 2 in Figure 7.

Figure 7: Demand-side quality control



In summary, carbon credits should be used selectively and sparingly and most companies are explicit about this being the case. However, offsetting offers the potential to accelerate progress towards climate change mitigation in the short term and in some cases is a necessity. Investors, government and consumers are pushing for greater transparency from companies on their use of and approach to carbon credits. Transparency ensures accountability, and will ensure the VCM continues to develop in a direction that allows offsetting to accelerate and support, rather than hinder, progress towards reducing emissions.

3.0 Methodology

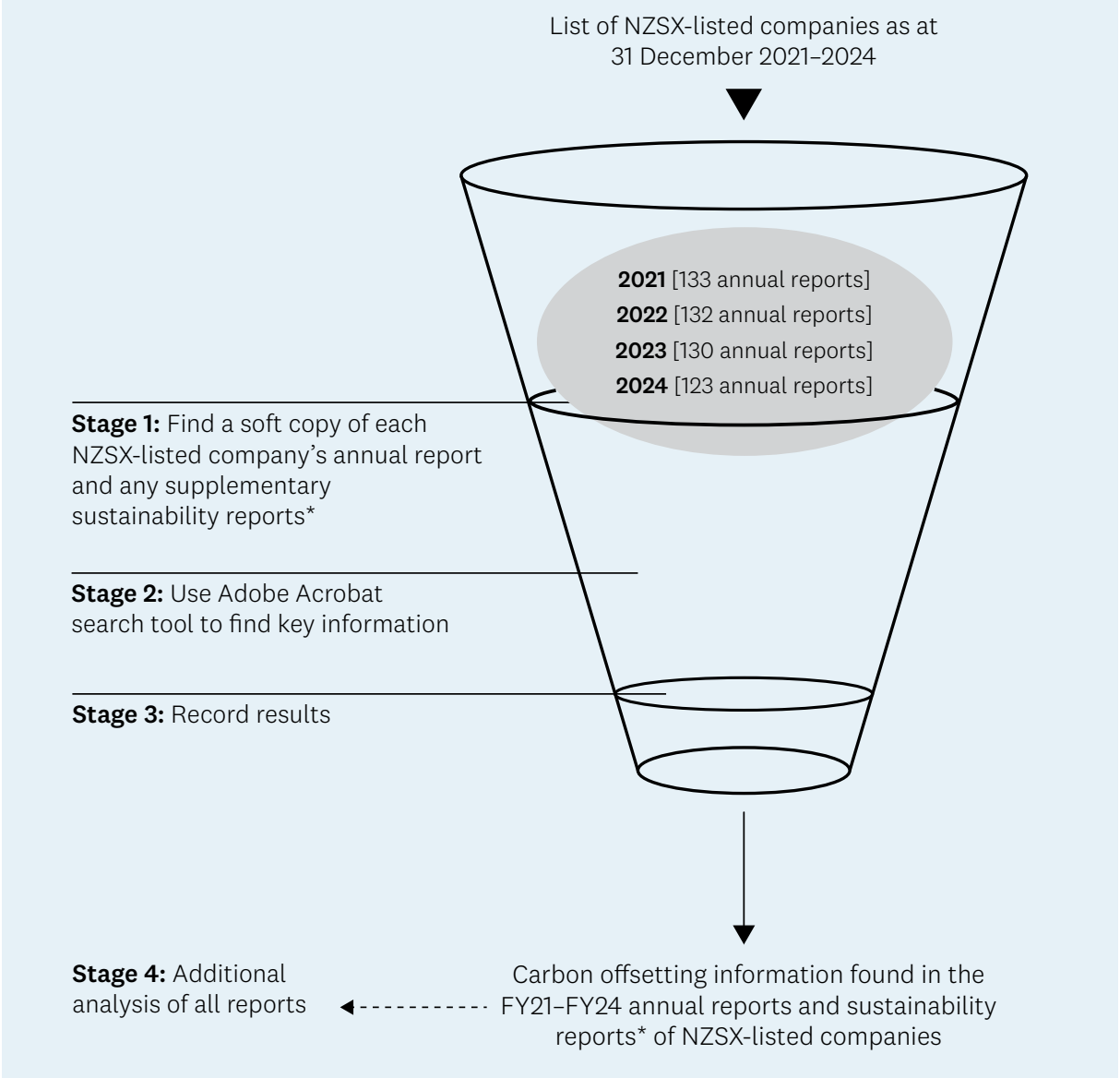
3.1 Context

This working paper provides a quantitative assessment of carbon offsetting information in the 2021–2024 annual reports and sustainability reports of NZSX-listed companies. The overarching method is set out in Figure 8 below. Specifically, the Institute was interested in whether or not the 2021–2024 annual reports or sustainability reports mentioned/disclosed:

i. if and to what extent a company is using offsetting
ii. what type of carbon credits are used (e.g. afforestation or renewable energy generation)
iii. where carbon credits are sourced from (e.g. New Zealand or internationally)
iv. if carbon credits are verified and who by (e.g. Gold Standard or Verra).

3.2 Method

Figure 8: Illustration of method



Note to Figure 8:

* Sustainability reports refer to all sustainability reports, climate statements, TCFD reports and ESG reports published separately but referred to in the annual report. They do not include Greenhouse Gas Inventory reports.

Stage 1: Find a soft copy of each NZSX-listed company's annual report and any supplementary sustainability reports

We took annual reports directly from the NZX Main Board web page (under each company's announcements).[103]

We removed trusts and funds by only including companies with 'Limited' or 'Corporation' in their name. We grouped the annual reports based on the financial year (FY). This ensured the date of the data matched the date of the data set. In practice, this meant if a financial report was dated 31 December 2024 (being the balance date) but published in February 2025, it became part of the 2024 data set.

Important note: This paper refers to annual reports by financial year, e.g. FY21 annual reports rather than 2021 annual reports. This is to more explicitly reflect the fact that annual reports are grouped based on financial year, not calendar year or publication date.

If an annual report could not be found on the NZX, the company's website was searched. If the annual report could not be found on the company's website, it was excluded from Stage 2.

In FY21, this was the case for five companies: one company was in receivership; two were de-listed; and two only provided financial statements.

In FY22, this was the case for one company, which was only listed on the NZX from December 2022.

In FY23, this was the case for three companies: two companies had been de-listed and one was in voluntary administration and had not published a FY23 annual report.

In FY24, all annual reports were found.

External documents mentioned in the annual report were collected by searching the NZX announcements or the company's website. This led to the creation of the final data set of all annual reports and sustainability reports.

Table 3 (below) shows the data sets used for each year.

Table 3: Data sets of NZSX-listed companies (excluding trusts and funds), FY21–FY24

Data sets		Total
FY21	No. of entities	138
	No. of available annual reports	133
	No. of available sustainability reports	16
FY22	No. of entities	133
	No. of available annual reports	132
	No. of available sustainability reports	16
FY23	No. of entities	133
	No. of available annual reports	130
	No. of available sustainability reports	32
FY24	No. of entities	123
	No. of available annual reports	123
	No. of available sustainability reports	69

Stage 2: Use the search tool in Adobe Acrobat Pro to find key information

All found annual reports and sustainability reports were searched for the following terms:

- Offset
- Credits
- Units
- Removal
- Forestry
- Emissions

Reports that did not contain any of these search terms were set aside. Remaining reports were then checked to ensure they had used the search terms in the context of emissions reduction. For example, the terms 'offset', 'credits' and 'units' were often used in a financial context. Reports that had not used any terms in an emissions context were also set aside.

The remaining reports were searched for the following terms:

- Verified
- Certified

Stage 3: Record results

Carbon offsetting information disclosed by a company was recorded in an Excel spreadsheet, alongside the company's name and the page number/s in the report where the information was found (see Appendix 7 for the results by company).

Information was sorted into the following columns:

- Mentions offsetting in an emissions context?
- Forecast or current?
- Discloses how much was offset?
- Discloses what type of carbon credits were used?
- Discloses where carbon credits were sourced from?
- Discloses if carbon credits are verified?
- Discloses who verified carbon credits?

Data was recorded separately for annual reports and sustainability reports and then combined to ensure no information was double-counted.

Stage 4: Additional analysis of all reports

All annual reports and sustainability reports were searched for the following terms (regardless of whether they contained carbon offsetting information):

- SBTi
- Science
- Toitū
- Climate Active

This was to identify whether companies had or were working towards SBTi targets and whether companies had Toitū Carbon Reduce or Toitū Net Carbon Zero certification or Climate Active carbon neutral certification. Relevant information was recorded in the same spreadsheet as above, under two new columns titled 'SBTi targets' and 'Toitū/Climate Active certification'.

3.3 Limitations and assumptions

1. This research looks at the type and quantity of information available. It does not assess the quality of the information. Hence, the extent to which information is accurate is beyond the scope of this research.
2. The scope of this research was limited to annual reports and sustainability reports specifically mentioned in the annual report. Greenhouse Gas Inventory reports were not analysed. Therefore, this analysis may not represent the full extent of carbon offsetting disclosures.
3. There may be carbon offsetting information within the analysed reports that was not captured by any of the search terms. This also means this analysis may not represent the full extent of carbon offsetting disclosures.
4. This analysis focuses on voluntary offsetting beyond a company's operations and supply chain. Therefore, entities offsetting to meet compliance obligations or insetting (carbon removals within their value chain, see Glossary on p.47) were not considered to be currently using offsetting.
5. Due to the lack of specificity around required carbon offsetting disclosures, the format and terminology used regarding offsetting is inconsistent and often ambiguous. Therefore, the categories within the results rely on a degree of subjectivity. The scope of each category is defined in the results section.
6. Carbon offsetting is a very complex and technical topic and the Institute staff are not experts in this field. Results are based on the Institute staff's understanding of information disclosed, hence in some cases, information may have been misinterpreted.

4.0 Results

The following sections outline the results of the analysis (see Appendix 7 for the results by company). Due to the number of available annual reports varying by year, percentages have been used in most graphs rather than absolute numbers, to more accurately reflect trends over time.

The results are based solely on information found in the reports themselves, with the exception of Table 5 and Figure 12 (see notes to Table 5 on p.29).

The key trends across the four years can be summarised as follows:

- More companies are mentioning offsetting but fewer companies are using offsetting (see Section 4.1 on p.26).
- There is no increase in the comprehensiveness of offsetting information, and a decline in specificity (see Section 4.2 on p.30).
- Most companies are investing in tree-planting projects, but the proportion of companies purchasing removal credits has not increased (see Section 4.3 on p.31).
- Companies prefer to source carbon credits closer to home (see Section 4.4 on p.32).
- Gold Standard is the favoured verifier, but many companies are confusing carbon market service providers as verifiers (see Section 4.5 on p.34).
- More companies are acquiring certifications for emissions reduction commitments from a third party, which restrict offsetting use and have high quality requirements (see Section 4.6 on p.35).

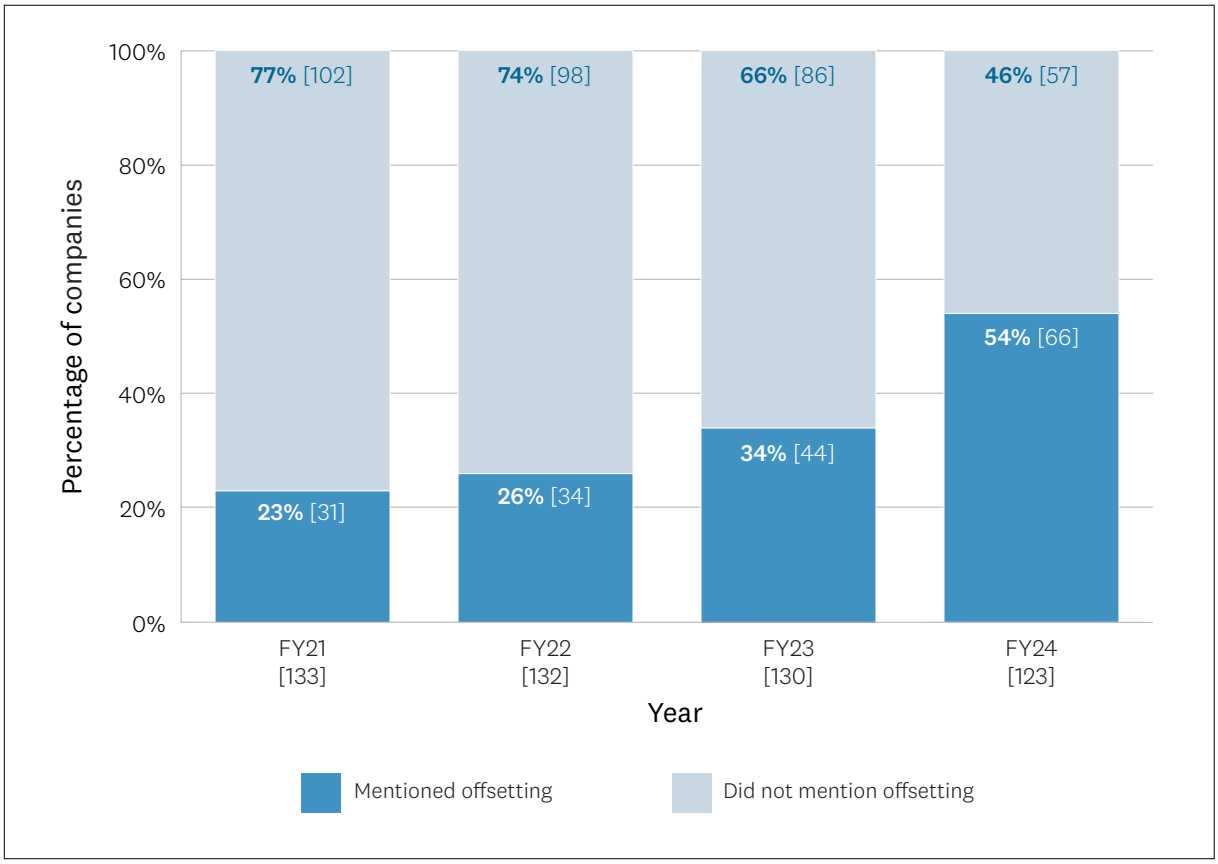
Note: Results are calculated based on the total number of companies with available annual reports, not the combined total of available annual reports and sustainability reports. This is because sustainability reports were only included if explicitly mentioned in the annual report, and information from both reports was combined into one data set.

4.1 General extent of offsetting use

1. An increasing proportion of companies mention carbon offsetting in annual and sustainability reports

The number of companies mentioning offsetting has increased over time, from 23% (31 out of 133) in FY21 to 54% (66 out of 123) in FY24 (see Figure 9 below). The introduction of NZ CS, which became mandatory in FY24 (see Section 2.2 on p.13), is a likely cause of this increase, supported by the fact that in FY24, 43% of companies (53 out of 123) mentioned offsetting in an external sustainability report (as part of their climate-related disclosures), compared to 9% (12 out of 133) in FY21.

Figure 9: Proportion of companies that mentioned carbon offsetting in FY21 to FY24 annual reports and sustainability reports

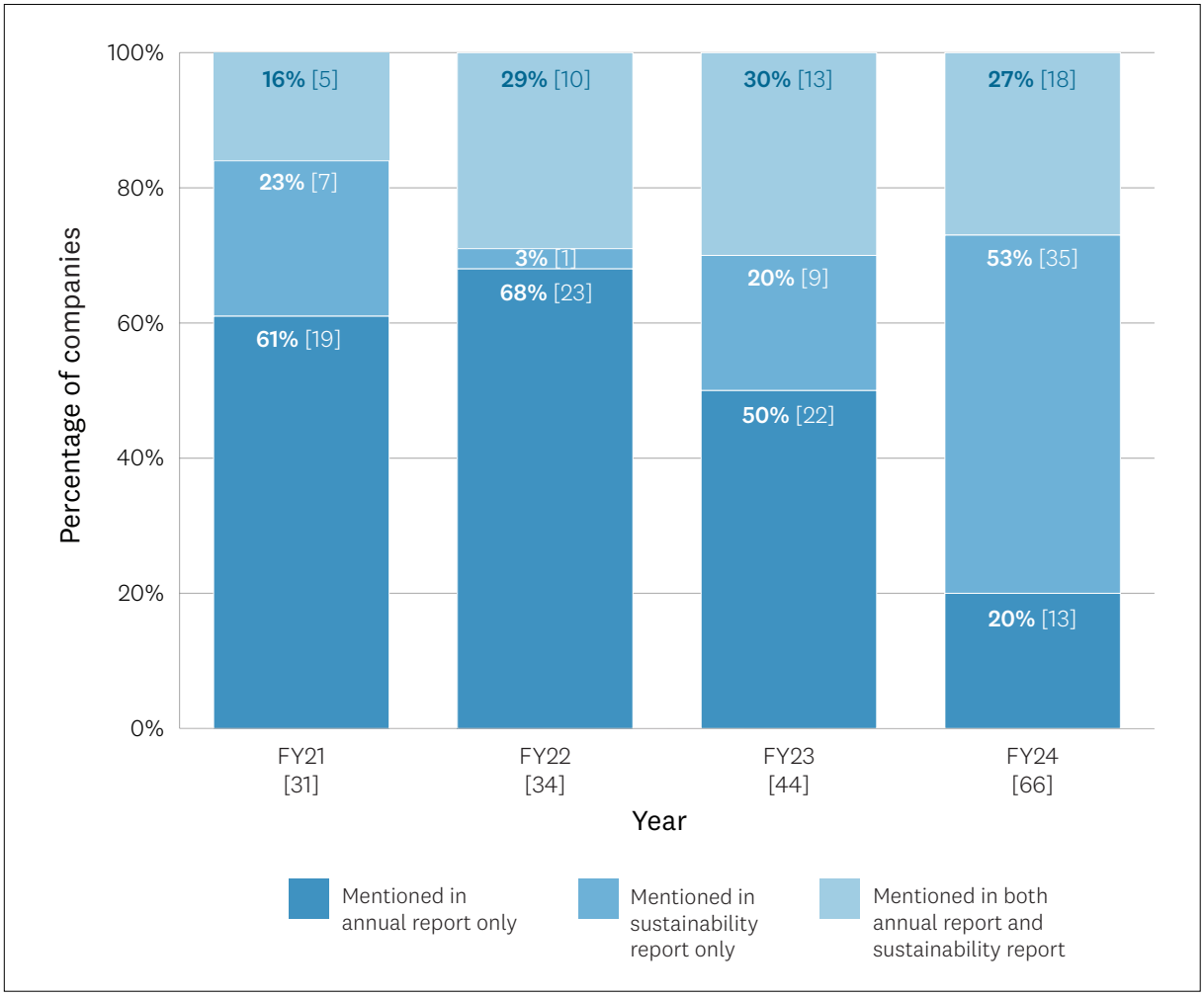


2. An increasing proportion of companies are disclosing carbon offsetting outside of annual reports

There has been a shift in where NZSX-listed companies are disclosing carbon offsetting information. In FY21, most companies (61% [19 out of 31]) only disclosed this information in their annual reports, while 16% (5 out of 31) disclosed in both reports. This means that overall, 77% of companies that mentioned offsetting disclosed this information in their annual reports.

In FY24, most companies (53% [35 out of 66]) only disclosed this information in their sustainability reports. Therefore, only 47% of companies that mentioned offsetting disclosed this information in their annual reports (see Figure 10 below). This decrease is problematic as carbon credits are a financial investment that carry a lot of uncertainty and risk; therefore, a company's approach to offsetting should be reported in the financial statements or at least in the annual report (see Section 1.1 on p.8 and Recommendation 2 on p.41).

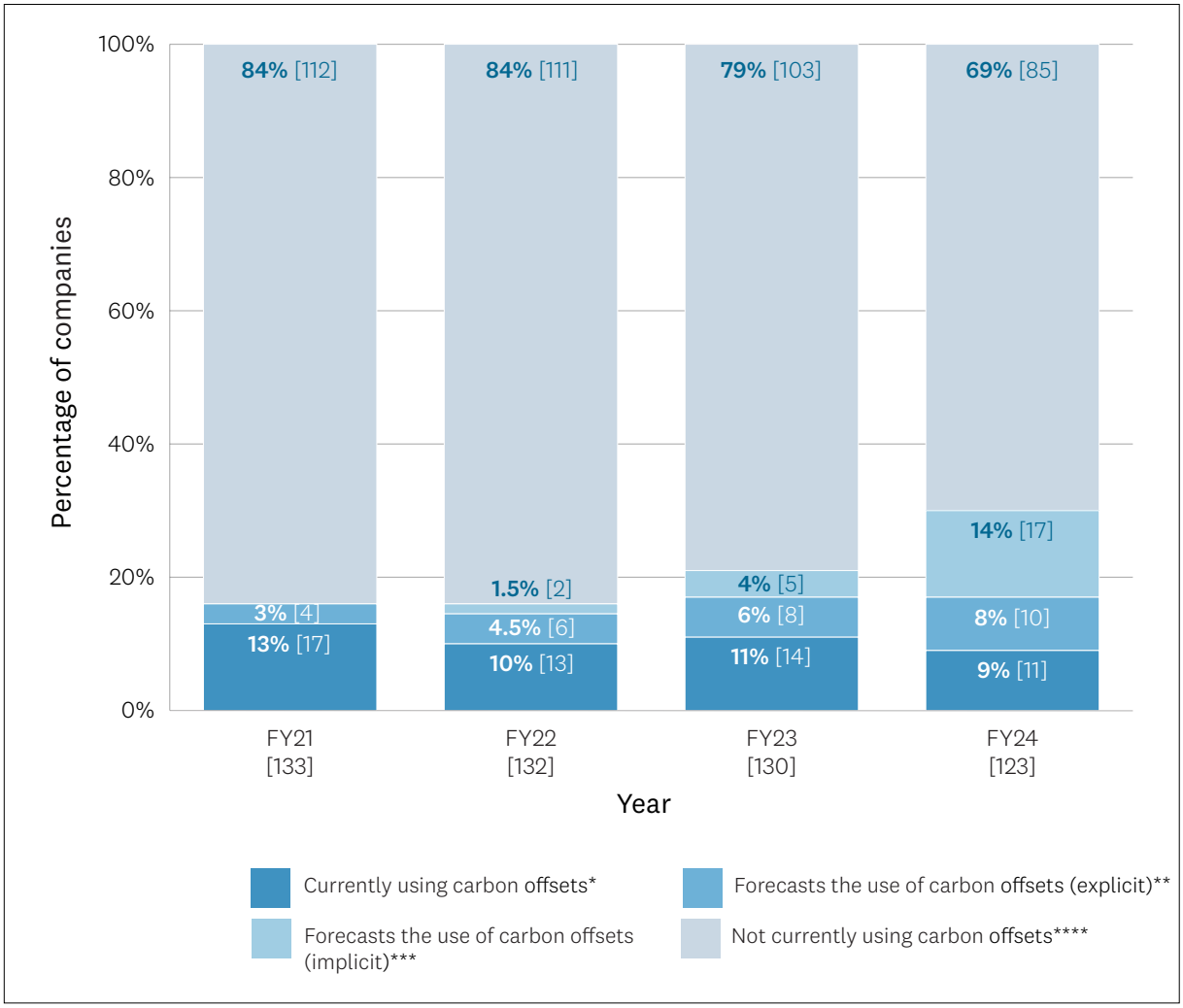
Figure 10: Location of carbon offsetting information in FY21 to FY24 annual reports and sustainability reports



3. Fewer companies are using carbon offsetting but more have forecast using it in the future

Interestingly, the number of companies using offsetting has decreased from 13% (17 out of 133) in FY21 to 9% (11 out of 123) in FY24, in correlation with the international stagnation of the market. However, the number of companies forecasting the use of offsetting has increased significantly from 3% (4 out of 133) in FY21 to 22% (27 out of 123) in FY24, supporting the notion that carbon credit demand, and therefore prices, will accelerate closer to 2030. See Figure 11 below.

Figure 11: Proportion of companies using carbon offsetting, as disclosed in FY21 to FY24 annual reports and sustainability reports



Notes to Figure 11:

* Refers to companies that purchased carbon credits to offset emissions in that financial year.

** Refers to companies that have explicit plans to use offsetting in future. For example, Auckland International Airport Limited's 2024 annual report states:

> The first step has been to reduce the impact of operations through the development of a decarbonisation pathway providing a clear route to reduce direct emissions (scope 1 and 2) from electricity, natural gas, fuels, and refrigerants by 90% by 2030 from the 2019 baseline. The remaining 10% (consisting of refrigerants and fuels where there is currently no alternative) will be offset using an internationally recognised and certified scheme.[104]

*** Refers to companies that state they may use offsetting in future. For example, Millennium & Copthorne Hotels New Zealand Limited's 2024 annual report states:

> Currently MCK is not purchasing carbon credits or off-setting our emissions in other ways, but will explore options in the future.[105]

**** Refers to companies that make no mention of offsetting; are using offsetting only to meet compliance requirements; explicitly state they are not using offsetting with no express intention to use in future; or are generating rather than purchasing carbon credits.

4. More companies are being explicit about their current use of offsetting

The number of companies that disclosed whether offsets had been used in the financial year being reported on increased significantly. Notably, in FY21, 2% of companies (3 out of 133) explicitly stated that they had not used offsets in that financial year, compared to 28% of companies (35 out of 123) in FY24. See Table 4 below.

Table 4: Number of companies explicit about current use of offsetting

Year	Currently using (explicit)	Currently not using (explicit)	No explicit mention
FY21	17	3	113
FY22	13	5	114
FY23	14	13	103
FY24	11	35	77

5. Total emissions offset by companies decreased

The total amount of emissions offset by companies has significantly decreased. However, this is largely due to drastic cuts in carbon credits used by Meridian Energy (913,936 t CO_2e in FY21 vs 113,201 t CO_2e in FY24). See Table 5 and Figure 12.

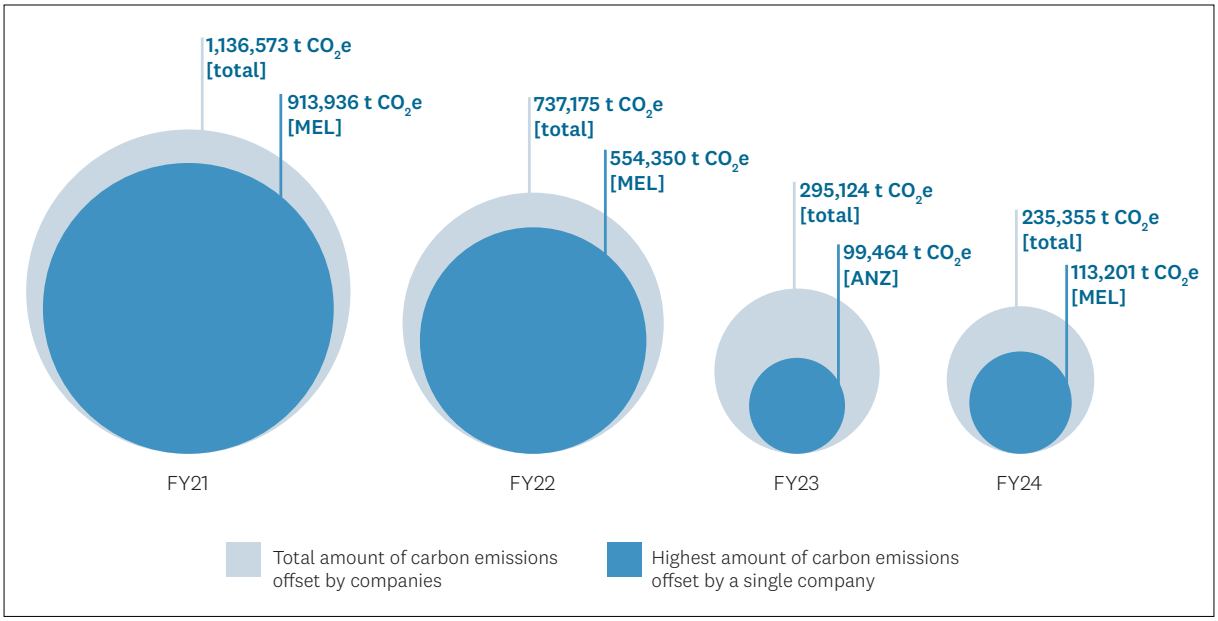
Table 5: Total tonnes of carbon emissions offset, as disclosed in FY21–FY24 annual reports and sustainability reports

Year	Total (t CO_2e)	Highest contributor	Highest amount (t CO_2e)	Lowest contributor	Lowest amount (t CO_2e)
FY21	1,136,573	Meridian Energy Limited (NS) (MEL)	913,936	Arvida Group Limited	50
FY22	737,175	Meridian Energy Limited (NS) (MEL)	554,350	New Zealand Oil & Gas Limited	10
FY23	295,124	ANZ Group Holdings Limited (ANZ)	99,464	New Zealand Oil & Gas Limited	10
FY24	235,355	Meridian Energy Limited (NS) (MEL)	113,201	Property For Industry Limited	129

Notes to Table 5:

1. These totals include offset amounts found outside annual reports and sustainability reports (e.g. on the Toitū Envirocare website) and offset amounts that were implied (e.g. the report stated that operational emissions were offset or that the company is net carbon zero). This was in order to provide a more accurate reflection of the actual total.
2. The amount offset could not be found for four companies in FY21, one company in FY22, and two companies in FY23 and FY24. Therefore, these totals are an underestimate of the actual amount offset.

Figure 12: Total tonnes of carbon emissions offset by companies in FY21 to FY24



4.2 Comprehensiveness of carbon offsetting information

1. The comprehensiveness of offsetting information by companies has not increased and the specificity of information has decreased

The comprehensiveness of carbon offsetting information has remained relatively consistent over the four years (see Table 6 and Figure 13). However, the specificity of this information has declined. Fewer companies are disclosing what type of carbon credits were purchased. In FY21, 71% of companies (12 out of 17) disclosed the type of carbon credit purchased, compared to only 45% (5 out of 11) in FY24. Fewer companies are disclosing what country carbon credits were generated in. Although the proportion of companies disclosing where carbon credits were generated saw little change, this included companies that only gave 'international' as the location rather than a specific country. In FY21 and FY22, a total of three companies referred to using 'international' carbon credits. In FY23 and FY24, seven companies referred to using 'international' carbon credits. See 'international (non-specific)' in Figure 16 on p.33.

The only type of information that saw a consistent increase was around verification. Again, the introduction of NZ CS, which became mandatory in FY24 (see Section 2.2 on p.13), is a likely cause of this increase, as it requires companies to state whether offsets are verified and under which scheme. Despite this, most companies are still failing to disclose who verified the carbon credits used, with a number of companies mistakenly naming Toitū Envirocare as a verifier (see observation in Section 5.1 on p.38).

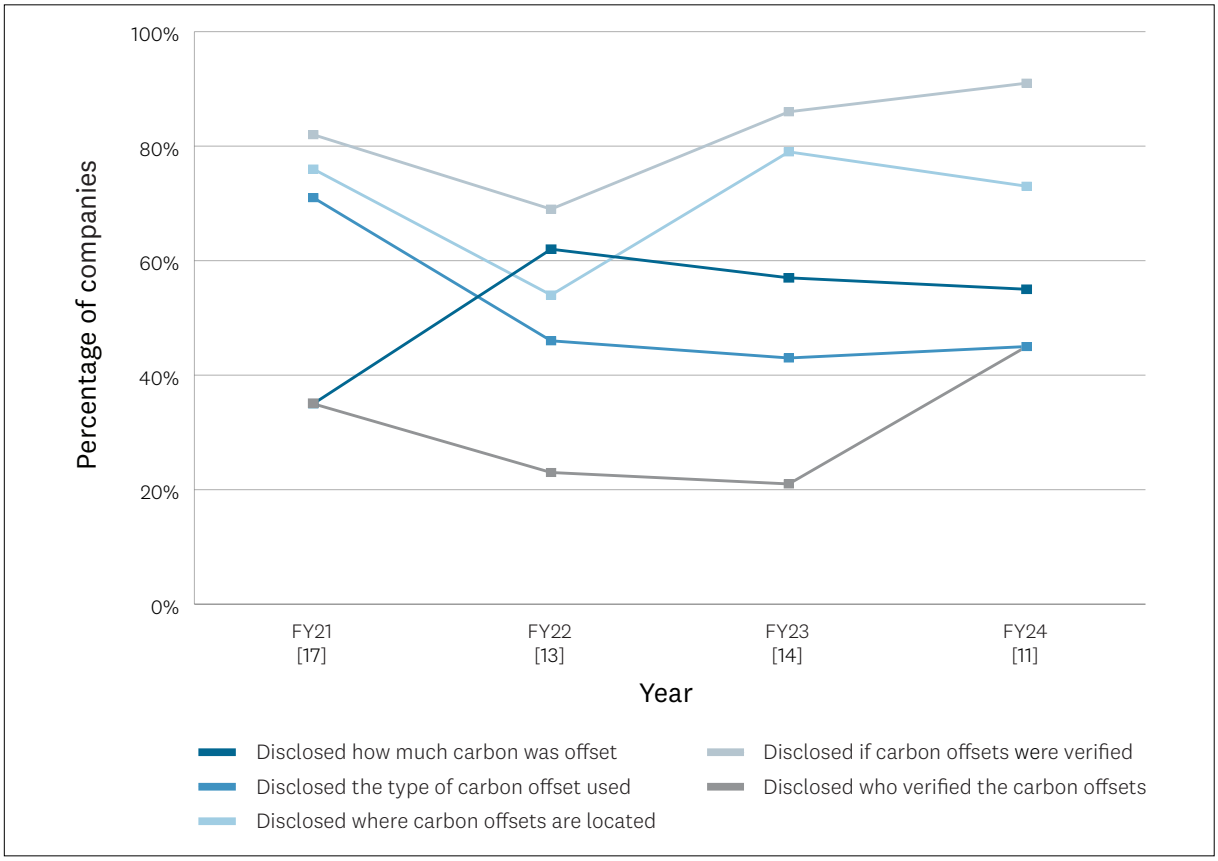
Table 6: Specific information disclosed about carbon offsetting in FY21 to FY24 annual reports and sustainability reports

Year	Disclosed how much	Disclosed what type	Disclosed where	Disclosed if verified	Disclosed who verified
FY21	6	12	13	14	6
FY22	8	6	7	10	3
FY23	8	6	11	12	3
FY24	6	5	8	10	5

Notes to Table 6:

1. Reports considered to have disclosed how much was offset (column 1) do not include those that only implied the amount offset, e.g. by stating operational emissions were offset or that the company is net carbon zero. This is because what is incorporated under operational emissions and net zero requirements is ambiguous and not consistently defined. However, implied offset amounts have been included in the calculation for total annual emissions offset (see Table 5 and Figure 12 on p.29).
2. Reports considered to have disclosed that carbon credits were verified (column 4) include those where this was only implied. This incorporates reports that referred to a carbon credit standard or standard setter, e.g. VCS or Gold Standard; a third party which only sources verified carbon credits, e.g. Toitū Envirocare; or a type of carbon credit that must be verified, e.g. Australian Carbon Credit Units (ACCUs). See Table 7 in Section 4.5 on p.34 for a breakdown of how many companies this applied to.

Figure 13: Trends in the amount of specific information companies disclosed about carbon offsetting in FY21 to FY24 annual reports and sustainability reports

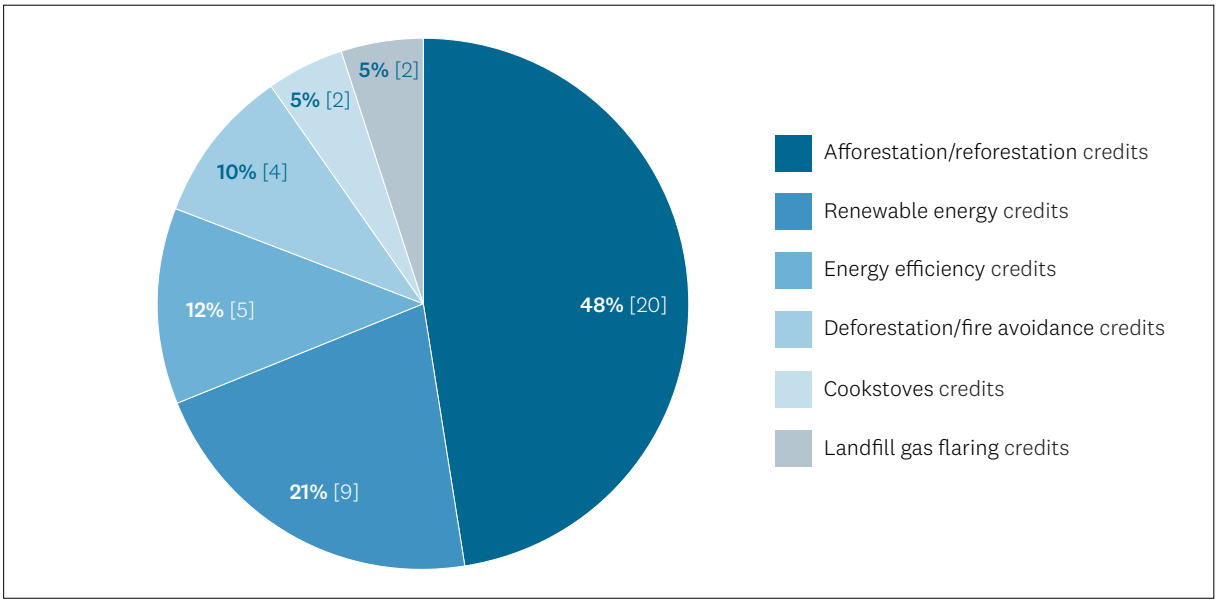


4.3 Types of carbon credits used

1. **The majority of companies are purchasing forestry removal credits**

   Afforestation and reforestation, typically in the form of tree planting, are by far the most common type of carbon credit purchased by NZSX-listed companies (see Figure 14 below). Notably, this was the only type of removal credit mentioned.

Figure 14: Proportion of each type of carbon credits used by companies, as disclosed in FY21 to FY24 annual reports and sustainability reports



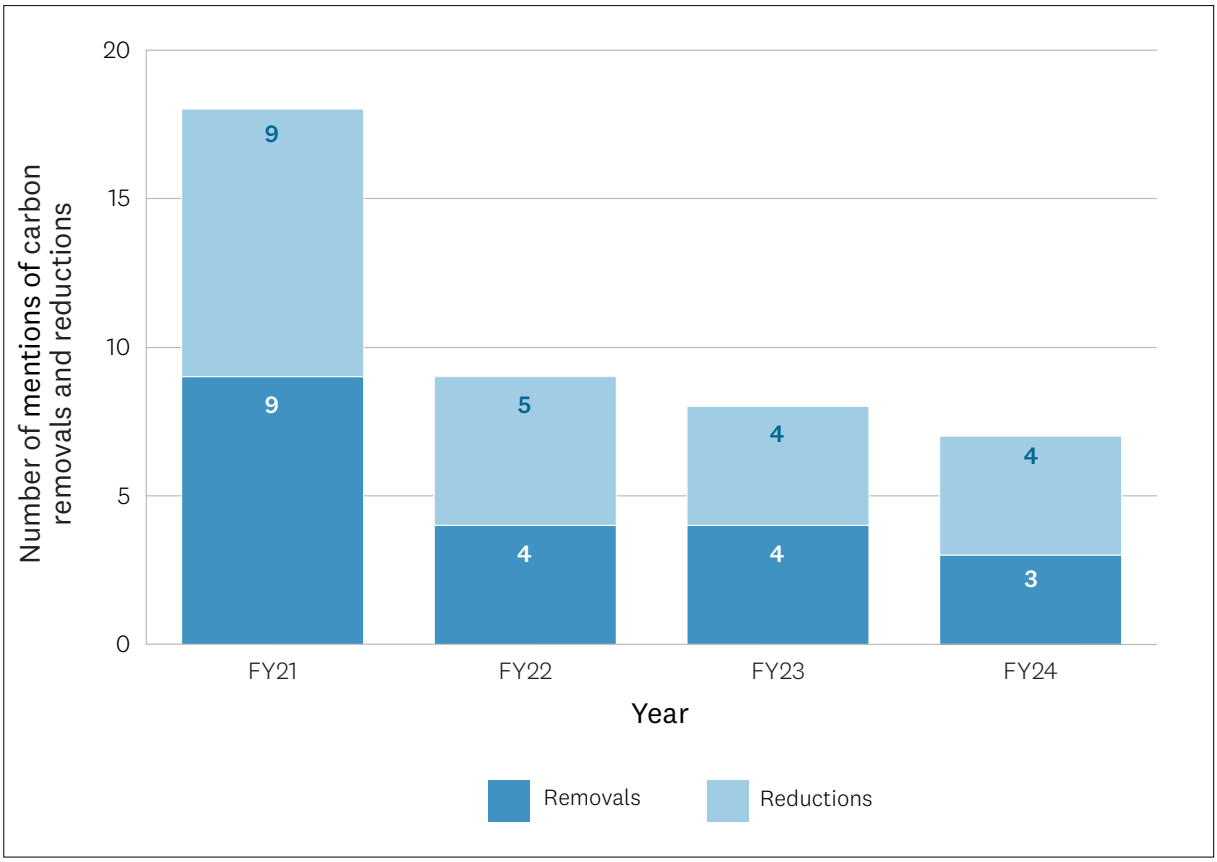
Notes to Figure 14:

1. Percentages are given as integer values for clarity and, due to rounding, add up to 101.
2. This graph reflects the combined totals of carbon credit types used by companies across the four years.

2. **The proportion of companies purchasing removal credits has not increased**

The overall proportion of removal credits to reduction credits did not increase (see Figure 15 below), and no companies are yet purchasing engineered removal credits (see observation in Section 5.1 on p.38 and Observation 1 in Section 5.2 on p.39 for some reasons why, and why this is likely to change over time).

Figure 15: Carbon removal and reduction credit types used by companies, as disclosed in FY21 to FY24 annual reports and sustainability reports

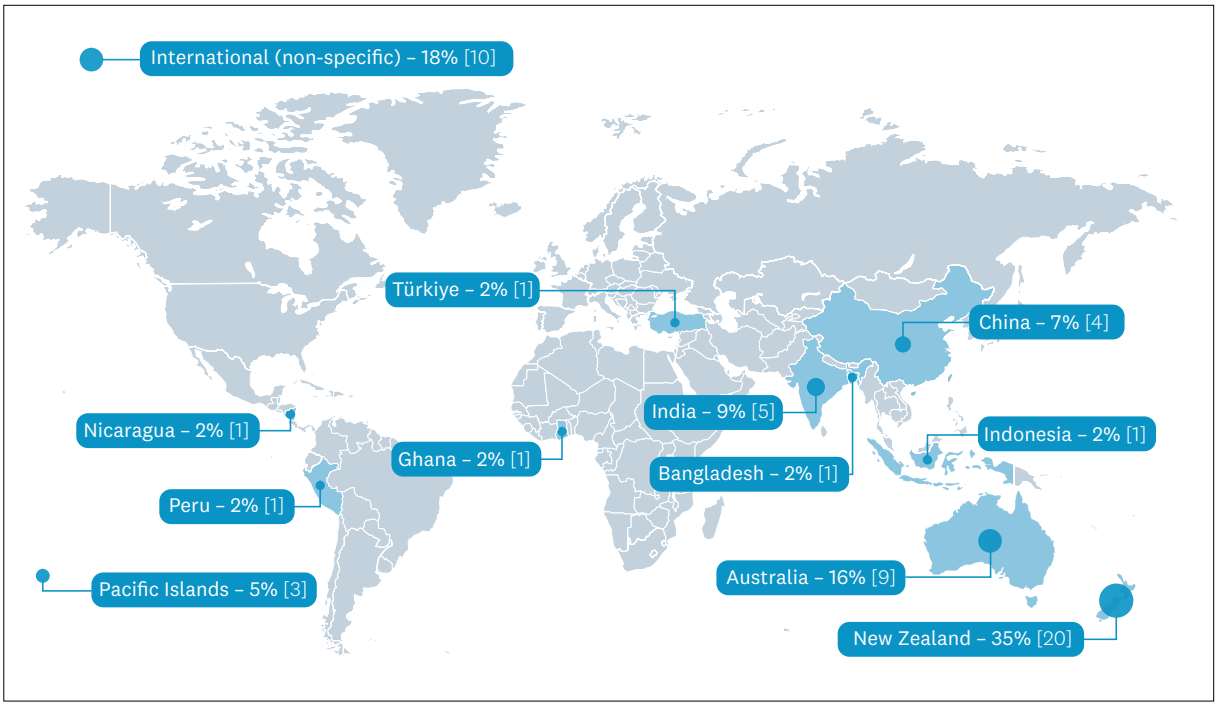


4.4 Location of carbon credits

1. **The majority of companies purchased carbon credits from projects in Oceania**

Across the four years, the majority of carbon credits were purchased from New Zealand- or Australian-based projects (see Figure 16). However, in FY21 and FY24, there was a slight preference for international projects (see Figure 17). International projects have the added advantage of addressing the climate finance gap and are likely to have more co-benefits, such as supporting the United Nations Sustainable Development Goals (UN SDGs). Research suggests they also result in more decarbonisation per dollar, meaning the same amount of emissions can be offset for a much lower cost.[106]

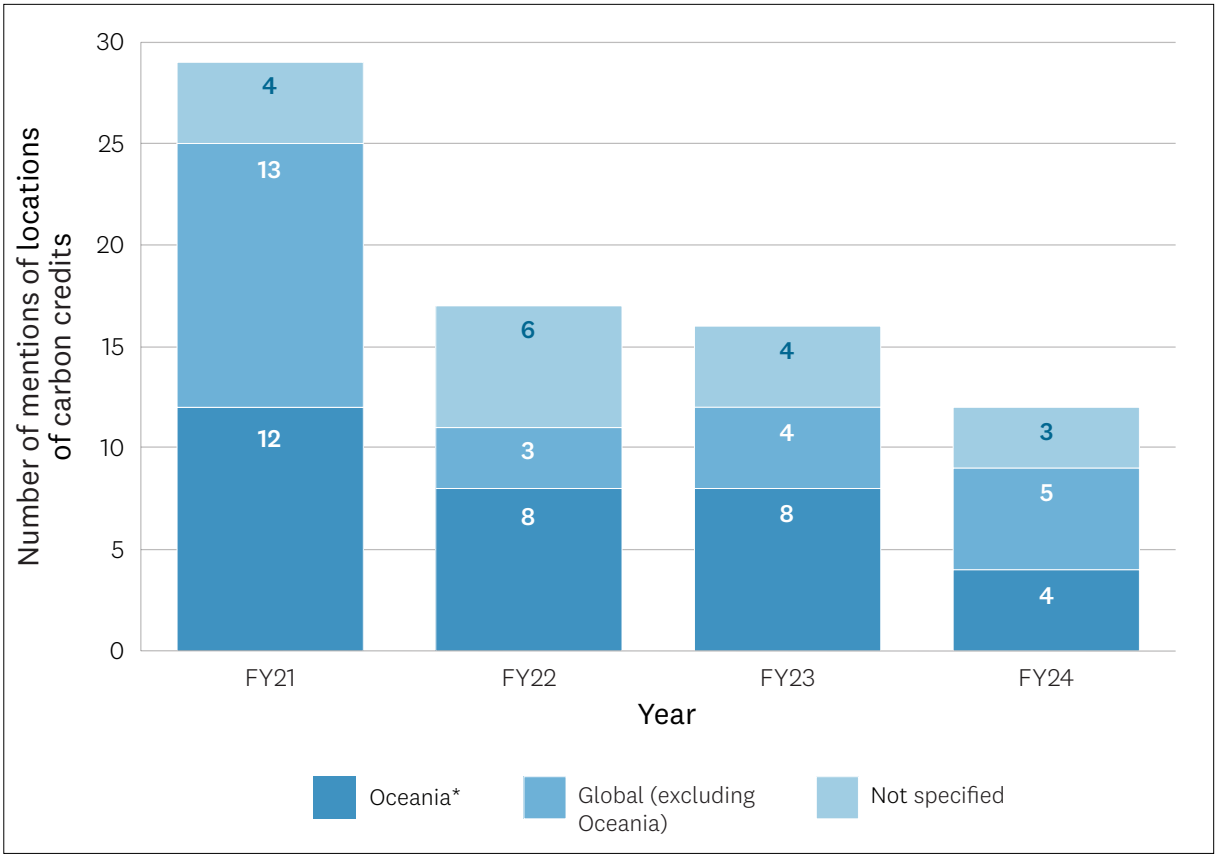
Figure 16: Location, by country, of carbon credits used by companies, as disclosed in FY21 to FY24 annual reports and sustainability reports



Notes to Figure 16:

1. Percentages are given as integer values for clarity and, due to rounding, add up to 102.
2. This graph reflects the combined totals of carbon credit types used by companies across the four years.

Figure 17: Location, by region, of carbon credits used by companies, as disclosed in FY21 to FY24 annual reports and sustainability reports



Note to Figure 17:

* In this paper, we use the term Oceania to refer to New Zealand, Australia and the Pacific Islands.

4.5 Verifiers

1. Gold Standard is the most used verifier of carbon credits

Across all four years, Gold Standard was the favoured standard from which to purchase carbon credits among NZSX-listed companies (see Table 7 below). The negative press about Verra may have been responsible for the move away from this standard after 2021 (see Section 2.3.1 on p.16).[107]

Table 7: Carbon credit verifiers mentioned in FY21 to FY24 annual reports and sustainability reports

Verifier	FY21	FY22	FY23	FY24	Total
Gold Standard (VER)	4	2	3	4	**13**
Verra (VCS)	2	0	0	0	**2**
Plan Vivo	0	0	0	1	**1**
CER (UN CDM)	0	1	0	0	**1**

2. Most companies did not disclose who verified the carbon credits purchased, and some companies confused carbon market service providers with verifiers

Table 8 and Figure 18 show that of the 30 companies that explicitly stated offsets were verified, 47% (14 out of 30) listed an intermediary carbon market service provider (e.g. Toitū Envirocare or Climate Active) or national carbon credit scheme (e.g. ACCU or NZ ETS), rather than a verifier (e.g. Gold Standard or Verra). This indicates that there is significant confusion around who verifies carbon credits.

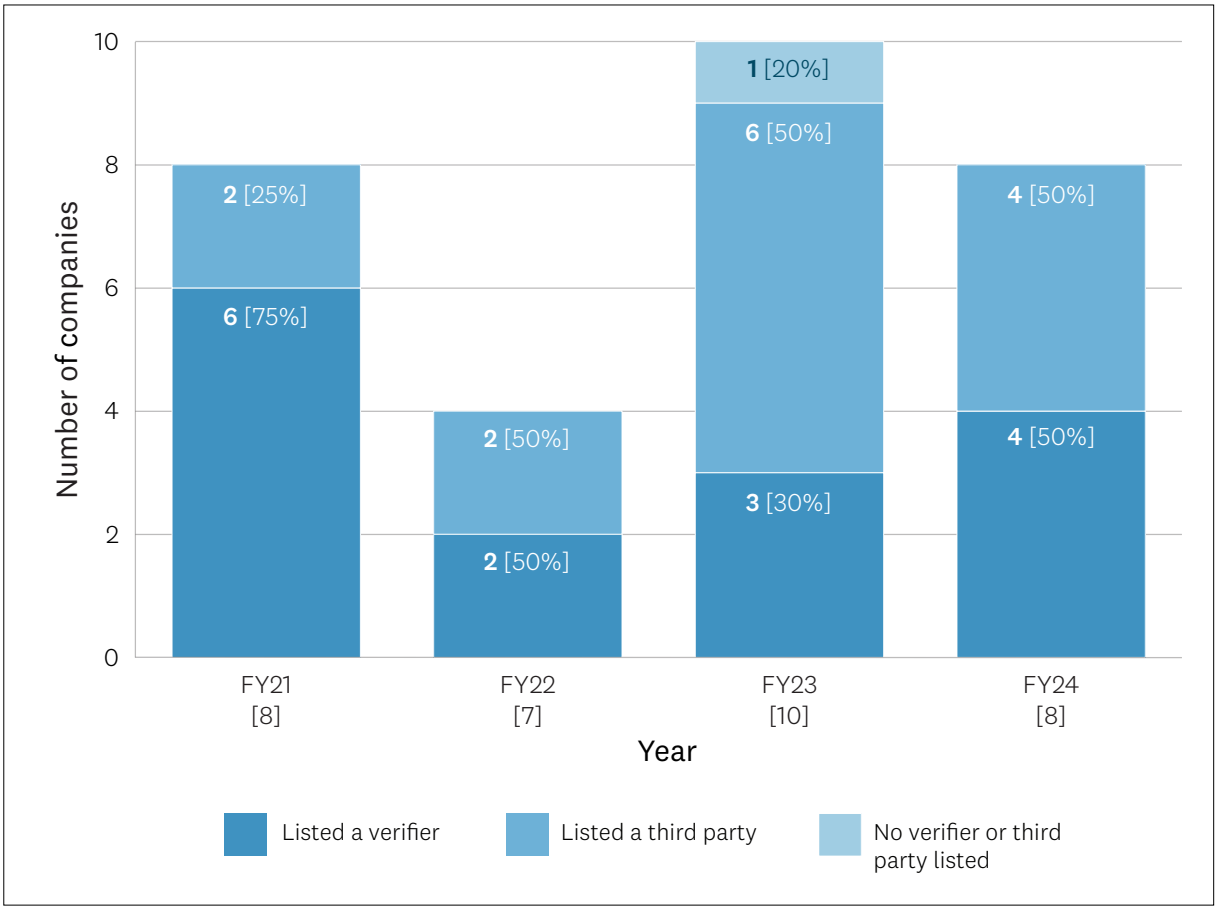
Table 8: Number of companies that disclosed whether offsets were verified in FY21 to FY24 annual reports and sustainability reports

Year	Yes	Yes (implied)*	No
FY21	8	6	3
FY22	4	6	3
FY23	10	2	2
FY24	8	2	1
Total	**30**	**16**	**9**

Note to Table 8:

* Refers to companies that did not use the term 'verified' or 'certified' but referred to either a carbon credit standard or standard setter, e.g. VCS or Gold Standard; a third party that only sources verified carbon credits, e.g. Toitū Envirocare; or a type of carbon credit that must be verified, e.g. ACCUs.

Figure 18: Companies that disclosed who verified carbon credits, as disclosed in FY21 to FY24 annual reports and sustainability reports

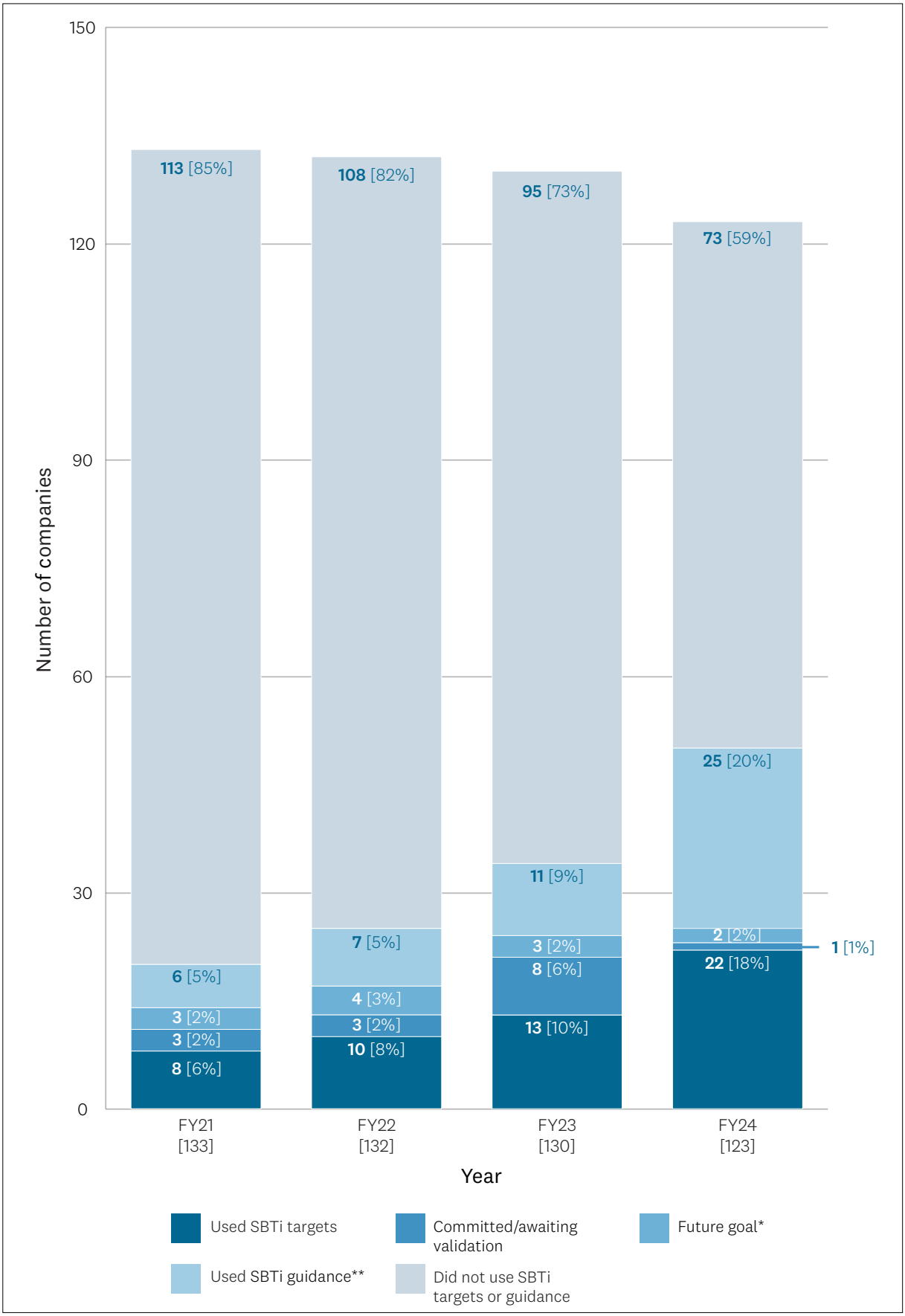


4.6 Extent of additional certifications

1. **An increasing number of companies are obtaining third-party emissions certifications that impose strict standards for quality and the amount of offsetting that can be used**

   The number of companies with emissions reductions commitments and certifications has increased considerably since 2021 (see Figures 19 and 20). SBTi, Toitū Envirocare and Climate Active all have stringent guidelines around the use of offsetting and the quality of carbon credits used. Therefore, increased use of these organisations suggests that the quality of carbon credits has increased and will increase, and offsetting will only be used as a last resort or as additional to emissions reduction efforts. In particular, SBTi limits the use of offsetting to 10% of a net zero target and only carbon removal credits can be used.[108] It does not allow offsetting to be used to meet interim targets.[109]

Figure 19: Extent of the use of SBTi targets and guidance by companies in FY21 to FY24 annual reports and sustainability reports

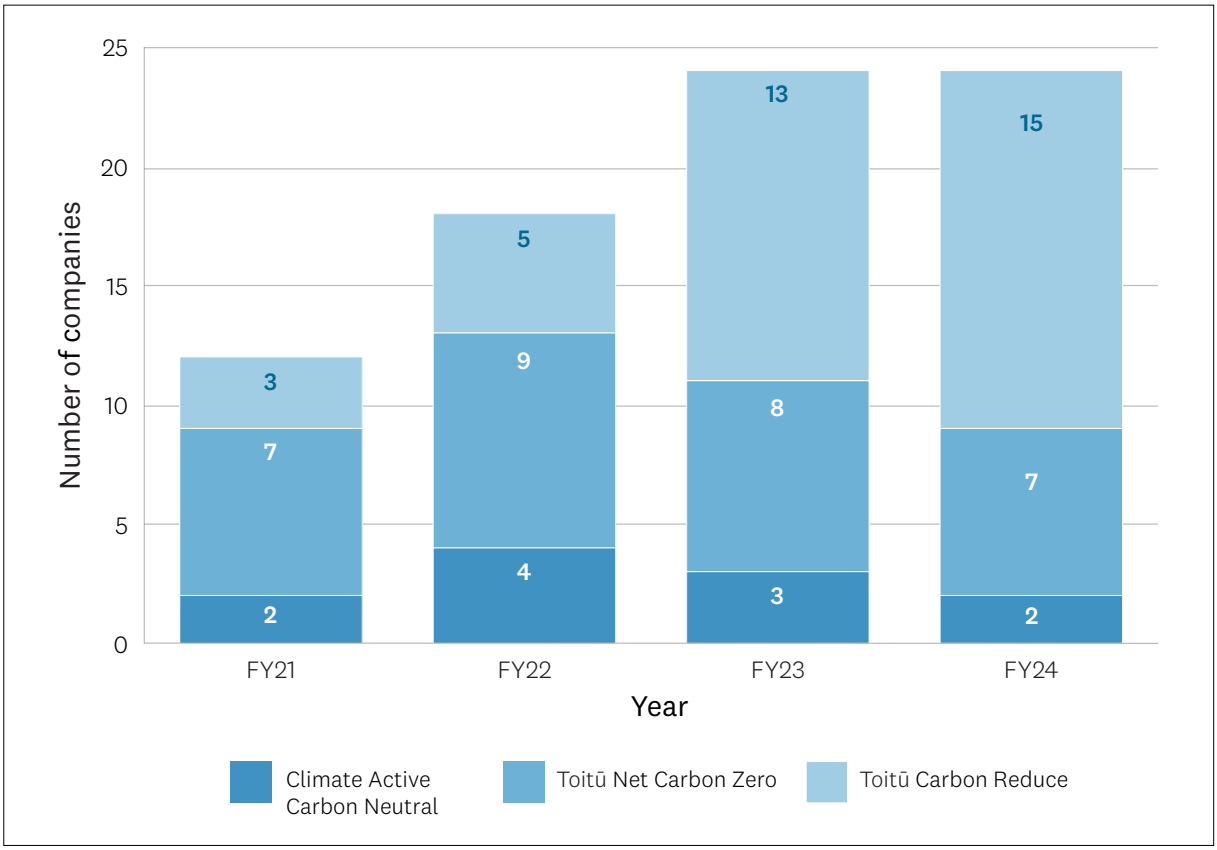


Notes to Figure 19:

* Refers to companies that stated an intention to make an SBTi target in the future

** Does not include companies that used SBTi guidance and stated an intention to make an SBTi target in the future. These companies were included in the 'future goal' category.

Figure 20: Number of companies with emissions reduction certifications, as disclosed in FY21 to FY24 annual reports and sustainability reports



5.0 Observations

5.1 General observations across the four years

- Many companies are working directly with carbon credit producers, particularly tree-planting initiatives, such as Greenfleet and Trees That Count.
- More companies are identifying carbon pricing as a transition risk and in some cases an opportunity (for those with the potential to generate carbon credits). In most cases, this is in relation to compliance costs from carbon taxes and ETS emissions permits.
- Most companies are offsetting using reduction credits, with engineered removals still a thing of the future. Given engineered removal technologies are still in the early stages of development, their carbon sequestration potential is uncertain and the credits they generate are expensive, making them currently unattractive to most companies. Nonetheless, their use is likely to increase as they are incorporated into carbon credit standards, as prices fall, and as companies get stuck with 'hard-to-abate' emissions that can only be addressed through permanent removals.
- Three companies discussed carbon credits in the context of generating them (see Appendix 2 on p.51 for excerpts from these companies' reports). In 2023, New Zealand Rural Land Company reported that carbon credits generated on its forestry estate had been sold on the New Zealand Emissions Trading Scheme (NZ ETS).[110] In 2023 and 2024, Comvita forecast selling carbon credits generated from its mānuka forests.[111] In 2024, ArborGen forecast increased demand for its seedlings as carbon sequestration becomes more of a priority, and more afforestation and reforestation projects emerge (see Observation 2 in Section 5.2 on p.39).[112]

The good news

- More companies are being explicit about not currently using offsetting (3 in FY21; 5 in FY22; 13 in FY23; 33 in FY24). This provides important clarity for investors and for determining progress towards national emissions reduction targets.
- More companies are using SBTi, which has strict limits on the use of offsetting (see Section 4.6 on p.35).
- More companies are obtaining environmental and climate certifications through environmental service providers, like Toitū Envirocare and Climate Active. Both have stringent requirements for the quality of carbon credits (see Section 4.6 on p.35).

Areas for improvement

- Some companies are failing to provide clarity around which carbon credits are used to meet compliance obligations and which are purchased to meet voluntary targets. This confusion could be eliminated if companies simply incorporated the terms 'compliance' or 'voluntary' into references to carbon offsetting.
- Many companies are failing to clarify who has verified carbon credits, with there being notable confusion between demand-side carbon market service providers, e.g. Toitū Envirocare and Climate Active, and supply-side verifiers, e.g. Gold Standard and Verra (see Figure 18 in Section 4.5 on p.34). Toitū Envirocare and Climate Active do not verify carbon credits themselves. However, they apply due diligence and only source carbon credits that have been verified (see Section 2.3.2 on p.16 for the different roles in the VCM; see Appendix 3 on p.56 for Toitū Envirocare's role in the life cycle of a carbon credit).
- Both Toitū Envirocare and Climate Active document the carbon credit amount, type, location and verifier for each company they have certified. However, in most cases, these details are not presented in the annual or sustainability reports of these companies. As this information can be easily acquired, there is no reason why companies should not include it in their annual reports (see Appendix 4 on p.57 for examples of the documentation and carbon offsetting information provided by Toitū Envirocare and Climate Active).

5.2 Observations on FY24 annual reports and sustainability reports

Below are 12 examples of reporting of noteworthy information; good reporting; and reporting that could be improved. See Appendix 5 on p.61 for excerpts from annual reports and sustainability reports illustrating these observations.

1. Air New Zealand Limited

Point of interest: Identifies barriers to purchase of engineered removal credits

Air New Zealand anticipates using engineered removal credits to meet its 2050 net zero target. In the analysis of transition risks in its climate statement, the company outlines some key barriers to this, including 'uncertain technological development, investment requirement, energy needs, infrastructure challenges, and regulatory and social acceptance'.[113]

2. ArborGen Holdings Limited

Point of interest: Identifies increased demand for carbon credits as a transition opportunity

ArborGen recognises carbon credit generating projects as having the potential to increase its access to external investment and increasing the value of its own investment.

> As the market increasingly shifts towards reforestation and afforestation projects and sustainable materials, ArborGen could obtain a greater market share and enhanced competitive advantage for its product … There is an opportunity for ArborGen to continue to actively engage with carbon project developers who are pursuing large scale afforestation and reforestation projects in the Southern US and Brazil.
>
> Financial incentives for reforestation and promoting sustainable forest management practices eg, carbon credits … ArborGen will consider integrating sustainability into its operations to access a broader range of financing options, including green bonds, sustainability-linked loans, and impact investments.[114]

3. Comvita Limited

Point of interest: Refers to insetting as helping to achieve emissions reduction targets

Comvita states that SBTi guidance for the Forestry, Land and Agriculture (FLAG) sector targets 'allows for the netting off of FLAG removals from FLAG emissions'. For Comvita, this means it can '"inset" and net off the removals from the Mānuka forests within [its] operational control that are not registered under the New Zealand Emissions Trading Scheme'.[115]

4. Fonterra Co-operative Group Limited

Point of interest: Refers to insetting as helping to achieve emissions reduction targets

In a subsection titled 'offsets' in the 'metrics and targets' section of its internal climate statement (i.e. within the annual report), Fonterra states that, in addition to prioritising gross emissions reductions, 'in future [it] may also pursue carbon removals within [its] value chain (sometimes referred to as "insetting"), such as supporting the increase in on-farm tree planting'.[116] Interestingly, Nestlé and Mars, both major Fonterra customers, are investing in emissions reduction initiatives within Fonterra's value chain, including a Net Zero Pilot farm and tree-planting. This is perhaps indicative of the growing pressure on companies to reduce Scope 3 emissions, as these emissions are incorporated into reporting requirements and emissions reduction targets. This incentivises investment in supply chains and can create a domino effect of emissions reductions across whole sectors.

5. Comvita Limited

Good practice: Clarity around current and future offsetting strategy

Comvita states that it has not used offsetting so it will not achieve its aspiration of carbon neutrality in 2025. The company provides both a reason for this and clear next steps.

> Given the current market trading and financial conditions, we do not think it prudent to be investing in carbon credits so that we can state we are carbon neutral in 2025. We propose to review our aims once we have investigated SBTs, further developed our supporting decarbonisation strategy, have alignment of carbon reduction plans with key suppliers, and our land portfolio is finalised … Comvita anticipates exploring using high quality and certified carbon credits to meet its carbon reduction targets nearer term and in relation to hard to abate emission areas.[117]

6. Kiwi Property Group Limited

Good practice: Clarity around future use of offsetting

Kiwi Property Group provides a clear statement about the use of carbon offsetting in the future.

> Kiwi Property's Decarbonisation Plan is focused on reducing operational emissions with the offsetting of any residual balance with carbon credits purchased on the voluntary carbon market currently planned for 2030. The final quantity of offsets is not yet known, nor have particular offset schemes been chosen.[118]

7. New Zealand Rural Land Company Limited

Good practice: Dedicated section on offsetting and clarity about current and future use

New Zealand Rural Land Company explicitly states it is not using offsets currently and will not use offsets to meet its emissions reduction target. Instead, 'all reductions will be realised through direct action and structural changes within our operations and investment activities'.[119]

8. NZX Limited

Good practice: Discloses cost of carbon credits per tonne and who verified carbon credits

NZX discloses the price per tonne of carbon credits purchased in both 2023 (NZ$143.1) and 2024 (NZ$43.2), noting that 'going forward, carbon credit prices may be subject to change'. This is indicative of the volatility of carbon prices, and reaffirms the importance of providing this information for investors.

NZX also demonstrates a clear understanding of the distinction between carbon market service providers and verifiers, stating that 'offsets were purchased from Toitū Envirocare and have been certified by Gold Standard as meeting the Fairtrade Climate Standard'.[120]

9. Precinct Properties NZ and Precinct Properties Investments Limited

Good practice: Provides link to Toitū Envirocare's website, where comprehensive offsetting information can be found

Whilst best practice would be to disclose carbon offsetting information in corporate reports themselves, Precinct makes this information easily accessible by providing a link to its certification page on Toitū Envirocare's website. The company also clarifies that this is where information on the offset type, volume and project details can be found.[121]

10. Property For Industry Limited

Good practice: Discloses comprehensive carbon offsetting information in climate statement

Property For Industry has a dedicated section to carbon offsets where it succinctly discloses the type and location of carbon credits and who verified them. Whilst the company does not explicitly state the amount of carbon credits used, it provides a detailed breakdown of the types of emissions offset, so a total can be calculated using the GHG emissions breakdown on the page above.[122]

11. Argosy Property Limited

Area for improvement: Discloses offsetting information in the sustainability report but not the climate statement or annual report

Whilst Argosy's climate statement does state that offsets have been used by the company, the amount, type and location of carbon credits used are only specified in the sustainability report. There is no mention of offsetting in the annual report. The purchase of carbon credits is both an AFI and a fundamental aspect of a company's climate strategy. Therefore, carbon offsetting information should at least be in the climate statement and preferably in the annual report.[123]

12. Fonterra Co-operative Group Limited

Area for improvement: Does not disclose information about offsets purchased

Whilst Fonterra has a dedicated section on 'offsets' in its annual report and is explicitly not using offsetting to support progress towards its targets, it did purchase offsets in FY24. The amount, type and location of the carbon credits purchased are not disclosed; nor is the intended use of the carbon credits, nor who verified them. This information would provide clarity to investors, and the latter is required under NZ CS 1 (see Section 2.2 on p.13).[124]

6.0 Recommendations

From this research, eight recommendations emerged, stemming from the Institute's judgement that the provision of carbon offsetting information by New Zealand companies is currently inadequate. These recommendations should be read in conjunction with the 16 recommendations listed in *Working Paper 2025/06 – Analysing Climate Statements Contained in 2023 and 2024 Annual Reports of NZSX-listed Companies*.[125]

External Reporting Board (XRB)

Recommendation 1: XRB should either expand its Aotearoa New Zealand Climate Standards or establish a non-GAAP standard on carbon offsetting that requires the disclosure of carbon-offsetting information, including a clear definition of the 'core project information' for carbon credits.

New Zealand does not have a formal, statutory definition of 'core project information' (or equivalent) for carbon credits in its climate-related disclosure regime.

In June 2025, the Government announced its intention to require companies to disclose 'core project information' of nature credits purchased, to promote transparency and integrity. This is part of a wider plan to incentivise increased investment in New Zealand's voluntary nature credits market, which includes carbon credits (see Section 2.2 on p.13). This clearly demonstrates the importance of comprehensive disclosures about purchased carbon credits in incentivising investment in climate- and nature-positive projects.

XRB states that the ultimate aim of NZ CS 'is to support the allocation of capital towards activities that are consistent with a transition to a low-emissions, climate-resilient future'.[126] Ensuring companies disclose comprehensive information about their current use of carbon credits directly supports this aim and aligns with the Government's intentions.

Currently, NZ CS only requires disclosures on carbon offsetting in relation to emissions reduction targets (see Figure 3 on p.15). In practice, this only covers the forecast use of offsetting, and, given the volatility of the VCM and developments in the climate space more broadly, few companies are able to say with confidence what credits they plan to retire over long time horizons. This means the majority of companies are making vague statements about offsetting use, if any at all (see Figure 11 on p.28). This is not valuable information for investors.

Consequently, the XRB should extend disclosure requirements to cover the current use of offsetting and 'core project information' about the carbon credits used. The Institute considers 'core project information' to include the amount, type, location and price per tonne of carbon credits purchased, and who verified them. This provides a much greater level of certainty for investors, as well as evidencing trends in prices and extent of use over time, which will help stabilise the VCM.

Alternatively, the XRB could establish a 'non-GAAP' carbon offsetting standard. Under s 12: Functions of Board of the Financial Reporting Act 2013, XRB has the remit to issue a non-GAAP standard (see Appendix 8 below and Recommendation 1 in Section 7.1 of *Working Paper 2025/05*). A dedicated stand-alone standard may be warranted, given that only a limited number of companies currently purchase carbon offsets. However, the appropriate course of action should be carefully evaluated in light of the substantial number of companies that have indicated they will purchase carbon offsets in the near future, see Figure 11 on p.28. A separate standard would ensure that companies using offsets are provided with clear and comprehensive disclosure requirements, and it avoids further changes to NZ CS, which has already been amended twice and may create unnecessary administration and confusion for companies not using offsets.

As the use of offsetting is expected to grow in the coming years, making carbon-offset disclosures mandatory will likely become an increasingly important and reliable tool for ensuring transparency and building trust. It will also support the Government's intentions to expand New Zealand's voluntary nature credits market and increase investment in New Zealand's natural environment (see Section 2.2 on p.13).

Recommendation 2: XRB should expand its financial reporting standards to require Tier 1 reporters to disclose the cost of carbon credits in their financial statements.

Whilst there is currently no specific guidance on accounting for carbon credits under IFRS Accounting Standards, discussions are under way to develop guidance in order to create consistency and clarity for companies and investors, particularly as the VCM and use of carbon credits are forecast to grow.[127]

As a world leader in climate-related disclosures, being the first country to introduce mandatory TCFD-aligned disclosures, New Zealand could lead the way in this area by introducing carbon credit disclosure requirements for financial statements.[128]

In March 2024, the US became the first country to mandate disclosing the cost of carbon credits. As part of new rules established by the US Securities and Exchange Commission, companies would be required to disclose:

> The capitalized costs, expenditures expensed, and losses related to carbon offsets and renewable energy credits or certificates (RECs) if used as a material component of a registrant's plans to achieve its disclosed climate-related targets or goals, disclosed in a note to the financial statements.[129]

The rules would have become mandatory for 'large accelerated filers' (i.e. companies with public shares worth over US$700 million) in FY25;[130] however, under the Trump administration, they were reversed.[131] This is despite the fact that 80% of investors who commented on the rules supported them, illustrating the demand for more transparency around climate-related disclosures.[132] Information on carbon credit costs would be particularly valuable to investors given the variability in carbon credit prices and the high level of risk and uncertainty associated with offsetting.[133]

Globally, delays in guidance and requirements have been created by the complications around how to define carbon credits in accounting terms – as intangible assets, as inventory, or as an expense. However, for companies immediately retiring carbon credits upon purchasing them, there is consensus – the credits can in most cases be treated as an expense, and in some cases, an intangible asset, if the credits are expected to provide economic benefits beyond the current accounting period.[134]

Therefore, the Institute suggests that the XRB amends *Financial Reporting Standard No. 44: New Zealand Additional Disclosures (FRS-44)*.[135] This standard covers New Zealand-specific disclosures which are required in addition to those required under NZ IFRS. The Institute's proposed amendments to FRS-44 are:

1. To include a requirement for companies that have purchased and retired carbon credits in the financial year being reported on to disclose carbon credits as an expense (or intangible assets) in the financial statements
2. To include a requirement for companies to identify which costs relate to carbon credit purchases and/or disclose the total cost of carbon credits purchased and retired in that financial year in the management commentary of the annual report.

Comprehensive disclosure requirements for all generators, sellers and buyers of carbon credits would provide valuable information for investors, governments (regarding their understanding of progress towards emissions reduction targets) and any company seeking to understand and prepare for the impacts of climate change. However, the Institute recognises that further discussion and global agreement is needed to develop such requirements. The recommended amendments above reflect aspects of carbon credit accounting where there is consensus, and which would offer considerable value to investors. Introducing these amendments would put New Zealand ahead of almost all other countries in this space and allows companies to prepare for the higher expectations and demands around carbon offsetting disclosures, from international bodies, investors and consumers, likely to emerge in the near future.

Ministry for the Environment

Recommendation 3: MFE should regularly update guidance on offsetting to align with the latest international guidance on best practice published by the ICVCM, ICROA and VCMI.

The latest guidance from MFE on voluntary carbon offsetting was published in 2022. This guidance was described as interim, with MFE stating that it 'will be reviewed to ensure it remains relevant for organisations in New Zealand undertaking voluntary climate change mitigation'.[136] However, three years on, the guidance remains unchanged despite the rapid pace of developments in international guidance. With the ICVCM introducing its Core Carbon Principles in 2023 and new guidance from ICROA and VCMI released in 2025, MFE's guidance is now becoming outdated.[137] In November 2025, the Institute welcomed the news that the guidance would be updated in 2026. However, MFE should carry out updates more regularly in order to stay aligned with the latest international guidance and provide confidence and clarity to investors, companies using and generating carbon credits and any intermediary organisations, like Toitū Envirocare.

Importantly, MFE should seek input from stakeholders when updating guidance, including carbon market service providers such as Toitū Envirocare, and organisations using, selling or generating carbon credits, to ensure guidance is practical, applicable, comprehensive and aligned with current best practice.

The Institute also recommends that new guidance includes guidelines for registries on good practice around retirement transactions, whereby registries include the name of the business that retired carbon credits in the retirement comment, and businesses are encouraged to support making this information publicly available (see Appendix 6 on p.77 for what a retirement on a registry looks like). This will support the implementation of Recommendation 5 below.

Recommendation 4: MFE (or a similar body) should conduct regular audits of carbon credits purchased from the VCM to ensure alignment with national and international guidance.

Voluntary markets operate outside of mandatory compliance schemes (e.g. the NZ ETS) and therefore lack the legislative and/or regulatory checks and balances to ensure smooth operation. A number of organisations are providing an alternative by assessing the quality and integrity of carbon credits against science-backed standards (see Section 2.3.2 on p.19), but carbon credits can still be purchased from the VCM without any regulatory compliance. There is also continuing concern that the standards verifying carbon credits are inadequate, with carbon credits being over-issued and hence significantly inflating real emissions reductions (see Section 2.3.1 on p.16). This is contributing to stagnation in carbon credit investment and a drop in carbon prices, both of which potentially damage progress towards addressing the climate crisis. To ensure the effectiveness of the VCM (within a wider climate response) and incentivise investment, it is crucial that carbon credits are legitimate and of high integrity. MFE (or a similar body) can contribute to this by proving regulatory oversight.

The UK Government recently introduced guidance on voluntary carbon trading in the form of six principles. The guidance is aligned with the VCMI's *Claims Code of Practice*.[138] They are now exploring 'how these approaches could be reflected in guidance, policy and potentially regulation, supported by market architecture that could embed and scale high-integrity practice'.[139] The New Zealand Government should adopt a similar approach. As the VCMI Executive Director states, 'companies and investors need clear signals that taking action and being ambitious on climate using voluntary carbon markets is supported and recommended by policy makers'.[140] Regulatory oversight of the VCM will increase its stability and increase certainty for companies and investors alike. A flourishing VCM will help New Zealand meet its emissions reduction targets more quickly and cheaply, as well as ensuring the environmental benefits of carbon offsetting are maximised.

Recommendation 5: MFE, the Ministry of Business, Innovation and Employment (MBIE) and/or the Environmental Protection Agency (EPA) should develop a centralised and publicly available dashboard that records all carbon credit retirements by New Zealand companies.

Carbon credit registries record all carbon credits issued and retired under a certain standard. For example, credits verified by Verra are issued onto one registry and credits verified by Gold Standard are issued on a different registry. They are crucial for the credibility, accountability and legitimacy of offsets. They have standardised protocols, publicly available information, third-party verification requirements and monitoring protocols for projects to ensure that any carbon credit on their marketplace has been verified and meets strict requirements. Ultimately, registries act as an arm of accountability, and in this case, help ensure that the offset delivers the environmental benefit in a transparent and publicly accessible way. However, as registries are organised by standard, not by nation, building a comprehensive picture of voluntary carbon offsetting activity internationally and nationally is difficult.

Climate Action Data Trust is addressing this issue at the international level. It uses blockchain technology to synchronise data from all major carbon credit registries on one interactive dashboard.[141] Similarly, BeZero's Corporate Retirements tool compiles data from the six main carbon credit registries. However, its data is organised around the buyers retiring carbon credits rather than the projects and standards issuing them. With coverage of more than 3,000 companies, retirements are mapped using Legal Entity Identifiers (LEIs).[142] New Zealand could replicate a simpler version of these models at a national level, developing a dashboard that records all carbon credit retirements made by New Zealand companies in the VCM. As registries must now require account holders to identify the entity on whose behalf a carbon credit is retired, in order to comply with the eligibility criteria of the ICVCM CCPs, a comprehensive list of retirements made by New Zealand companies can be easily established and made available on a national dashboard (see Appendix 6 on p.77 for what a retirement on a registry looks like).[143]

A dashboard that records all carbon credits retired by New Zealand companies would be an invaluable resource for tracking the use of offsetting in New Zealand, enabling the development of more robust and effective strategies for meeting national climate change targets and international climate commitments, and restoring confidence in the VCM. It would make a big contribution to filling the carbon offsetting information gaps identified in the results above.

Commerce Commission

Recommendation 6: Commerce Commission should produce stand-alone guidelines on carbon-offset environmental claims.

The Commerce Commission's 2020 *Environmental Claims Guidelines: a guide for traders* provide guidance on claims 'about the environmental impact of the production, distribution, use and disposal of a good or service', helping to ensure companies comply with the Fair Trading Act 1986.[144]

The guidelines are based on the principles that traders should:

- be truthful
- be accurate
- be specific
- substantiate claims
- use plain language
- not exaggerate.[145]

Claims around carbon offsetting and carbon neutrality are included in the guidelines, with the Commission stating that 'carbon-offset claims should clearly inform consumers about what is being offset and how it is being offset'.[146] In the Institute's view, disclosing the specific amount, type and location of carbon credits purchased to offset emissions is necessary to meet this guideline.

The existing guidelines have two key shortcomings:

1. They do not cover all carbon-offset claims. Claims about carbon offsets used to reduce the company's overall GHG footprint (i.e. its Scope 1, 2 and 3 emissions) may not be included if they do not relate to a specific good or service. For example, if a company decides to purchase carbon credits to offset its employee transport emissions, this is not directly tied to a good or service, hence is beyond the scope of the current guidelines.
2. They encourage offsetting information to be disclosed in a piecemeal and dispersed fashion, which is confusing and unhelpful for investors and consumers.

To address these issues, the Commerce Commission should produce guidance specifically related to carbon offsetting claims, with explicit requirements for offsetting claims related to a company's overall GHG footprint. In line with the principles underpinning the existing guidelines (see above), and the current advice around carbon-offset claims, the Commission should make clear that companies should include the amount of emissions offset (in t CO_2e), the type and location of carbon credits purchased and who verified the carbon credits. This information is necessary to evidence that carbon credits equate to real and additional emissions reductions and therefore that claims related to carbon offsetting are not unsubstantiated or misleading. Making this information publicly available can strengthen the company's marketing efforts. For example, disclosing information about the project where carbon credits were generated and the tangible benefits for the environment and communities that the project directly contributed to, alongside emissions reductions, creates a compelling story that is likely to resonate with many consumers.

The Commerce Commission should regularly assess adherence to these new guidelines and provide feedback to the XRB and MFE to support the development of more comprehensive and effective climate-related disclosures. This will in turn enable more informed decision-making and strengthen New Zealand's financial markets and its resilience and adaptability around climate change.

Note: The role that this recommendation proposes for the Commerce Commission closely reflects the current role of the FMA in relation to non-GAAP information. See discussion in Section 2.3 and Section 7.2 of *Working Paper 2025/05*.[147]

Financial Markets Authority (FMA)

Recommendation 7: FMA should produce guidelines on good practice for voluntary offsetting purchases and disclosures and review disclosures in annual reports and result announcements by NZSX-listed companies and USX-listed companies that disclose carbon offset information.

This recommendation acts as a follow-on and potential alternative to Recommendations 3 and 6. It proposes that the FMA produce guidance on both (a) purchasing carbon credits; and (b) disclosing information about these carbon credits:

a) The FMA, with support from MFE, should produce guidance around purchasing carbon credits, as an update to MFE's 2022 *Interim guidance for voluntary climate change mitigation*.[148] This should focus on how companies can ensure they buy carbon credits that are high quality, and additional and equate to real emissions reduction, as well as outlining when it is appropriate to use offsetting and tips on which carbon credits are the most suitable and effective. The FMA should account for the points made in Recommendation 3 around seeking input from stakeholders and including guidelines for registries.

b) The FMA should produce guidance that lays out good practice for carbon offsetting disclosures. The Institute defines good practice as disclosing the amount, cost, type and location of carbon credits, who verified them (e.g. Verra or Gold Standard), an explanation as to why the company is using offsetting and a plan outlining its use of offsetting in the future.

Both sets of guidance should be contained within one document and the FMA should monitor adherence to this guidance and report findings on current disclosure practices to the XRB in order to support the development of future climate standards and amendments.

The Institute believes the FMA is best placed to take on this role for the following reasons:

1. The FMA already undertakes a similar role in relation to non-GAAP information. The FMA has produced guidance on good practice around disclosing non-GAAP financial information and monitors adherence to this guidance (see discussion in Section 2.3 and Section 7.2 of *Working Paper 2025/05*).[149] Like non-GAAP financial information, carbon offsetting information is currently not standardised. Therefore, producing a clear template and set of principles for good practice and monitoring adherence to these is important in ensuring the stability and strength of New Zealand's markets.
2. The FMA is responsible for ensuring compliance with the FMCA, which includes fair dealing provisions. Compliance ensures making sure claims are not false, misleading or unsubstantiated. The FMA also emphasises that this conduct extends to omissions.[150] Due to the volatility and unregulated nature of voluntary carbon markets, carbon-offset claims have a high risk of breaching these provisions. Therefore, the FMA should be monitoring carbon-offset claims closely. As mentioned above, the Commerce Commission has some brief guidelines around how to ensure carbon-offset claims comply with the FTA, which has a similar role to the fair dealing provisions of the FMCA. Therefore, the FMA should work closely with the Commerce Commission when developing guidance on the disclosure of carbon offsetting information.
3. The FMA website states that 'the FMA is responsible for the independent monitoring and enforcement of the climate-related disclosures (CRD) regime' Monitoring carbon offsetting disclosures reflects a simple extension of this responsibility.
4. Compiling guidance on carbon credit purchases and how to disclose information about these purchases in one document under one regulatory body would create a much simpler system and increase the accessibility of information for preparers, users, regulators and standard setters of climate-related disclosures.

Global corporate climate-action organisations

Recommendation 8: Organisations must collaborate at pace to develop a coherent reporting framework.

Although international efforts have strengthened supply-side quality in carbon markets, far less scrutiny is applied to buyers' reporting on how those credits have been used. Table A8.2 (p.94) in Appendix 8 identifies the four principal international organisations currently, or potentially, active in this area. Establishing a coherent voluntary framework would strengthen expectations for transparency regarding both the source and retirement of carbon credits, and improve alignment between financial reporting and climate reporting. Such a framework would offer governments around the world a clear blueprint for setting mandatory standards.

Abbreviations

ACCU	Australian Carbon Credit Unit
AFE	Anticipated financial effect
AFI	Anticipated financial impact
BECCS	Bioenergy Carbon Capture and Storage
BTR1	Biennial Transparency Report
CBAM	Carbon Border Adjustment Mechanism
CCP	Core Carbon Principle
COP29	29th Conference of the Parties to the UN Framework Convention on Climate Change
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
DACC	Direct Air Carbon Capture
EPA	Environmental Protection Agency
ESG	Environmental, social and governance
ETS	Emissions trading system/scheme
FTA	Fair Trading Act 1986
GHG	Greenhouse gas
ICROA	International Carbon Reduction and Offset Alliance
ICVCM	Integrity Council for the Voluntary Carbon Market
IFRS S2	International Financial Reporting Standards S2
ISSB	International Sustainability Standards Board
LEI	Legal Entity Identifier
MBIE	Ministry of Business, Innovation and Employment
MFE	Ministry for the Environment
NDC	Nationally determined contribution
NDC1	New Zealand's first Nationally Determined Contribution
NDC2	New Zealand's second Nationally Determined Contribution
NZ CS	Aotearoa New Zealand Climate Standards
NZ CS 1	Aotearoa New Zealand Climate Standard 1
NZ ETS	New Zealand Emissions Trading Scheme
NZSX	New Zealand Stock Exchange
NZX	New Zealand Exchange
PACM	Paris Agreement Crediting Mechanism
SBTi	Science Based Targets initiative
t CO_2e	Tonnes of carbon dioxide equivalent
TCFD	Task Force on Climate-related Financial Disclosures
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UN SDGs	United Nations Sustainable Development Goals
VCM	Voluntary Carbon Market
VCMI	Voluntary Carbon Market Integrity Initiative
VCS	Verified Carbon Standard
XRB	External Reporting Board

Glossary

Accounting standards

The *External Reporting Board Standard A1 Application of the Accounting Standards Framework* states that the term accounting standard has 'the same meaning as "financial reporting standard" and includes an "applicable financial reporting standard" as defined in the Financial Reporting Act 2013'.

Additionality

The principle that a reduction or removal of emissions would not have occurred without the finance from the sale of credits, ensuring genuine progress beyond 'business-as-usual'.[151] All carbon credits must prove to be 'additional' to be verified.

Biodiversity credit

A certificate that represents a measured and evidence-based unit of positive biodiversity outcome that is durable, and additional to what would have otherwise occurred. Positive biodiversity outcomes include improvements in measures of biodiversity; reductions in threats to biodiversity; and preventions of anticipated decline in measures of biodiversity.[152]

Carbon credit

A tradable, non-tangible instrument representing one tonne of GHG emissions.[153]

Carbon credit standard

A set of criteria that projects must meet in order for the carbon credits they generate to be verified and issued onto a registry.

Carbon credit standard setters

The organisations that set rules, oversee project design and development, and approve and track credit issuance and retirement. They are also referred to as 'verifiers' in this paper and ICROA uses the term 'independent crediting programmes'.[154]

Carbon credits used

Carbon credits purchased and retired to offset a company's emissions.

Certified

See definition for verified.

Core project information

Information about carbon credit projects that enables an assessment of the quality and financial implications of the carbon credits a company has used or intends to use. Although not formally defined by the New Zealand Government, the term 'core project information' appears in the Ministry for the Environment's 2025 document *Scaling Up Voluntary Nature Credits Market Activity in New Zealand: Proposed Government Roles*, which outlines how the Government plans to build confidence and support growth in voluntary nature and carbon credit markets.[155]

GHG sink

A process that removes GHGs from the atmosphere.[156]

Insetting

Broadly defined as a company investing in emissions reduction and removal projects within its value chain. Companies are currently using it in the context of offsetting emissions using internal carbon removal projects, like planting trees on their land (see Observations 3 and 4 on p.36). As with offsetting, these emissions reductions or removals should be measured and verified by a carbon credit standard, but they are not issued on the VCM.[157]

Offset (in climate policy)

The reduction, avoidance or removal of a unit of greenhouse gas (GHG) emissions by one entity, purchased by another entity to counterbalance a unit of GHG emissions by that other entity. Offsets are commonly subject to rules and environmental integrity criteria intended to ensure that they achieve their stated mitigation outcome. Relevant criteria include, but are not limited to, the avoidance of double counting and leakage, use of appropriate baselines, additionality, and permanence or measures to address impermanence.[158]

Over-crediting

When more credits are issued than tonnes of emissions reduced or removed by a given project, due to factors such as unrealistic baseline assumptions or employing data with large uncertainties.[159]

Phantom credits

Carbon credits that do not represent a real, additional, permanent and verifiable reduction or removal of GHG emissions. They fail to deliver on their promised environmental integrity, often due to methodological flaws in baselines, lack of additionality, impermanent sequestration, or double-counting across different accounting systems.[160]

Public accountability (an accounting term)

The definition of public accountability in XRB A1 has two parts:

Part 1 refers to the IASB definition (based on the international standard IFRS for SMEs): An entity has public accountability if its shares or debt are traded on the public market – or if it holds assets in a fiduciary capacity for a broad group of outsiders as one of its primary businesses.

Part 2 refers to a New Zealand-specific 'deeming provision': An entity has public accountability if it is an 'FMC reporting entity' with 'higher level of public accountability' as defined under the Financial Markets Conduct Act 2013 (FMCA).[161]

Public accountability is defined in *XRB A1: Application of the Accounting Standards Framework* as:

7 For the purpose of applying the Tier 1 criteria, an entity has public accountability if:

(a) it meets the IASB definition of public accountability as specified in paragraph 8 (subject to paragraph 10); or

(b) it is deemed to have public accountability in New Zealand in accordance with paragraph 9.

8 In accordance with the IASB definition, an entity has public accountability if:

(a) its debt or equity instruments are traded in a public market or it is in the process of issuing such instruments for trading in a public market (a domestic or foreign stock exchange or an over-the-counter market, including local and regional markets); or

(b) it holds assets in a fiduciary capacity for a broad group of outsiders as one of its primary businesses (most banks, credit unions, insurance companies, securities brokers/dealers, mutual funds and investment banks would meet this second criterion).

9 An entity is deemed to have public accountability in New Zealand if:

(a) it is an FMC reporting entity or a class of FMC reporting entities that is considered to have a 'higher level of public accountability' than other FMC reporting entities under section 461K of the Financial Markets Conduct Act 2013; 2 or

(b) it is an FMC reporting entity or a class of FMC reporting entities that is considered to have a 'higher level of public accountability' by a notice issued by the Financial Markets Authority (FMA) under section 461L(1)(a) of the Financial Markets Conduct Act 2013.

10 Notwithstanding paragraph 8(b), an FMC reporting entity is not considered to have public accountability unless it is considered to have a 'higher level of public accountability' than other FMC reporting entities in accordance with paragraph 9(a) or 9(b).[162]

REDD

Reduced Emissions from Deforestation and Degradation in Developing Countries. These forestry and land use projects are developed based on the voluntary REDD+ framework, developed by the United Nations Framework Convention on Climate Change (UNFCCC) to encourage financing of forest conservation and management in lower-income countries where forests are at risk of land-use change or reduced carbon storage.[163]

Reduction credit

One tonne of future GHG emissions that is avoided by reducing or eliminating the use of an emissions source and is additional to a 'business-as-usual' scenario.[164] Also known as avoidance credits. Examples include renewable energy projects, electrification and water purifiers (which avoid the need to boil water over smoky fires that generate emissions).[165]

Registry

A system for tracking credits, recording the initial issuance of the credit, any transfers related to sales transactions, and the retirement of the credit.[166]

Removal credit

One tonne of GHG emissions that is removed or sequestered by a GHG sink. Examples include forest restoration and direct air capture.[167]

Retirement

Once an entity has claimed the carbon benefit a carbon credit represents by incorporating it into its total emissions reduction, that carbon credit is removed from the market and labelled as retired on any registry it is listed on, making it non-transferable and non-tradable.[168]

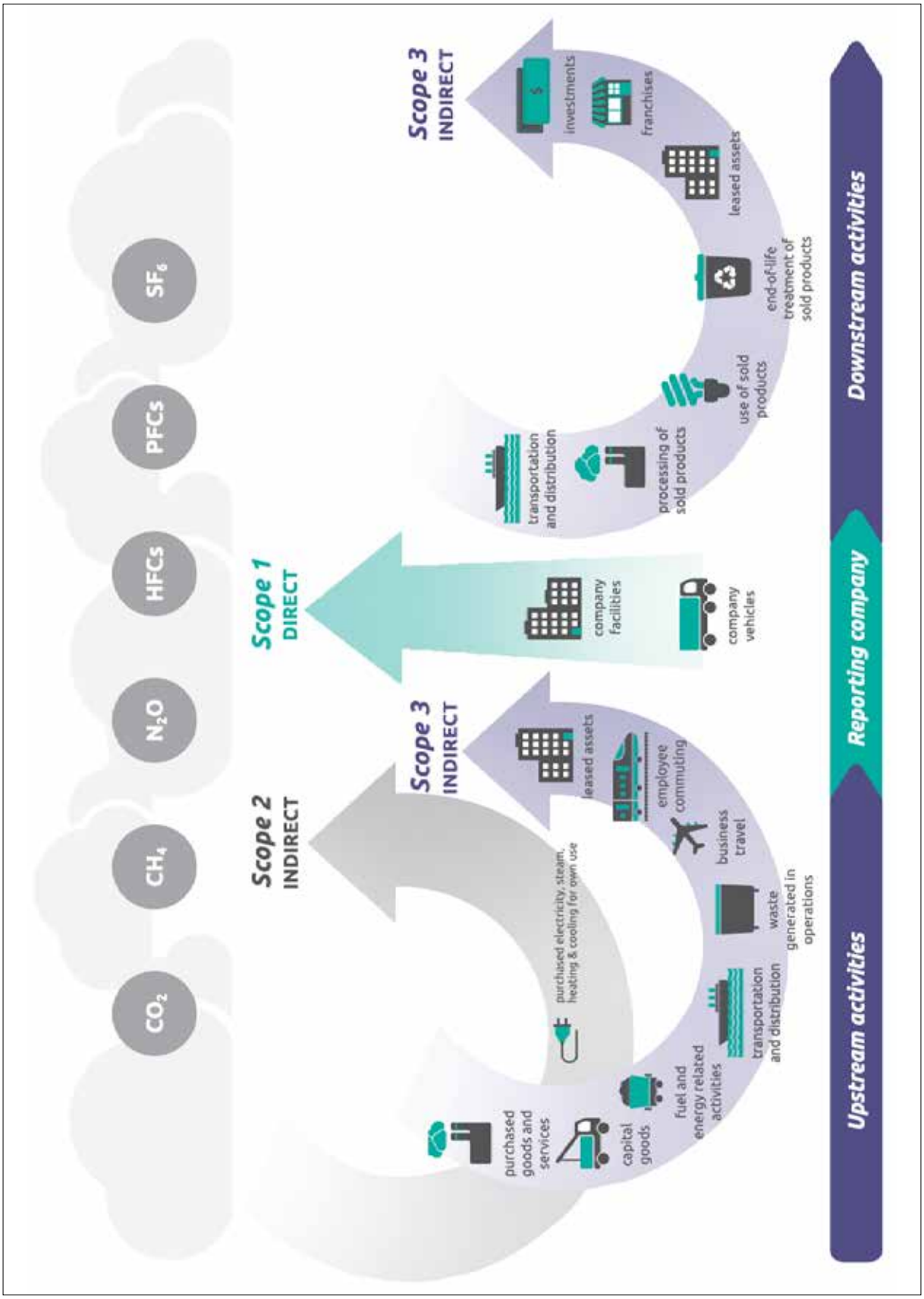
Verified

Audited by a third-party standard setter, like Verra or Gold Standard, to ensure that a carbon credit-generating project meets all the requirements of a carbon credit standard and that the monitoring and measurement of emissions reductions are accurate. Carbon credits have to be verified in order to be issued.[169]

Appendix 1: GHG Protocol scopes and emissions across the value chain

Figure A1.1: GHG Protocol scopes and emissions across the value chain

Source: World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), *Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, September 2011.[170]



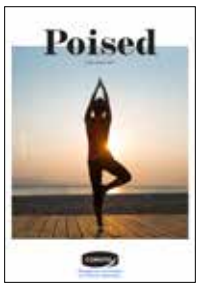
Appendix 2: Examples of NZSX-listed companies that discussed the generatation of carbon credits

Table A2.1: Three companies that discussed the generation of carbon credits in FY24 annual reports or sustainability reports

NZSX-listed company name	Publication	Page number
ArborGen Holdings Limited	Climate Statements FY 2024	12
Comvita Limited	Annual Report 2023	19
Comvita Limited	Annual Report 2024	28
New Zealand Rural Land Company Limited	Annual Report 2023	26

ArborGen Holdings Limited
Climate Statements FY 2024

Risk / opportunity	Type	Potential business impacts	Risk rating	
Increased demand for advanced genetics seedlings which have greater resistance to disease, weather and pests	Opportunity	There is an opportunity for ArborGen to continue increasing investment into research and development in its pursuit of breeding seedling varieties with greater resistance and adaptability to disease, weather and pests. Product diversification will help to protect ArborGen from any potential changes in the market for its core product offerings. There is potential to partner with other projects and companies to strategically increase investment into R&D. Partnerships can also provide an opportunity whereby partners can produce ArborGen's own genetic material – without requiring a need for expanding ArborGen's own nurseries and orchards. As customer demand and preferences for sustainable products increases over time, there is an opportunity to increase investment and production of genetic material in seedlings with enhanced carbon sequestration.	Short term Medium term Long term	Medium Medium Medium - High
Increased customer demand for seedlings for afforestation and reforestation	Opportunity	As the market increasingly shifts towards reforestation and afforestation projects and sustainable materials, ArborGen could obtain a greater market share and enhanced competitive advantage for its product. ArborGen can respond to changing customer and consumer behavior and preferences through its R&D investment. There is an opportunity for ArborGen to continue to actively engage with carbon project developers who are pursuing large scale afforestation and reforestation projects in the Southern US and Brazil. Currently, ArborGen has one long term supply arrangement to provide both advanced genetics pine seedlings and hardwood seedlings. ArborGen should aim to continue seeking out similar long-term supply contracts.	Short term Medium term Long term	Low Medium High
Financial incentives for reforestation and promoting sustainable forest management practices eg, carbon credits	Opportunity	ArborGen will consider integrating sustainability into its operations to access a broader range of financing options, including green bonds, sustainability-linked loans, and impact investments. These financial instruments often attract investors who prioritise ESG considerations, thereby diversifying funding sources and potentially reducing borrowing costs. In the US forestry industry, financial incentive arrangements geared towards sustainability measures are currently allocated and targeted to not for profits, but this could change over time. There is an opportunity for private sector companies like ArborGen to potentially access more.	Short term Medium term Long term	Low Low – Medium High



Comvita Limited
Annual Report 2023

to be a B Corp organisation, I have aspired to be part of a business that recognises the importance of all stakeholder groups. High-quality retailers globally are demanding evidence of brand integrity, and B Corp provides that evidence and will open up new distribution opportunities. I also believe that B Corp principles are enshrined in our Harmony Plan launched in 2021 and therefore it is only natural that we would apply for and receive B Corp accreditation. In September 2022, we became the first listed business in Aotearoa New Zealand to change our company constitution to reflect our multi-stakeholder priorities. I was delighted when our shareholders voted overwhelmingly in favour of this change.

Cyclone Gabrielle has affected your operations in Hawke's Bay. Does the business remain vulnerable to extreme weather events? How are you mitigating that risk?

DAVID: Firstly, it's important to recognise the impact that Cyclone Gabrielle has had, and continues to have, on people in the Hawke's Bay region. I visited the team a few days after the cyclone and can only describe it as apocalyptic. We were relieved that all our team were safe and well but saddened by the loss of life and the extensive damage that occurred.

Given the extreme nature of the weather this year, we are pleased that our Apiary division again showed that the Apiary model that we launched in 2020 delivered for the fourth consecutive period. Naturally, given extreme weather events and in line with our climate disclosure reporting requirements, we are looking very closely at the impact of extreme weather events on any new Mānuka forests that we plant in order to help mitigate these weather impacts.

In particular, your forestry strategy and approach to honey supply seem to have remained resilient. What is it about these strategies that have made the difference?

DAVID: Our Mānuka forests have so far proven to deliver a 40% uplift in yield, 60% increase in quality of yield and 20% reduction in cost per hive. Due to their size, they also allow us to have beekeepers on site and to respond to weather or other needs bees may have. We are targeting to deliver 20,000 hectares of forests by 2030 from 7,500 hectares today. Not only do our forests ensure quality of supply for Comvita, they also create an environment that protects native flora and fauna, including kiwi, long-tailed bats and whio (blue duck). We've recently completed our first biodiversity study, which also shows improvement in water quality and insect populations and provides a thriving habitat for birds and native bats in the first five years versus pasture.

You've said that you're targeting material financial and environmental gains in terms of your longer-term Mānuka forest investment. How will that investment specifically benefit investors?

BRETT: What sets us apart from anyone else in the industry has been the sustained commitment to and investment in our end-to-end business model. That starts with our in-market capability to develop consumer demand and then our capability back in Aotearoa New Zealand to evolve our supply model to match that demand both in quality and volume terms. I am especially proud of the way that our forestry and Mānuka honey supply models have evolved, with a balanced focus on economic, environmental and social sustainable best practice. In this way, significant long-term value is being created for all Comvita's stakeholders.

DAVID: As I shared earlier, our forests deliver 40% improvement in yield, 60% in quality of yield and 20% reduction in cost per hive. These efficiencies will enable us to continue to deliver highest-quality product with the lowest cost for the quality delivered. This quality is a key foundation for our consumer loyalty and brand leadership. Investors will benefit as we retain consumers and ultimately deliver our targeted 20% EBITDA margin.

In addition, our Mānuka forests will be eligible for carbon credits through their sequestration of carbon dioxide. We will initially use carbon credits to offset our carbon footprint, but in the not-too-distant future, we will have excess credits that we are able to use. At the moment, we are not able to allocate any value to these credits, but this is an evolving regulatory process. It's also important to recognise that our Mānuka forests involve planting an indigenous species and associated companion planting for nectar diversity rather than exotic overseas varietals.

In terms of your longer-term climate-positive and net-zero strategy, what are the timeframes for decarbonisation, circularity and waste reduction? What will those changes cost the business, and what positive impacts will they achieve?

DAVID: We will reach our carbon-neutral and climate-positive goals through a combination of carbon reduction every year in line with verified science-based targets, supported by sequestration from our forests and other nature-positive impacts. Currently, 92% of our packaging is recyclable. Our target for next year is 95%, and we are developing a pathway to achieve 100% in the near future. We are already seeing our major customers requiring carbon neutral and science-based reduction

Comvita Limited
Annual Report 2024

06.

MĀNUKA

FORESTS

The multiple benefits of growing scale in Mānuka forests

Given the significant changes in industry supply capability and consumer demand, we embarked on our forest planting programme in 2017.

In 2020, we accelerated this planting programme and shared our hypothesis that forests would enable us to deliver 40% improvement in yield, a 60% improvement in quality of yield and a 20% reduction in cost per hive.

By the end of FY24, we have planted over 6,300 hectares of Mānuka (exclusive varieties) across 15 sites. These forests are forecast to provide circa 50% of our demand requirements by 2030 at a significant cost advantage for premium supply as well as sequestering carbon, generating New Zealand Emissions Trading Scheme NZUs and delivering beneficial biodiversity outcomes.

In FY24, in line with that hypothesis, one of our forests delivered a 600% increase in supply of 20+ and 25+ UMF™ honey at a significant cost advantage. This 600% increase is from one forest vs the maximum supply of 20+ and 25+ UMF™ honey that the Group has ever produced from all forests in any one year.

From a consumer perspective, we understand that the more efficacious the product that the consumer uses, this creates higher loyalty and increased consumption due to the noticeable impact on immunity and health. As such, this increase in supply of more premium monofloral Mānuka honey enables us to actively trade consumers up, and in that process, we also increase satisfaction.

In FY24, we delivered strong performance through our apiary division with over 80% of all honey that we harvested being market compliant (from a regulatory perspective). This brings significant operational simplification and also higher quality that is inherent in our brand value proposition.

New Zealand Rural Land Company Limited
Annual Report 2023

New Zealand Rural Land Company Limited and its subsidiaries
Notes to the consolidated financial statements
For the year ended 31 December 2023

5 Investment properties (continued)

In April 2023, the acquisition of the forestry estates in Whanganui/Manawatu settled for $71.6 million. That acquisition and its associated costs were funded from the proceeds of a pro-rata rights offer in March 2023 for $23.4 million, bank funding of $28.5 million, a convertible loan issuance for $12 million (refer to note 15), and surplus cash.

Upon settlement, the two estates were simultaneously leased for 20 years and 16 years respectively, with CPI adjusted payments.

The forestry estate is currently being used to capture carbon from the atmosphere with the associated carbon credits sold on the New Zealand Emissions Trading Scheme (NZ ETS). The forestry estate can, at the tenants election, be harvested for timber. Both the forest and the associated land are interconnected and inseparable, accordingly they have been classified as investment property and are held to earn rental income and for capital appreciation.

31 December 2022

Location	Land area Hectares	Opening balance $'000	Additions [1] $'000	Lease fee amortisation $'000	Capitalised lease incentive [2] $'000	Revaluation gain $'000	Carrying value $'000
Canterbury	5,765	139,808	-	(4)	(89)	1,172	140,887
Otago	3,500	80,138	-	(2)	-	650	80,786
Southland	1,386	44,953	-	(18)	316	436	45,687
Fair value of investment properties		**264,899**	**-**	**(24)**	**227**	**2,258**	**267,360**

[1] Includes directly attributable acquisition costs.
[2] Net of amortisation.

5.1 Fair value measurement, valuation techniques and inputs

External, independent valuers, having appropriate recognised professional qualifications and recent experience in the location and category of the property being valued, value the Group's Canterbury, Otago and Southland properties at least every 12 months. The fair values are based on market values, being the estimated amount for which a property could be exchanged on the date of the valuation between a willing buyer and a willing seller in an arm's length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion. Valuations performed on the forestry estates are made and evaluated by the company using discounted cash flows, with independent market inputs reviewed by independent valuers.

The Group's investment properties were valued by Colliers International, with values applicable as at 31 December 2023.

Investment properties are classified as level 3 (inputs are unobservable for the asset or liability) under the fair value hierarchy on the basis that adjustments must be made to observable data of similar properties to determine the fair value of an individual property.

During the year there were no transfers of investment properties between levels of the fair value hierarchy. The valuation techniques used in measuring the fair value of investment property, as well as the significant unobservable inputs used are as follows:

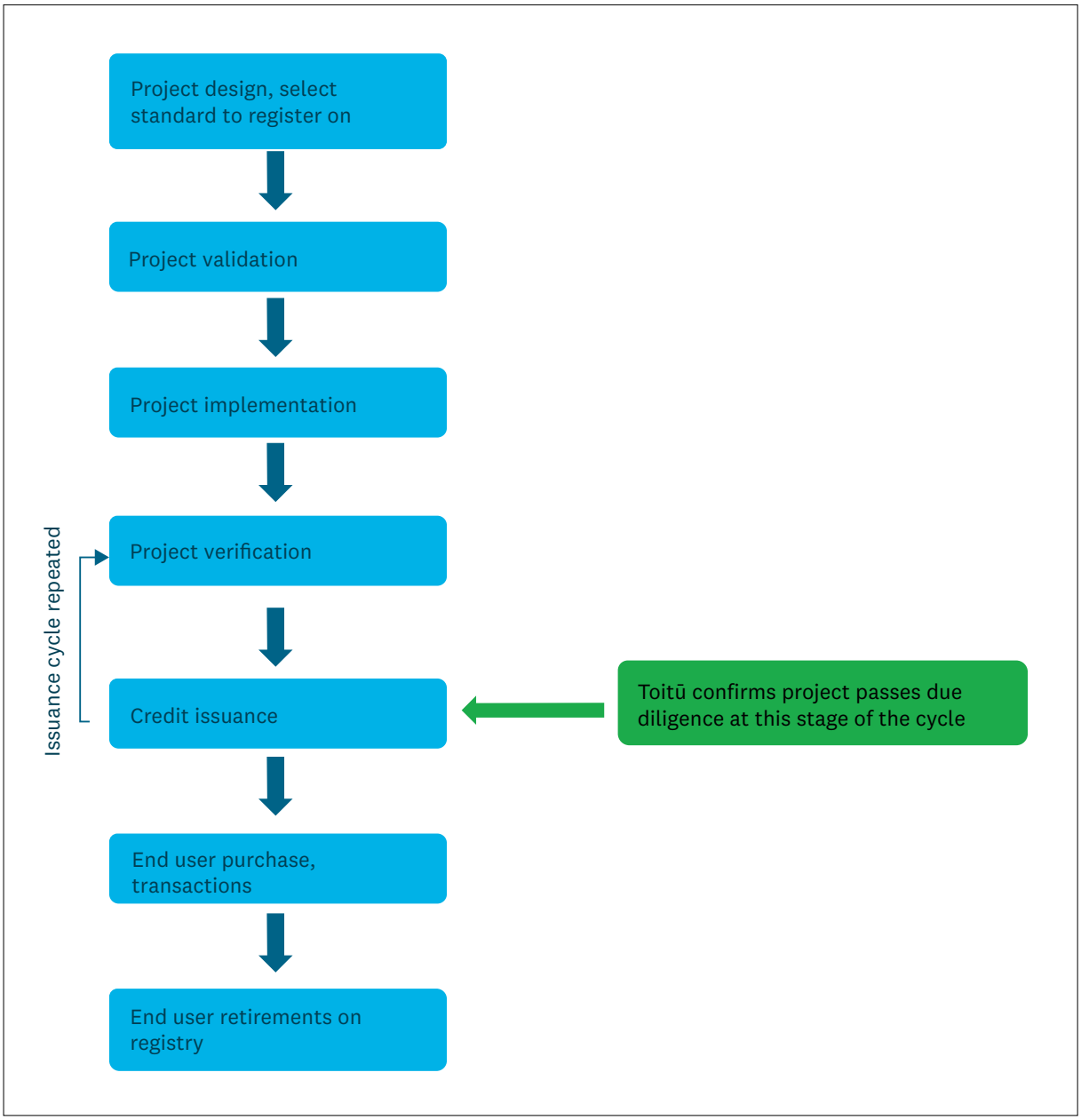
The investment properties (except for forestry assets) have been assessed on a fair value basis utilising the income approach for the Group's interest as lessor and a market approach to assess the reversionary value of the assets at the expiry of the current lease terms. The valuation includes the consideration made by the valuer for the applicable climate risks.

The net present value of the income provided under the lease agreements have been assessed to be above prevailing market leases for similar assets. This results in the Group's interest assessment in the leases being greater than the current fair value for the asset on the basis of the Comparable Sales Approach.

Appendix 3: Diagram to show role of Toitū Envirocare in carbon offsetting

Figure A3.1: Life cycle of a carbon credit in the VCM

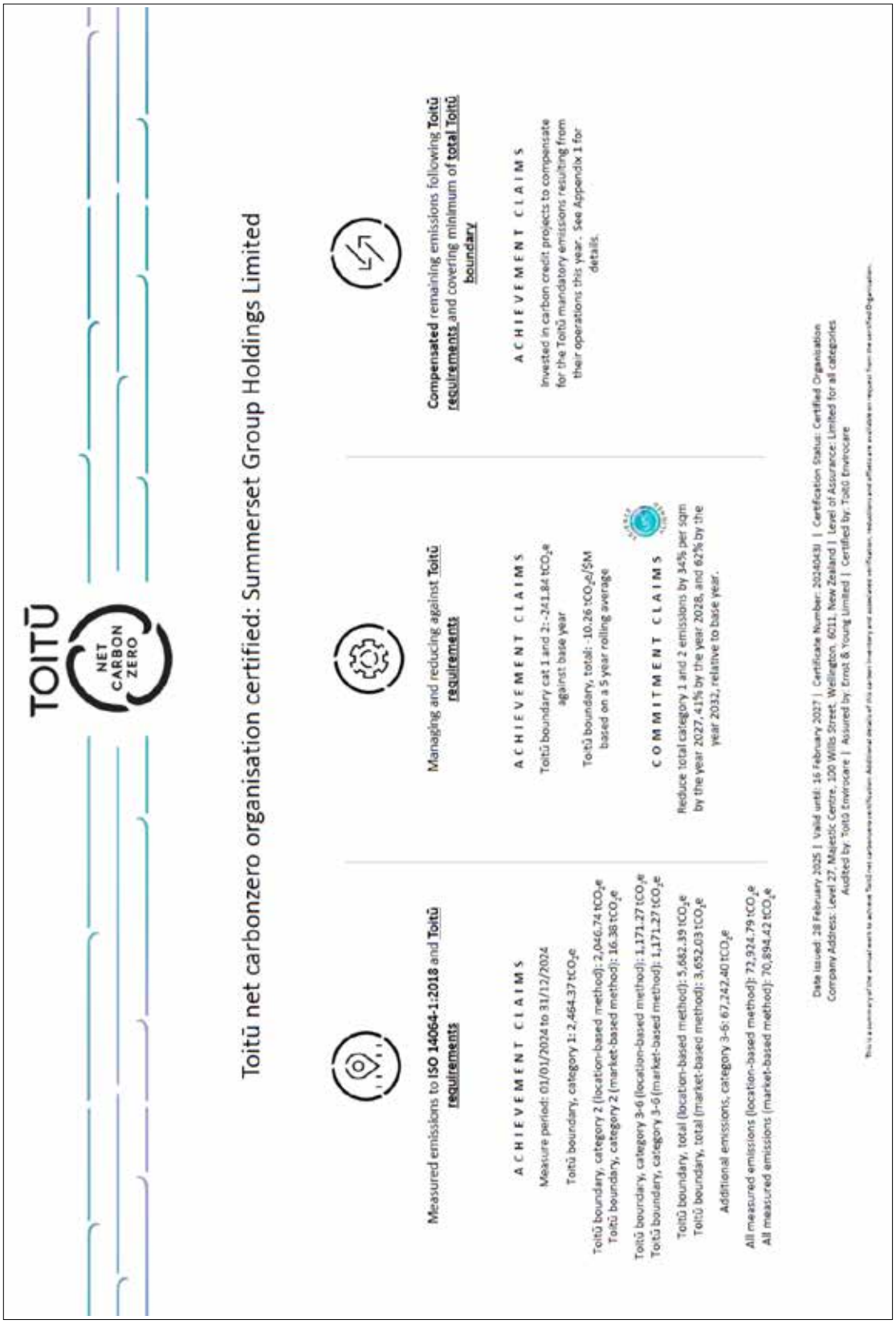
Source: Toitū Envirocare, pers. comm., August 2025.[171]



Appendix 4: Examples of documentation and carbon offsetting information provided by Toitū Envirocare and Climate Active

Figure A4.1: Example of Summerset Group Holdings' carbon offsetting information provided by Toitū Envirocare

Source: Toitū Envirocare, *Summerset Group Holdings Limited Certification Overview*, 2024.[172]



Appendix 1: Carbon credit and offset details

TOITŪ NET CARBON ZERO

Project name and registry link	*Number of credits used*	*Project ID*	*Issuing Standard*	*Crediting methodology*	*Project location*	*Registry*	*IC-VCM status*	*Monitoring period of issued units*	*Date retired*	*Retirement evidence***	*Serial numbers of retired credits*	*Corresponding Adjustment status*	*Double claiming status*
Tokat Landfill Gas to Electricity Project	2,000	GS3852	Gold Standard	Gold Standard – AMS iii G –Landfill Methane Recovery – v10.	Turkey	Gold Standard	IC-VCM tagged	0	25/02/2025	Link to registry listing	GS1-1-TR-GS3852-5-2022-25064-8452-10451	Not tagged with Corresponding Adjustments	The carbon credits used are also accounted within the national inventory of the country of origin.
Tokat Landfill Gas to Electricity Project	1,000	GS3852	Gold Standard	Gold Standard – AMS iii G –Landfill Methane Recovery – v10.	Turkey	Gold Standard	IC-VCM tagged	0	25/02/2025	Link to registry listing	GS1-1-TR-GS3852-5-2022-25064-10452-11451	Not tagged with Corresponding Adjustments	The carbon credits used are also accounted within the national inventory of the country of origin.
GHG Emission Reduction through use of Bondhu Chula (Improved Cook Stoves) in Bangladesh PoA	653	GS3112	Gold Standard	GS methodology for metered and measured energy cooking devices	Bangladesh	Gold Standard	Not IC-VCM tagged	-	25/02/2025	Link to registry listing	GS1-1-BD-GS11757-16-2022-25520-3166-3818	Not tagged with Corresponding Adjustments	The carbon credits used are also accounted within the national inventory of the country of origin.

	tCO_2e	
Total quantified emissions	70,894.42	A
Toitū minimum** emission sources to offset	3,652.03	B
Optional additional emissions to offset	0.00	C
Removals	0.00	D
Double offsetting: suppliers	0.00	E
Double offsetting: organisation and product certification overlap	n/a	F
Total emissions to be offset	3,652.03	G=(B+C)-D-E-F
Total carbon credits retired	3,653	H=sum of credits retired
Toitū net carbonzero position	0	H-G

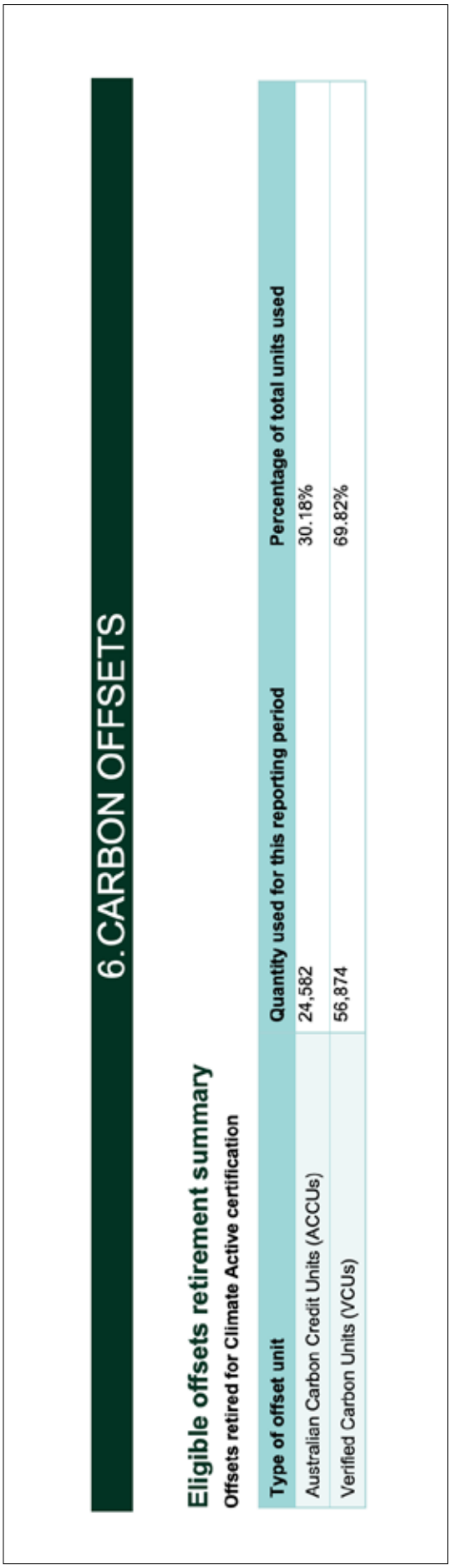
*Integrity Council for Voluntary Carbon Markets

**all Category 1 and 2 (Scope 1 and 2*) emissions; transmission and distribution losses from purchased electricity, gas, heat and steam; waste sent to landfill; business travel; freight paid for by the organisation.

***to search for each particular listing, type the name of the company into the search box

Figure A4.2: Example of ANZ's carbon offsetting information provided by Climate Active

Source: Climate Active, *Public Disclosure Statements Archive: ANZ*, May 2025.[173]



6. CARBON OFFSETS

Eligible offsets retirement summary

Offsets retired for Climate Active certification

Type of offset unit	Quantity used for this reporting period	Percentage of total units used
Australian Carbon Credit Units (ACCUs)	24,582	30.18%
Verified Carbon Units (VCUs)	56,874	69.82%

Project name	Type of offset unit	Registry	Date retired	Serial number	Vintage	Total quantity retired	Quantity used in previous reporting periods	Quantity banked for future reporting periods	Quantity used for this reporting period	Percentage of total used this reporting period
Ningxia Xiangshan Wind Farm Project	VCU	Verra Registry	15/01/2020	7411-393200221-393677220-VCU-034-APX-CN-1-1867-01012018-31122018-0	2018	477000	260664	159462	56874	69.82%
Artemis Station	ACCU	ANREU	19/02/2024	9,004,735,614 - 9,004,754,436	2023-24	18,823	0	0	18,823	23.10%
Artemis Station	ACCU	ANREU	19/02/2024	9,005,037,197 - 9,005,042,955	2023-24	5,759	0	0	5,759	7.08%

Appendix 5: Examples of observations made by the Institute on FY24 annual reports and sustainability reports

Table A5.1: Examples of current practice in FY24 annual reports and sustainability reports

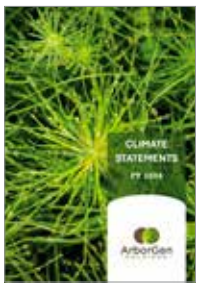
NZSX-listed company name	Publication	Page number
Air New Zealand Limited	Climate Statement 2024	22
ArborGen Holdings Limited	Climate Statements FY 2024	12
Argosy Property Limited	2024 Climate-Related Financial Disclosures	16
Argosy Property Limited	2024 Sustainability Report	9
Comvita Limited	Climate Statement 2024	20, 21
Fonterra Co-operative Group Limited	Annual Report 2024	147
Kiwi Property Group Limited	2024 Climate-related Disclosures	22
New Zealand Rural Land Company Limited	Climate-related Disclosures 2024	15, 32
NZX Limited	2024 Annual Report	152, 153
Precinct Properties NZ and Precinct Properties Investments Limited	Climate-related Disclosure 2024	39
Property For Industry Limited	FP24 Sustainability Update and Climate-Related Disclosures	33, 34

Strategy (continued)

MATERIAL TIME FRAMES		
SHORT-TERM (0-5 YEARS)	MEDIUM-TERM (5-18 YEARS)	LONG-TERM (18+ YEARS)
	◉	◉

9 Carbon removal supply and cost

Description	**In the longer term, Air New Zealand anticipates relying on carbon removals to address residual emissions and achieve its 2050 Target. This includes 'nature-based' removals, for example, enhancements to natural systems or ecosystems that sequester and store carbon on a certified, additional, and enduring basis, and 'engineered' removals, for example, using technology to capture CO_2 directly from the air. However, the availability, cost and credibility of both nature-based and engineered removals represent material uncertainties and risks to the airline's achievement of its Transition Plan.** This is discussed in more detail below and in section 3.5 Transition Plan.
Current impact	No material current impacts.
Anticipated impact	**If clear standards to guide the credible use of carbon removals do not develop, the airline's planned and actual use of removals could create reputational risks and / or impact the delivery of its 2050 Target.** Because carbon removals do not represent reductions in the airline's own gross emissions, clear external standards are required to ensure their acceptable use. The airline's view is that credible and globally accepted standards that guide the use of either nature-based or engineered removals need to be developed. If such standards do not develop in the medium to long-term, removals projects may be compromised, introducing reputational risks and / or impacting the airline's ability to achieve its 2050 Target. **If supply of credible carbon removal options does not scale up in the period to 2050, Air New Zealand's ability to deliver its Transition Plan at an affordable cost will be impacted.** The future supply and cost of credible carbon removals is highly uncertain, but Air New Zealand expects to rely on carbon removals to deliver at least some of its 2050 Target. For nature-based removals, key barriers include land availability, understanding biodiversity impacts, measurement challenges, regulatory acceptance, social acceptance, and climate change impacts, amongst others. For engineered removals, barriers include uncertain technological development, investment requirement, energy needs, infrastructure challenges, and regulatory and social acceptance, amongst others. If sufficient supply does not develop at affordable prices, achievement of Air New Zealand's Transition Plan and / or the airline's financial performance may be affected.



ArborGen Holdings Limited
Climate Statements FY 2024

Risk / opportunity	Type	Potential business impacts	Risk rating	
Increased demand for advanced genetics seedlings which have greater resistance to disease, weather and pests	Opportunity	There is an opportunity for ArborGen to continue increasing investment into research and development in its pursuit of breeding seedling varieties with greater resistance and adaptability to disease, weather and pests. Product diversification will help to protect ArborGen from any potential changes in the market for its core product offerings. There is potential to partner with other projects and companies to strategically increase investment into R&D. Partnerships can also provide an opportunity whereby partners can produce ArborGen's own genetic material – without requiring a need for expanding ArborGen's own nurseries and orchards. As customer demand and preferences for sustainable products increases over time, there is an opportunity to increase investment and production of genetic material in seedlings with enhanced carbon sequestration.	Short term Medium term Long term	Medium Medium Medium - High
Increased customer demand for seedlings for afforestation and reforestation	Opportunity	As the market increasingly shifts towards reforestation and afforestation projects and sustainable materials, ArborGen could obtain a greater market share and enhanced competitive advantage for its product. ArborGen can respond to changing customer and consumer behavior and preferences through its R&D investment. There is an opportunity for ArborGen to continue to actively engage with carbon project developers who are pursuing large scale afforestation and reforestation projects in the Southern US and Brazil. Currently, ArborGen has one long term supply arrangement to provide both advanced genetics pine seedlings and hardwood seedlings. ArborGen should aim to continue seeking out similar long-term supply contracts.	Short term Medium term Long term	Low Medium High
Financial incentives for reforestation and promoting sustainable forest management practices eg, carbon credits	Opportunity	ArborGen will consider integrating sustainability into its operations to access a broader range of financing options, including green bonds, sustainability-linked loans, and impact investments. These financial instruments often attract investors who prioritise ESG considerations, thereby diversifying funding sources and potentially reducing borrowing costs. In the US forestry industry, financial incentive arrangements geared towards sustainability measures are currently allocated and targeted to not for profits, but this could change over time. There is an opportunity for private sector companies like ArborGen to potentially access more.	Short term Medium term Long term	Low Low – Medium High

Argosy Property Limited
2024 Climate-Related Financial Disclosures

2024 Climate-Related Financial Disclosures

GHG emissions intensity

Argosy's GHG emissions intensity is calculated as:

$$\frac{\text{Scope 1 emissions + Scope 2 emissions}}{\text{Revenue}} = \frac{353\ tCO_2e}{\$131m} = 2.69\ tCO_2e/\$1m$$

Assets exposed to transition risks

All of Argosy's property assets are potentially exposed to transition risks arising under the climate scenarios described in this report to some extent. For example, energy efficiency requirements and the need for increased resilience.

Assets exposed to physical risks

All of Argosy's properties are potentially exposed to physical risks (climate scenarios described in this report, particularly under climate scenario 3) to some extent. For example, climate impacts from increases in the frequency and the severity of acute weather events.

Climate-related opportunities

All of Argosy's properties are potentially exposed to climate-related opportunities under the climate scenarios described in this report to some extent. For example, there is the potential for properties to be upgraded such that they are more energy efficient and resilient making them more attractive to tenants.

Capital deployment

Argosy had 14 Green Buildings with a total value of $683.4m as at 31 March 2024.

Internal emissions price

For the year ended 31 March 2024, Argosy had an internal emissions price of $21/$tCO_2e$. This is the average cost of offsetting Scope 1 and 2 carbon emissions for Argosy's certification under Toitū Envirocare's Net Carbonzero Programme. (The disclosure of emissions in this report is not certified by Toitū Envirocare. Further information about Argosy's certification from Toitū Envirocare is provided in our Sustainability Report).

Remuneration

Argosy's short term incentive scheme includes components linked to climate-related risks and opportunities. For the year ended 31 March 2024, 12% of the staff short term incentive, and 12.5% of the CEO's short-term incentive, were linked to the development of Green Buildings.

INDUSTRY BASED METRICS

Argosy has an emissions reduction programme as part of our Toitū Envirocare Net Carbonzero Programme, and a target for 50% of our portfolio to be Green Buildings by 31 March 2031.

Emissions reduction programme

In 2020, Argosy implemented an emissions reduction programme with a base year to 31 December 2019 and a target of achieving a 30% reduction in Scope 1 and Scope 2 emissions by 31 December 2030. Argosy was on track to achieve emissions reductions under this programme. However, to align the programme with the reporting period for our climate related disclosures the base year has been changed for the current year ended 31 March 2024.

The current year to 31 March 2024 is the new base year for the programme, which now targets a 17.5% reduction in Argosy's emissions intensity for Scope 1 and 2 emissions (reported above) by 31 March 2031. The emissions reduction target is an intensity based target to reduce Argosy's emissions, entered into as part of Toitū Envirocare's Net Carbonzero Programme. Achieving this target will contribute to limiting global warming by reducing Argosy's emissions. However, it is not a science-based target linked directly to Paris Agreement goals or the specific goal of limiting global warming to 1.5°C.

For the year to 31 March 2024, Argosy is achieving a level of emissions reductions consistent with the target. Argosy's Scope 1 and 2 emissions reduction programme does not rely on carbon offsets. However, Argosy's certification under Toitū Envirocare's Carbonzero Programme relies on carbon offsets for emissions remaining after reductions under Argosy's emissions reduction programme.

Green Buildings

Argosy has a target that 50% of the buildings in its portfolio (by market value) will be Green Buildings by 31 March 2031. This is an intensity based target and increasing the number of Green Buildings in Argosy's portfolio contributes to limiting global warming by increasing the energy efficiency of Argosy's portfolio. However, it is not a science-based target linked directly to Paris Agreement goals or the specific goal of limiting global warming to 1.5°C.

As at 31 March 2024, 35% of the Buildings in Argosy's portfolio were Green Buildings. Increasing the number of Green Buildings in Argosy's portfolio does not rely on carbon offsets.

Argosy Property Limited
2024 Sustainability Report

TOITŪ CERTIFICATION

- Argosy engaged Toitū Envirocare (Toitū) to calculate its carbon footprint and provide emissions management guidance by implementation of an environmental management and reduction plan for Scopes 1 & 2 and some Scope 3 emissions.
- Scope 2 and Scope 3 emissions reported below differ from emissions reported in Argosy's Climate-Related Financial Disclosures. Scope 2 emissions are reported below using the market-based method under Toitu's Net Carbonzero Programme, which uses contractual instruments to purchase renewable energy and reduce emissions generated by electricity; and Scope 3 emissions below are limited to indirect emissions from transportation. In contrast, Argosy's Climate-Related Financial Disclosures for Scope 2 emissions use the location-based method, where an emissions factor is calculated from all electricity delivered to a grid over a certain period. There is more comprehensive reporting of Scope 3 emissions in our Climate-Related Financial Disclosures which are available on our web site (www.argosy.co.nz).
- Toitū has certified Argosy as Net Carbonzero for the financial year ending 31 March 2024. Total emissions for 2024 are 220.3 tonnes CO_2-e which have been offset using 221 tonnes of International Solar Energy Project credits
- Reported emissions include an increase in Scope 1 emissions from last year due to air conditioning refrigerant leaks contributing 141.5 tonnes CO_2-e, and a decrease in Scope 2 electricity emissions. This Scope 2 emissions reduction was aided by a roll-out of carbon zero electricity supply accounts across the portfolio. For 2023 - 2024, Argosy has widened the reportable emissions boundary, including (but not offsetting) tenant electricity consumption in leased premises, and property maintenance emissions.
- Certification ensures that Argosy is meeting international best practice in terms of measuring, reporting and monitoring its carbon emissions.
  - As a requirement of the Net Carbonzero Certification, Argosy has implemented an emissions reduction plan. More information about this is provided in the Metrics and Targets section of Argosy's Climate-Related Financial Disclosures which is available on our website (www.argosy.co.nz)

Performance

- Quarterly meetings covering monitoring, reporting and performance.
- Move towards carbon not zero by implementing an emissions reduction plan combined with purchased carbon offsets.

Argosy's emissions for the year ended 31 March 2024	Certified emissions within the Toitu Net Carbonzero Programme
Scope 1: Direct emissions	186.8
Scope 2: Indirect emissions from imported energy (market-based method)	2.8
Scope 3: Indirect emissions from transportation	30.7
Total gross emissions	220.3

OUR GREEN CULTURE - BETTER PEOPLE

Overarching purpose

Argosy recognises that its activities can have an impact on the natural environment and is committed to managing and reducing the consequences of these activities wherever possible.

Argosy's approach

Argosy have established a Green Committee which meets quarterly to discuss ways to reduce the environmental impact of its office operations by changing day-to-day practices.

Performance

The Green Committee targets changes which can positively impact Argosy's carbon footprint including:

- Supporting the move towards our vehicle fleet becoming electric.
- For waste contracts which Argosy manage, new contracts will report on landfill and recycling separation.
- Reducing air travel emissions by encouraging video meetings and increasing the awareness of the impact of flying.
- Waste reduction by separation of recycling, measurement and reduction of construction waste and diversion from landfill wherever possible.
- Measuring Scope 3 additional voluntary emissions (but not requiring offset).

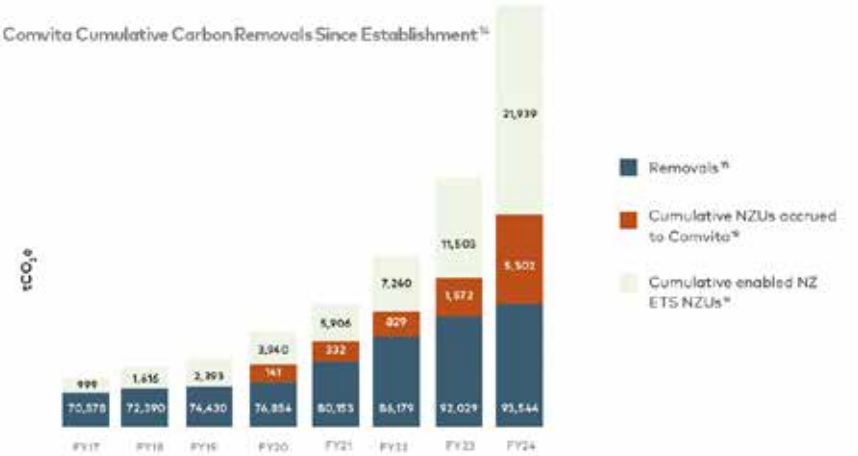
Objective	Actions	Target completion date
Energy metering	Energy metering installed on 12 of 13 office buildings	Dec-26
Waste management	Waste management measuring and reporting completed on 5 of 7 buildings. Remaining 2 buildings to be completed on expiry of existing contracts.	Ongoing
Flights	Reduce domestic air travel by introducing rules for flight bookings and thresholds for video conferencing	Ongoing
Refrigerant	Continue planning for phase out of R22 units on all buildings and replace with lower GHG refrigerants	Ongoing

Comvita Limited
Climate Statement 2024

Metrics and Targets

Comvita Annual Carbon Removals Since Establishment[14]

Comvita Cumulative Carbon Removals Since Establishment[15]



GHG Emissions Targets[14]

Comvita is investigating setting validated near-term and longer-term (Net Zero) science-based targets (SBTs) for carbon reduction in line with Science Based Targets initiative (SBTi) guidance. Such reduction is in line with the Paris Agreement goals to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

In line with SBTi guidance, Comvita is required to set separate Forestry, Land and Agriculture (FLAG) sector targets as well as energy/industry targets. Comvita has defined the FLAG boundary as including Mānuka forests and apiary operations up to the farm gate plus purchased honey from external suppliers. The FLAG guidance allows for the netting off of FLAG removals from FLAG emissions. This means we can "inset" and net off the removals from the Mānuka forests within our operational control that are not registered under the New Zealand Emissions Trading Scheme (ETS).

Comvita has developed draft near term (2030) and longer term (2050) Net Zero FLAG and energy/industry science-based targets in line with current SBTi guidance, but these are yet to be validated. These are generally absolute targets, with a possible intensity target for Scope 3 Non-FLAG. At a high level SBTs require approximately a 6% to 7% reduction in GHG emissions per annum from the base year of FY22.

[14] Makino JV has been removed from FY17 to FY24.
[15] Comvita's FY24 Removals have been subject to limited assurance by KPMG. Refer to Comvita's published FY23 and FY22 GHG Inventory Reports for the details of the limited assurance provided by Deloitte Limited for these previous reporting periods.
[16] Estimated annual NZUs accrued to Comvita.
[17] Estimated annual NZUs accrued to other landowners from Comvita plantings.
[18] Estimated cumulative NZUs accrued to Comvita.
[19] Estimated cumulative NZUs accrued to other landowners from Comvita plantings.

Comvita Limited continued
Climate Statement 2024

Metrics and Targets

In FY24 we had a 25% reduction in gross emissions and a 16% reduction in net emissions from FY23. FY24 was a 20% reduction in gross emissions and an 8% reduction in net emissions from FY22 (base year). The lower reduction in net emissions was due to the significant decline in removals we could include in our GHG Inventory. The decrease in our gross emissions was due to less sales-related activity, optimising external honey purchases, supply chain efficiencies, and supplier GHG measurement improvements and reductions.[20] Our GHG gross emissions intensity decreased by 14% to 0.128kgCO_2e per NZD1.

Any carbon reduction SBTs will incorporate, and be consistent, with Comvita's initial science-aligned target set in 2021 to reduce New Zealand FY21 Scope 1 and 2 emissions by 50% by 2030. Our FY24 results show a 7% reduction in the relevant New Zealand emissions from 2021 (base year).

Comvita is committed to prioritising GHG emissions reduction in the first instance over purchasing external carbon credits to use for offsetting. Comvita has previously stated its aspiration to be carbon neutral in FY25. This objective could still be achieved in FY25 through purchasing carbon credits for the remaining balance of net emissions (after insetting). Given the current market trading and financial conditions, we do not think it prudent to be investing in carbon credits so that we can state we are carbon neutral in 2025. We propose to review our aims once we have investigated SBTs, further developed our supporting decarbonisation strategy, have alignment of carbon reduction plans with key suppliers, and our land portfolio is finalised.

We note the difficulty in abating some emissions in the short-term. This may be impacted by the current lack of appropriate technology, for example electric utility vehicles with required capability for hive management. Comvita anticipates exploring using high quality and certified carbon credits to meet its carbon reduction targets nearer term and in relation to hard to abate emission areas.

Assurance of GHG Inventory

Comvita engaged KPMG to undertake voluntary limited assurance over Scope 1, 2 and 3 GHG emissions and removals included in the GHG inventory for FY24. Such assurance is explained further in the KPMG Independent Assurance Report included at the end of this Comvita Climate Statement.

Refer to Comvita's published FY23 and FY22 GHG Inventory Reports for the details of the limited assurance provided by Deloitte Limited for these previous reporting periods.

[20] Refer to Appendix 2 - GHG Inventory Basis of Preparation, GHG Emission and Removal Factors and GWP Values, for further information on supplier specific emission factors.

For an update on the business activities, including key initiatives and investments, please refer to the climate-related opportunities disclosed in Table 6 and our disclosures on capital deployment in Table 15. For an overview of our performance on decarbonising our operations and the key actions we have taken at our manufacturing sites and in support of our supplying farms reducing emissions see page 24. For more information on our plans and the assumptions and uncertainties underpinning achievement of our targets please refer to pages 33-38 of our Climate Roadmap.

Offsets

We are prioritising gross emissions reductions. In future we may also pursue carbon removals within our value chain (sometimes referred to as 'insetting'), such as supporting the increase in on-farm tree planting. In alignment with SBTi requirements, we plan to avoid the use of third-party offsets to achieve our 2030 emissions reduction targets. Consistent with this, although we purchased offsets in FY24, we did not use any offsets to support progress toward our targets.

Table 9 – Performance against our targets[1]

	Performance			Comments
Target	**FY24**	**FY23**	**FY22**	
Energy and Industrial absolute reduction and engagement				
Fonterra Co-operative Group Limited commits to reduce its absolute Scope 1 and 2 GHG emissions by 50.4% by FY2030 from a FY2018 base year[2]	18.5%	14.1%	11.2%	This year this target was validated by the SBTi as aligning with climate science. The percentage indicates the reduction achieved between the base year and the named financial year.
Fonterra Co-operative Group Limited also commits that 78.2% of its suppliers and customers by emissions, covering purchased goods and services, capital goods, upstream and downstream transportation and distribution, business travel and processing of sold products will have science-based targets by FY2028.	<5.0%	–	–	This new engagement target was adopted in 2024 and validated by the SBTi. The policies and processes to implement this target are in development. Our FY24 estimate is based on suppliers and customers that have received SBTi certification of their targets; however, this is a proxy and provides a conservative estimate.
Forest, Land and Agriculture specific intensity reduction				
Fonterra Co-operative Group Limited commits to reduce Scope 1 and 3 FLAG GHG emissions from dairy by 30% per tonne of fat-and-protein-corrected milk by FY2030 from a FY2018 base year[3]	3.1%	3.0%	2.1%	Performance has been restated to align with the most recently available carbon lifecycle assessment of each milk pool. The percentage indicates the reduction achieved between the base year and the named financial year. Includes emissions from a small number of Fonterra-owned farms (Scope 1) and emissions from raw milk suppliers. Please refer to 'Energy and GHG emissions reporting notes', Scope 3 Emissions: *Category 1 – Purchased goods and services* for further details.
Zero Deforestation				
Fonterra Co-operative Group Limited commits to no deforestation across its primary deforestation-linked commodities, with a target date of no later than 31st December 2025	>80%	–	–	These commodities include palm oil and palm products, soy, cocoa and timber and wood fibre products such as packaging and biomass. This year we have focused our risk assessment and due diligence on these commodities to understand our potential exposure to deforestation. Our preliminary assessment is that more than 80% of our supply chain by spend for these products is deforestation free. This assessment helps to identify strategies and processes to mitigate risk of deforestation across primary linked commodities. We continue to work to understand exposure to high-risk commodities and sources of harvest. By 31st December 2025, we aim to fully implement our Forest and Agriculture Products Sourcing and Procurement Standard.

1 Achieving our 2030 emissions reduction targets and our net zero 2050 ambition is subject to significant uncertainties and risks and is likely to be non-linear. The achievement of our 2030 Scope 1 and 2 emissions reduction target depends on our ability to successfully transition from coal via energy efficiency and fuel switching to renewable sources. Along the way we will take forecast milk volume and product mix into account along with the feasibility of transitioning from road to rail, reducing energy use through measures such as heat recovery, using biogas instead of natural gas where possible as well as the decarbonisation of our milk collection fleet and other decarbonisation activities. Achievement of our 2030 Scope 3 and 3 FLAG target will require our planned investment and partnerships to come together with the right technological developments, government policy support and the adoption of on-farm practices.

We have separated our 2050 ambition from our 2030 targets recognising that achieving net zero over the longer period to 2050 is inherently challenging for the global dairy sector and will require significant action and coordination from our Co-op, government, industry bodies, partners and our farmer shareholders, as well as scientific/technological progress to reduce methane emissions.

2 The target boundary includes land related emissions and removals from bioenergy feedstocks.

3 The target includes FLAG emissions and removals.

Kiwi Property Group Limited
2024 Climate-related Disclosures

Metrics and Targets continued

Scope 3 emissions are indirect emissions and Kiwi Property is measuring and disclosing in FY24 emissions from the following sources: business travel (flights, mileage, taxis and rental vehicles), transmission and distribution losses for natural gas and electricity, and water and waste that is controlled through Kiwi Property loading docks.

Kiwi Property has utilised Adoption provision 4, which exempts us from disclosing Scope 3 emissions. Kiwi Property has chosen to disclose a subset of its scope 3 emissions.

For further information on the methods and assumptions used to calculate or (where applicable) estimate Kiwi Property's GHG emissions, the limitations of those methods, and uncertainties relevant to the quantification of Kiwi Property's GHG emissions, please refer to Appendix Two of this report.

Climate-related metrics, ambitions and targets for managing climate risks

Kiwi Property's climate-related metrics, ambitions and targets, along with our performance against them as at 31 March 2024 are detailed in the tables below.

Metric / Ambition	Assessment	Comment
GHG emissions intensity Scope 1 + 2 GHG emissions (tCO2e) / square metre lettable area =	0.00283 tCO_2e	GHG emissions per net lettable area (NLA) is an emissions intensity measure used in the property sector to allow like-for-like comparisons between different sized assets. NLA is the amount of space (sqm) in a property available for leasing.
Emissions reductions By 2030, Kiwi Property has set an ambition to be in a position whereby its net Scope 1, Scope 2 and selected Scope 3 emissions are "net carbon negative" in the sense that they are more than fully offset by the purchase of voluntary carbon credits in that year.	In terms of performance against this ambition, as at 31 March 2024 Kiwi Property has achieved a 73% reduction in the relevant emissions (being Scope 1, Scope 2 and selected Scope 3) on a gross basis compared to 2012, our first year of recording these emissions. When compared against FY23, this reduction is 24%. We have previously used 2012 (calendar year) as the base year for measuring progress against our 2030 ambition, however in FY24 Kiwi Property has reset its base year to be the financial year ending 31 March 2024.	We are describing this as an "ambition" rather than a target, given that its achievement relies on the purchase of offsets in 2030 rather than a reduction in our gross greenhouse gas emissions by a specified amount over time. Kiwi Property has, however, put in place a Decarbonisation Plan as part of this overarching ambition which includes intended actions to reduce Scope 1, Scope 2 and selected Scope 3 emissions, on an absolute basis. In FY25, we are intending to expand the scope of our emissions measurement and reporting and review our emissions reduction ambitions. It is possible our approach to offsetting will change as a result of our intended review of our 2030 ambition.

While Kiwi Property has prepared a Decarbonisation Plan and has been implementing emission reductions initiatives as outlined in this report, it has not to date set an all-scopes target that aligns with scientific pathways to limiting global warming to 1.5 degrees Celsius. In FY25, as we measure and report additional scope 3 emissions categories, we are aiming to revisit our aspirations for future emissions reductions. However, Kiwi Property recognises that decarbonising the construction sector in line with scientific pathways to 1.5 degrees is challenging, including because "embodied carbon" in construction materials is a significant source of emissions (which Kiwi Property does not presently quantify).

Kiwi Property's Decarbonisation Plan is focused on reducing operational emissions with the offsetting of any residual balance with carbon credits purchased on the voluntary carbon market currently planned for 2030. The final quantity of offsets is not yet known, nor have particular offset schemes been chosen.

New Zealand Rural Land Company Limited
Climate-related Disclosures 2024

3.2. Emissions Intensity

Table 7: Emissions intensity metrics with comparison

	Reporting Period	Prior	Variance %
	FY24	FY23	
Revenue $millions	19.87	15.35	
Revenue Carbon Intensity (tCO2e/$m)	6,500.74	31.25	20697%

3.3. Emissions Removals

No removals have been reported in the current reported period.

3.4. Offsetting

No offsets have been reported in the current reported period.

5.2.1.2. Emissions by Gas Type

Table 8: Emissions by Gas Type

Gas	tCO2e
CO_2	18
CH_4	0
N_2O	0
Other	129,145
Total	**129,163**

5.2.1.3. Emissions Intensity

Table 9: Emissions Intensity

Metric	Indicator	FY 24	FY 23
Income	tCO2e/millions NZD$ Revenue	6500.74	31.25
Land Area	tCO2e/ha	7.379	0.0349

5.2.2. Targets

Recognising climate change as a material threat, NZL has committed to setting a greenhouse gas emissions reduction target covering an initial 10-year horizon. This target is designed to guide and track the implementation of our broader strategy and ensure alignment with credible climate science.

NZL's GHG reduction target is informed by the target-setting guidance of the Science Based Targets initiative (SBTi). This ensures our targets are scientifically robust and aligned with the global goal of limiting warming to 1.5°C above pre-industrial levels, as outlined in the Paris Agreement.

The use of the SBTi framework enables NZL to determine mitigation rates that are consistent with global best practice and scientifically determined pathways. We recognise and rely on the accuracy and completeness of the SBTi methodology and its target-setting tools in the formulation of our targets.

While our current focus is on near-term targets, NZL acknowledges that climate change—as a systemic and long-term risk—requires sustained and strategic planning. Therefore, the development of long-term emissions reduction targets and confirmation of near-term targets will follow once a comprehensive, evidence-based decarbonisation plan has been finalised and embedded within our operational strategy

In alignment with SBTi Forest, Land and Agriculture sector guidance, NZL is currently establishing a target to reduce absolute emissions by 45.5% by 2035, from a 2024 base year.

Importantly, no carbon offsets will be used to achieve this target. All reductions will be realised through direct action and structural changes within our operations and investment activities.

32

NZX Limited
2024 Annual Report

5.2. Other metrics

The table below shows the NZX Group's emissions and energy intensity per FTE and per million dollars of revenue (NZ$). Our absolute energy consumption increased by 63.9% between 2023 and 2024, while the energy intensity per million dollars of revenue has increased by 73.4% over the same period due to the addition of data centre electricity usage to our inventory. The energy intensity per employee increased by 14.0% year on year but remains well below the baseline figure. Our air travel emissions intensity per employee increased by 23.3% in 2024 compared to 2023, reflecting an increase in international business travel.

Metric	2019	2022	2023	2024	% difference YoY
Number of full-time employees	226.0	319.1	341.2	338.0	-0.9%
Million dollars of revenue (NZ$)	69.6	95.7	108.4	120.8	+11.4%
Absolute energy consumption (including diesel purchases, purchased electricity, and transmission and distribution losses) (tCO2-e)	54.3	65.0	32.2	52.8	+63.9%
Energy intensity per employee (tCO2-e / FTE)	0.2	0.2	0.1	0.2	+73.4%
Energy intensity per million dollars of revenue (tCO2-e / revenue)	0.8	0.7	0.3	0.4	+45.6%
GHG emissions intensity per employee[1] (tCO2-e / FTE)	2.2	1.2	1.6	1.8	+14.0%
GHG emissions intensity per million dollars of revenue[1] (tCO2-e / revenue)	7.2	3.9	4.9	4.9	+1.8%
Total Scope 1 and Scope 2 GHG emissions intensity per million dollars of revenue(tCO2-e / revenue)	0.7	0.6	0.3	0.4	+51.3%
Scope 3 air travel emissions intensity per employee (tCO2-e / FTE)	1.9	0.8	0.8	0.9	+23.3%

1 Includes all Scope 1, 2, and 3 emissions included in the GHG emissions disclosures above.

The NZX Group does not use any industry-based metrics in addition to the metrics outlined above. Regarding transition risks, the NZX Group is predominantly exposed to market risk of reduced demand for products/services through Capital Markets Origination, Secondary Markets and Funds Management revenue streams. We are currently disclosing 100% of the revenue from these streams as this represents a conservative estimate. The NZX Group's direct exposure to physical risks is limited to our property assets and leases. We are disclosing 100% of property-related assets and leases as this represents a conservative estimate. These are high-level estimates and involve a high level of uncertainty. No assets and capital are currently linked to climate-related activities, and this is unchanged from FY23. The NZX Group does not use a fixed internal emissions price but takes into account the cost of carbon credit offsets when making decisions about emissions reduction initiatives. In 2024, the NZX Group purchased International Fairtrade Gold Standard carbon credits through Toitū at $43.2 per tonne as compared with $143.1 in FY23. Going forward, carbon credit prices may be subject to change.‖As set out on page 152, NZX's CEO has a KPI that relates to ESG targets, which while not relating to a specific amount of remuneration does form part of the NZX CEO's annual review process. This ESG target is cascaded down to the NZX CEO's direct reports and considered as part of the annual performance review process (namely through KPI setting and half/full year reviews). This is unchanged from FY23.

Cross-industry metric category	2023	2024	% difference YoY
Transition risks: Assets or business activities vulnerable *% of total operative revenue (Capital Markets Origination, Secondary Markets and Funds Management revenue streams)*	72.1%	72.1%	0%
Physical risks: Assets or business activities vulnerable *% of total assets (Property, plant & equipment and right-of-use lease assets)*	9.7%	9.1%	-5.9%

NZX Limited continued
2024 Annual Report

5.3. Climate-related targets

The NZX Group is targeting a 21% reduction in certain absolute Scope 1, 2, and 3 emissions by 2025 from a 2019 baseline year. This absolute emissions reduction target has been determined using an absolute contraction approach and applies to emissions sources that were included in NZX's 2019 inventory as outlined in the table on page 150. While this target is based on Science Based Targets initiative (SBTi) materials, it has not been approved or certified by the SBTi and has instead been developed by reference to SBTi guidance. This emissions reduction target does not rely on offsets. With 2024 GHG emissions being 20.5% below the 2019 figures (excluding employee commuting, WFH, and data centre emissions which were added to the inventory subsequently), the NZX Group is well-positioned to achieve its emissions reduction target by 2025. In addition to reducing absolute emissions, the NZX Group continues to purchase carbon credit offsets corresponding to the NZX Group's remaining emissions. These offsets were purchased from Toitū and have been certified by Gold Standard as meeting the Fairtrade Climate Standard.

The NZX Group considers that its short-term target to 2025 contributes to limiting global warming to 1.5° because it is consistent with the short-term emissions reduction pathways used by Toitū and based on the SBTi. However, NZX recognises that there is scope to increase its contribution by setting targets over the longer term. As a result, in 2025 the NZX Group aims to develop and set interim and long-term emissions reduction targets in line with limiting our impact to a 1.5° warming scenario across all emissions scopes.

Glossary

ANZ Climate Standards	Aotearoa New Zealand Climate Standards
CCC	He Pou a Rangi – Climate Change Commission
ESG	Environmental, social and governance
ETS	Emissions Trading Scheme
FMA	Financial Markets Authority
FSC	Financial Services Council
FTE	Full-time employees
GDP	Gross Domestic Product
GHG	Greenhouse gas
GSS	Green, social, and sustainability
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
SAE	Standard on Assurance Engagements
ISO	International Organisation for Standardisation
MBIE	Ministry of Business, Innovation & Employment
MfE	Ministry for the Environment
NGFS	Network for Greening the Financial System
NIWA	National Institute of Water and Atmospheric Association
NZU	New Zealand Unit
RMF	Risk management framework
SSEI	Sustainable Stock Exchanges Initiative
tCO2e	Tonnes of carbon dioxide equivalent
WFE	World Federation of Exchanges
XRB	External Reporting Board
YoY	Year on year

The table below sets out the location of the disclosures required by the Aotearoa New Zealand Climate Standards within this Annual Report:

Precinct Properties NZ and Precinct Properties Investments Limited

Climate-related Disclosure 2024

Offset units

Our commitment to the World Green Building Council Net Zero Buildings Commitment by 2030 reflects our focus on achieving our prescriptive targets as well as retaining our net zero operational footprint through to 2030. To achieve these objectives, Precinct voluntarily purchases verified offset units to account for residual Scope 1, 2 and select Scope 3 emissions per Toitū net carbon zero and our WGBC reporting obligations. High quality offset units are purchased by Precinct directly and retired through Toitū to ensure independent verification on the selection of the units. In assessing eligible offset units voluntarily procured directly by organisations, Toitū only accept projects based on their robust three-level approach to due diligence. This due diligence approach was taken in relation to Precinct's direct purchase of offset units applied to the FY24 certification. Further details related to this eligibility criteria can be found here. For previous cycles, Precinct has purchased offset units directly through Toitū. The offset type, volume and project details applied to each certification year through this program are documented publicly on Toitu's website.

Other Climate-related metrics

The key metrics and key performance indicators (**KPIs**) that Precinct currently uses to measure and manage our climate-related risks and opportunities are set out below. These metrics and KPIs enable Precinct to embed key criteria within our climate reporting to ensure Precinct's approach to understanding and managing risks and opportunities is relevant to our business strategy and industry.

Metric	Description	FY24
GHG Emissions Intensity	Emissions intensity of Precinct's net carbon zero reporting boundary assured by Toitū, including Scope 1 and 2 emissions alongside revenue.	15.26 tCO2-e/$m Scope 1+2/revenue
Transition Risks	Percentage of Precinct assets vulnerable due to anticipated market, technology, reputation, carbon price and regulation.	Refer to Transition risk impacts in Strategy section of this report
Physical Risks	Percentage of Precinct assets vulnerable due to temperature extremes, cyclone, pluvial flooding and coastal inundation (including sea-level rise).	Refer to Physical risk impacts in Strategy section of this report
Climate-related Opportunities	Green Star: >60% of the Portfolio by value to achieve a minimum 5-star 'NZ Excellence' As-Built rating by 2030	45%
	NABERSNZ: 100% of the Portfolio to achieve a minimum 4 star NABERSNZ Base Building rating by 2030 (directly owned)	54%
Capital Deployment	Corporate reporting and professional services spend related to Climate related risks and opportunities.	$282k
	Management of activities across the existing operational portfolio related to climate-related risks and opportunities.	$314k
	Gross capital investment across development projects deployed toward Green buildings. This includes One Queen Street (Deloitte Centre), 256 Queen Street, Downtown Car Park, Freyberg Building, 61 Molesworth Street and Bowen House.	$178.3m
Internal Emissions Price	Precinct applies an internal emissions price as a default when accounting for the impact of carbon across the business (e.g. within development budgets for offsetting upon project completion). This internal emissions price is reviewed annually to reflect changes in the voluntary carbon market.	$40/tCO2-e
Remuneration	Precinct's Executive and Senior Management team (comprising 29 people) are eligible to participate in Precinct's short-term incentive bonus scheme, which is reviewed annually. One of the key objectives for determining eligibility for payment under the short-term incentive scheme for FY24 was achieving operating performance in line with business plan objectives, including Precinct's FY24 ESG objectives. For FY24, the operating performance objective had a weighting of 25% of the total short-term incentive scheme.	

CLIMATE-RELATED DISCLOSURES CONTINUED

OUR GHG EMISSIONS

SCOPE	CATEGORY	FY19 (tCO_2e) 12 MONTHS	FY20 (tCO_2e) 12 MONTHS	FY21 (tCO_2e) 12 MONTHS	FY22 (tCO_2e) 12 MONTHS	FY23 (tCO_2e) 12 MONTHS	FP24 (tCO_2e) 6 MONTHS[18]
SCOPE 1							
Direct Emissions	Fugitive emissions (refrigerants)	94.5	116.8	76.8	61.3	41.2	68.7
	Fuel	Covered under Category 6	Covered under Category 6	0.2	4.5	5.6	2.4
SCOPE 2							
Indirect Emissions	Electricity consumption (location based)[20]	15.5	5.4	14.2	19.6	4.4	2.2
Total Scope 1 and Scope 2 Emissions		**110.0**	**122.2**	**91.2**	**85.4**	**51.2**	**73.3**
SCOPE 3							
Other Indirect Emissions	Category 1: Purchased goods and services[21]	Not measured in FY19	111.3	117.4	284.3	1,244.2	506.1
	Category 2: Capital goods[22]	Not measured in FY19	2,564.7	2,615.0	2,122.4	16,733.7	8,595.5
	Category 3: Energy and fuel	Not measured in FY19	0.5	1.2	1.8	0.5	0.2
	Category 5: Waste generated in operations	0.7	0.5	0.2	0.4	0.5	0.1
	Category 6: Business travel	19.8	9.4	12.7	18.4	25.0	43.6
	Category 7: Employee commuting	Not measured in FY19	15.1	13.6	12.6	17.7	11.0
	Category 13: Downstream leased assets[23]	Not measured in FY19	Not measured in FY20	Not measured in FY21	Not measured in FY22	Not measured in FY23	669.3
Total Scope 3 Emissions		**20.5**	**2,701.5**	**2,760.3**	**2,439.9**	**18,021.7**	**9,825.8**
TOTAL Scope 1, 2 and 3 Emissions		**130.5**	**2,823.7**	**2,851.3**	**2,525.4**	**18,072.9**	**9,899.1**

18. tCO_2e figures for FP24 reflect the six-month period between 1 January 2024 and 30 June 2024 due to PFI's balance date change to 30 June, and are not entirely comparable with prior year emissions.
20. PFI's Scope 2 emissions are comprised of electricity consumption at PFI's head office, vacant properties and common areas.
21. Scope 3 Category 1 emissions per $ spend was calculated using an input output (IO) consumption-based model. An IO model estimates emissions based on category spend using data from allocating national GHG emissions to final products based on economic flows between sectors. The IO model is accepted by the GHG Protocol and is considered comprehensive but varies in its granularity. The increase in Scope 3 Category 1 emissions from FY23 onwards is a reflection of a change in the IO consumption-based model used by PFI, rather than a material change in underlying activity.
22. Scope 3 Category 2 emissions were calculated using Whole-of-Life Carbon Assessment data for major developments, with consumption-based models (see footnote 21) used for the balance of emissions in this category. The Whole-of-Life Carbon assessments used are an early estimate of the emissions associated with our major development projects. As these projects span multiple financial years, the emissions have been allocated to financial years based on spend. There may be adjustments made to emissions allocated to future periods to account for any variances from these initial estimates. The increase in Scope 3 Category 2 emissions from FY23 onwards is attributable to both a change in the consumption-based model used and increased development activity.
23. Downstream leased assets include emissions relating to electricity use by PFI's tenanted buildings. The tCO_2e figure for FP24 only includes electricity usage at the 48% of properties for which PFI is able to access at least one full month of consumption data through power metering, therefore it is not a complete reflection of electricity use across the portfolio for FP24. Extrapolating actual metered data during FP24, PFI estimates that the overall emissions associated with building electricity use may be around 2,728 tCO_2e in FP24. This estimate is highly uncertain as PFI has a limited dataset to extrapolate from. PFI will not gain greater visibility on the electricity use of its tenanted buildings until more properties have metering installed.

Property For Industry Limited
FP24 Sustainability Update and Climate-Related Disclosures

GHG EMISSIONS INTENSITY METRICS

GHG EMISSIONS INTENSITY METRIC	FY23	FP24
Scope 1 + 2 GHG emissions (tCO_2e) / sqm lettable area	0.00006 tCO_2e	0.00008 tCO_2e

Scope 1 + 2 GHG emissions intensity increased slightly in FP24 due to an increase in Scope 1 emissions for the reporting period.

PFI had three buildings under development during FP24. Once completed, the Scope 3 Category 2 upfront embodied carbon emissions associated with the properties that were under development during the financial period is estimated to have an intensity of 0.406tCO_2e per sqm lettable area being developed.[24]

EMISSIONS PERFORMANCE

PFI does not have an absolute or intensity emissions target. See page 6 of our FP24 Sustainability Update for more information on PFI's strategy to minimise our emissions, along with PFI's transition plan on page 17 setting out our planned initiatives to reduce emissions associated with our buildings.

Due to the shorter 6-month reporting period during FP24, PFI's total emissions for FP24 are not entirely comparable to the prior year's 12-month reporting period (FY23).

PFI's Scope 1 fugitive emissions increased by 67% or 27.5tCO_2e in FP24 compared to FY23 figures, primarily due to a large leak of refrigerant gas at one of our properties during the reporting period.

PFI's largest source of measured emissions is 'embodied emissions' from development and refurbishment activity (Scope 3, Category 2). These emissions account for over 86% of PFI's FP24 measured GHG emissions.

We also note that emissions relating to the operational performance of our buildings (for example, electricity use) are expected to be a material source of emissions (Scope 3, Category 13). In FP24, we have reported our Scope 3, Category 13 emissions using actual measured data for approximately 48% of properties in our portfolio. As installing metering is an ongoing project for PFI, the total measured emissions of 669.3 tCO_2e reflects a limited number of properties, and for some properties, a limited number of months since metering has been installed. This is not representative of the electricity consumed in our portfolio of tenanted properties. Extrapolating actual metered data during FP24, PFI estimates that the overall emissions associated with building electricity use may be around 2,728tCO_2e in FP24. This estimate is highly uncertain as PFI has a limited dataset to extrapolate from.

Electricity use in PFI's tenanted buildings will also vary depending on tenant operations. PFI will not gain greater visibility on the electricity use of its tenanted buildings until more properties have metering installed.

OFFSETS

We have offset our measured FP24 Scope 1, 2 and selected categories of Scope 3 emissions[25] with certified carbon credits. These certified carbon credits are sourced from a project that protects forests in the Pacific Islands and helps to deliver climate resilience, waterways protection and biodiversity conservation.[26]

INTERNAL EMISSIONS PRICE

PFI does not currently use an internal emissions price for its business activities. PFI has a small team, and relevant staff members have developed an understanding of PFI's material emissions impacts (in particular, the impacts of developments, refurbishments and building operation) through regular management meetings. At this stage, PFI does not consider that setting an internal carbon price will add material incremental value to the business's decision-making with regards to carbon impacts.

24. This intensity metric has been calculated using the upfront embodied carbon emissions from Life-Cycle Assessments prepared for Stages 1 and 2 at Bowden Road and Stage 1 at Springs Road. This data spans multiple financial years and does not attribute emissions for the FP24 reporting period only. This data is subject to the uncertainties and limitations of LCA data set out on page 43. This intensity metric does not cover all Scope 3 emissions, however upfront embodied carbon emissions associated with properties under development is PFI's largest emissions source (accounting for 71% of PFI's Scope 3 emissions in FP24). Excluded Scope 3 emissions include Purchased Goods and Services, other Capital Goods (not associated with developments), Energy and Fuel, Waste, Business Travel, Employee Commuting and Downstream Leased Assets.
25. Including waste, business travel, employee commuting, and energy and fuel; but excluding goods and services, capital goods, and downstream leased assets.
26. These carbon credits are certified under the Plan Vivo (UK) carbon credit standard and are retired on the Markit Environmental Registry, New York / London.

Appendix 6: How carbon credit retirements are recorded on a registry

Figure A6.1: Gold Standard registry retirement page, with filters applied
Source: Gold Standard, *Impact Registry: Retirements*.[174]

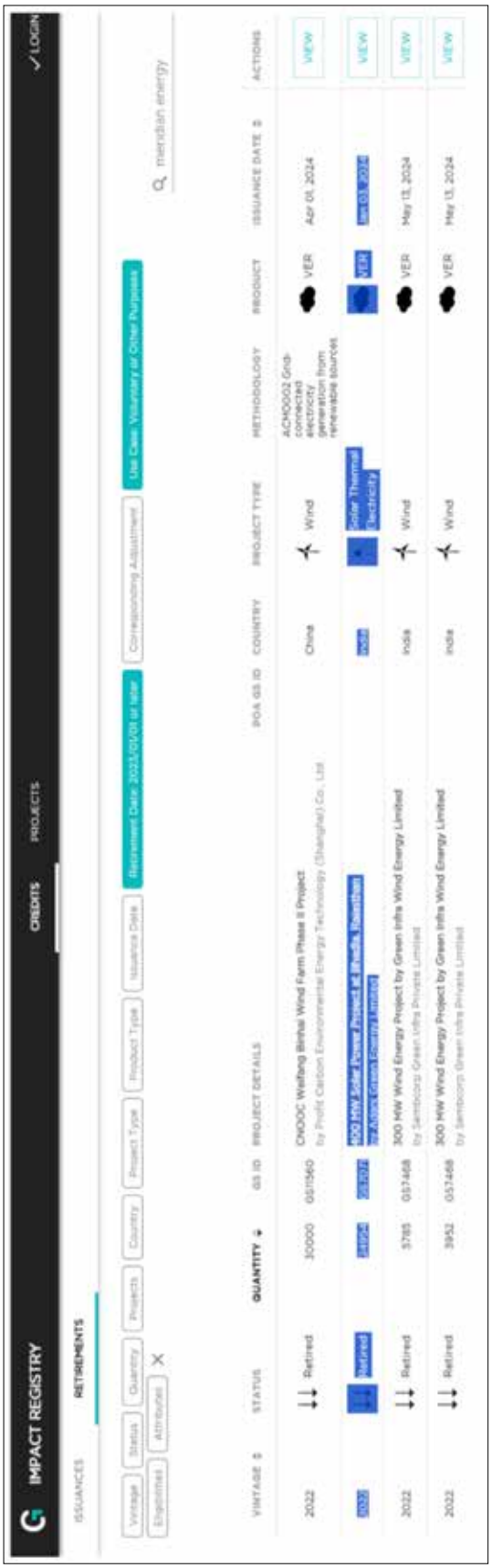


Figure A6.2: Retirement of Gold Standard carbon credits by Meridian Energy in August 2025

Source: Gold Standard, *Impact Registry Retirement Details: Meridian Energy*, August 2025.[175]

Appendix 7: NZSX-listed companies that mentioned and used carbon offsets in FY21 to FY24

Table A7.1: Mentions and use of carbon offsets as disclosed in FY21 to FY24 annual reports and sustainability reports of NZSX-listed companies

		FY21		FY22		FY23		FY24	
NZX ticker code	NZX listed companies FY21–FY24	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?
2CC	2 Cheap Cars Group Limited	N/A	N/A	N/A	N/A	No	No	No	No
ACE	Ascension Capital Limited	No	No	No	No	No	No	N/A	N/A
AFC	AFC Group Holdings Limited	No	No	No	No	No	No	No	No
AFI	Australian Foundation Investment Company Limited	No	No	No	No	No	No	No	No
AFT	AFT Pharmaceuticals Limited	No	No	No	No	No	No	No	No
AGL	Accordant Group Limited	No	No	No	No	No	No	No	No
AIA	Auckland International Airport Limited	Yes	Forecast (explicit)	Yes	Forecast (explicit)	Yes	Forecast (explicit)	Yes	Forecast (explicit)
AIR	Air New Zealand Limited (NS)	Yes	No	Yes	No (explicit)	Yes	No	Yes	Forecast (explicit)
ALD	Ampol Limited	N/A	N/A	No	No	Yes	Current	N/A	N/A
ALF	Allied Farmers Limited	No	No	No	No	No	No	No	No
AMP	AMP Limited	Yes	Current	N/A	N/A	N/A	N/A	N/A	N/A
ANZ	ANZ Group Holdings Limited	No	No	Yes	No	Yes	Current	Yes	Current
AOF	AoFrio Limited	N/A	N/A	No	No	No	No	No	No
APL	Asset Plus Limited	No	No	No	No	No	No	No	No
ARB	ArborGen Holdings Limited	Yes	No	Yes	No	Yes	No	Yes	No
ARG	Argosy Property Limited	Yes	Current	Yes	Current	Yes	Current	Yes	Current
ARV	Arvida Group Limited	Yes	Current	Yes	Current	Yes	No (explicit)	N/A	N/A
ATM	The a2 Milk Company Limited	Yes	Current	Yes	No (explicit)	No	No	Yes	Forecast (implicit)
BAI	Being AI Limited	N/A	N/A	N/A	N/A	N/A	N/A	No	No
BFG	Burger Fuel Group Limited	No	No	No	No	No	No	Yes	Forecast (implicit)
BGP	Briscoe Group Limited	No	No	No	No	No	No	No	No
BLT	Blis Technologies Limited	No	No	No	No	No	No	No	No

		FY21		FY22		FY23		FY24	
NZX ticker code	NZX listed companies FY21–FY24	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?
BPG	Black Pearl Group Limited	N/A	N/A	N/A	N/A	No	No	No	No
BRM	Barramundi Limited	No	No	No	No	No	No	No	No
BRW	Bremworth Limited	No	No	No	No	No	No	No	No
CBD	Cannasouth Limited	No	No	No	No	N/A	N/A	N/A	N/A
CCC	Cooks Coffee Company Limited	N/A	N/A	No	No	No	No	No	No
CDI	CDL Investments New Zealand Limited	No	No	No	No	Yes	Forecast (implicit)	Yes	Forecast (implicit)
CEN	Contact Energy Limited	Yes	No	Yes	No	Yes	Forecast (explicit)	Yes	Forecast (explicit)
CGF	Cooks Global Foods Limited	No	No	N/A	N/A	N/A	N/A	N/A	N/A
CHI	Channel Infrastructure NZ Limited	N/A	N/A	Yes	Forecast (explicit)	Yes	Forecast (explicit)	Yes	Forecast (explicit)
CMO	The Colonial Motor Company Limited	No	No	No	No	No	No	No	No
CNU	Chorus Limited (NS)	Yes	No (explicit)	Yes	No	No	No	Yes	Forecast (implicit)
CRP	Chatham Rock Phosphate Limited	No	No	No	No	No	No	No	No
CVT	Comvita Limited	Yes	No	Yes	Forecast (implicit)	Yes	No	Yes	Forecast (implicit)
DGL	Delegat Group Limited	No	No	No	No	No	No	Yes	No (explicit)
DOW	Downer EDI Limited	No	No	Yes	Forecast (explicit)	Yes	Forecast (explicit)	Yes	Forecast (explicit)
EBO	Ebos Group Limited	Yes	Current	Yes	Current	Yes	Current	Yes	Current
ENS	Enprise Group Limited	No	No	No	No	No	No	No	No
ERD	EROAD Limited	No	No	No	No	No	No	Yes	Forecast (implicit)
EVO	Evolve Education Group Limited	No	No	No	No	N/A	N/A	N/A	N/A
FBU	Fletcher Building Limited	No	No	No	No	Yes	Current	Yes	Forecast (explicit)
FCG	Fonterra Co-operative Group Limited	N/A	N/A	N/A	N/A	N/A	N/A	Yes	Current

		FY21		FY22		FY23		FY24	
NZX ticker code	NZX listed companies FY21–FY24	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?
FPH	Fisher & Paykel Healthcare Corporation Limited	No	No	No	No	No	No	No	No
FRW	Freightways Group Limited	No	No	No	No	Yes	No	Yes	No
FWL	Foley Wines Limited	No	No	No	No	No	No	Yes	Forecast (implicit)
GEN	General Capital Limited	No	No	No	No	No	No	No	No
GEO	Geo Limited	No	No	No	No	No	No	N/A	N/A
GFI	Greenfern Industries Limited	N/A	N/A	No	No	No	No	No	No
GFL	Geneva Finance Limited	No	No	No	No	No	No	N/A	N/A
GNE	Genesis Energy Limited	No	No	Yes	No	Yes	No (explicit)	Yes	No (explicit)
GSH	Good Spirits Hospitality Limited	No	No	No	No	No	No	N/A	N/A
GTK	Gentrack Group Limited	No	No	No	No	Yes	No (explicit)	Yes	No (explicit)
GWC	Goodwood Capital Limited	No	No	N/A	N/A	N/A	N/A	N/A	N/A
GXH	Green Cross Health Limited	No	No	No	No	No	No	Yes	No (explicit)
HFL	Henderson Far East Income Limited	No	No	No	No	No	No	No	No
HGH	Heartland Group Holdings Limited	No	No	No	No	No	No	Yes	Forecast (implicit)
HLG	Hallenstein Glasson Holdings Limited	No	No	No	No	No	No	Yes	Forecast (explicit)
HMY	Harmoney Corp Limited	No	No	N/A	N/A	N/A	N/A	N/A	N/A
IFT	Infratil Limited	No	No	Yes	No (explicit)	No	No	Yes	No (explicit)
IKE	ikeGPS Group Limited	No	No	No	No	No	No	Yes	Forecast (implicit)
IPL	Investore Property Limited (NS)	No	No	No	No	No	No	No	No
IPR	Iperion Limited (previously Southern Charter Group)	N/A	N/A	N/A	N/A	No		No	No
JLG	Just Life Group Limited	No	No	No	No	No	No	N/A	N/A
KFL	Kingfish Limited	No	No	No	No	No	No	No	No
KMD	Kathmandu Holdings Limited	Yes	Current	Yes	Forecast (explicit)	Yes	Forecast (explicit)	Yes	No (explicit)

		FY21		FY22		FY23		FY24	
NZX ticker code	NZX listed companies FY21–FY24	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?
KPG	Kiwi Property Group Limited	No	No	No	No	No	No	Yes	Forecast (explicit)
LIC	Livestock Improvement Corporation Limited (NS)	No	No	No	No	No	No	Yes	Forecast (implicit)
MCK	Millennium & Copthorne Hotels NZ Limited Ordinary Share	No	No	No	No	Yes	Forecast (implicit)	Yes	Forecast (implicit)
MCY	Mercury NZ Limited	No	No	No	No	Yes	Forecast (implicit)	Yes	Forecast (implicit)
MEE	Me Today Limited	No	No	No	No	No	No	No	No
MEL	Meridian Energy Limited (NS)	Yes	Current	Yes	Current	Yes	Current	Yes	Current
MFB	My Food Bag Group Limited	No	No	No	No	No	No	No	No
MFT	Mainfreight Limited	Yes	No (explicit)	No	No	No	No	Yes	No (explicit)
MHJ	Michael Hill International Limited	No	No	Yes	Forecast (implicit)	Yes	Forecast (explicit)	Yes	Forecast (explicit)
MHM	MHM Automation Limited	No	No	No	No	No	No	N/A	N/A
MLN	Marlin Global Limited	No	No	No	No	No	No	No	No
MMH	Marsden Maritime Holdings Limited	No	No	No	No	No	No	No	No
MNW	Manawa Energy Limited	N/A	N/A	No	No	Yes	No	Yes	No (explicit)
MOV	Move Logistics Group Limited	No	No	No	No	No	No	Yes	No (explicit)
MPG	Metro Performance Glass Limited	No	No	No	No	No	No	No	No
MWE	Marlborough Wine Estates Group Limited	No	No	No	No	No	No	No	No
NPH	Napier Port Holdings Limited	Yes	Current	Yes	Current	No	No	No	No
NTL	New Talisman Gold Mines Limited	No	No	No	No	No	No	No	No
NWF	NZ Windfarms Limited	No	No	Yes	No	No	No	No	No
NZA	NZ Automotive Investments Limited	No	No	No	No	N/A	N/A	N/A	N/A
NZK	NZ King Salmon Investments Limited	No	No	No	No	No	No	No	No

		FY21		FY22		FY23		FY24	
NZX ticker code	NZX listed companies FY21–FY24	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?
NZL	New Zealand Rural Land Company Limited (NS)	No	No	No	No	Yes	No	Yes	No (explicit)
NZM	NZME Limited	No	No	No	No	Yes	Forecast (explicit)	Yes	No (explicit)
NZO	New Zealand Oil & Gas Limited	Yes	Current	Yes	Current	Yes	Current	N/A	N/A
NZR	The New Zealand Refining Company Limited	Yes	Forecast (explicit)	N/A	N/A	N/A	N/A	N/A	N/A
NZX	NZX Limited	Yes	No	Yes	Current	Yes	Current	Yes	Current
OCA	Oceania Healthcare Limited	No	No	No	No	No	No	Yes	No (explicit)
PCT	Precinct Properties NZ and Precinct Properties Investments Limited	Yes	Current	Yes	Current	Yes	Current	Yes	Current
PEB	Pacific Edge Limited	No	No	No	No	No	No	Yes	No (explicit)
PFI	Property For Industry Limited	Yes	Current	Yes	Current	Yes	Current	Yes	Current
PGW	PGG Wrightson Limited	No	No	No	No	No	No	No	No
PHL	Promisia Healthcare Limited	No	No	No	No	No	No	No	No
POT	Port of Tauranga Limited	No	No	No	No	No	No	Yes	Forecast (implicit)
PPH	Pushpay Holdings Limited	No	No	No	No	N/A	N/A	N/A	N/A
PX1	Plexure Group Limited	No	No	N/A	N/A	N/A	N/A	N/A	N/A
PYS	PaySauce Limited	No	No	No	No	No	No	No	No
RAD	Radius Residential Care Limited	No	No	No	No	No	No	No	No
RAK	Rakon Limited	No	No	No	No	No	No	No	No
RBD	Restaurant Brands NZ Limited	No	No	No	No	Yes	No (explicit)	Yes	Forecast (implicit)
RTO (previously BGI)	RTO Limited (previously Blackwell Global Holdings Limited)	No	No	No	No	No	No	No	No
RUA	RUA Bioscience Limited	No	No	No	No	No	No	No	No
RYM	Ryman Healthcare Limited	Yes	Forecast (explicit)	No	No	No	No	Yes	No

		FY21		FY22		FY23		FY24	
NZX ticker code	NZX listed companies FY21–FY24	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?
SAN	Sanford Limited (NS)	No	No	No	No	Yes	No (explicit)	Yes	No (explicit)
SCL	Scales Corporation Limited	No	No	No	No	Yes	No (explicit)	Yes	No (explicit)
SCT	Scott Technology Limited	No	No	No	No	No	No	No	No
SDL	Solution Dynamics Limited	No	No	No	No	No	No	No	No
SEK	Seeka Limited	Yes	No	Yes	No	Yes	Forecast (implicit)	Yes	Forecast (implicit)
SKC	SkyCity Entertainment Group Limited (NS)	Yes	Current	Yes	Current	Yes	Current	Yes	No
SKL	Skellerup Holdings Limited	No	No	No	No	No	No	No	No
SKO	Serko Limited	Yes	Forecast (explicit)	Yes	Forecast (explicit)	Yes	Forecast (explicit)	Yes	Current
SKT	Sky Network Television Limited	No	No	No	No	No	No	Yes	No (explicit)
SMI	Santana Minerals Limited	N/A	N/A	N/A	N/A	N/A	N/A	No	No
SML	Synlait Milk Limited (NS)	Yes	No	Yes	No	Yes	No	Yes	No (explicit)
SMW	SMW Group Limited	No	No	N/A	N/A	N/A	N/A	N/A	N/A
SNC	Southern Charter Financial Group Limited	No	No	No	No	N/A	N/A	N/A	N/A
SPG	Stride Property Limited & Stride Investment Management Limited (NS)	No	No	No	No	No	No	Yes	Forecast (explicit)
SPK	Spark New Zealand Limited	No	No	No	No	No	No	Yes	No (explicit)
SPN	South Port New Zealand Limited	No	No	No	No	No	No	No	No
SPY	Smartpay Holdings Limited	No	No	No	No	No	No	Yes	No (explicit)
STU	Steel & Tube Holdings Limited	No	No	Yes	No	Yes	No	No	No
SUM	Summerset Group Holdings Limited	Yes	Current	Yes	Current	Yes	Current	Yes	Current
SVR	Savor Limited	No	No	No	No	No	No	No	No
TAH	Third Age Health Services Limited	No	No	No	No	No	No	No	No
TGG	T&G Global Limited	Yes	Current	Yes	Forecast (explicit)	Yes	Forecast (implicit)	Yes	Forecast (implicit)
THL	Tourism Holdings Limited	No	No	No	No	No	No	Yes	No (explicit)

		FY21		FY22		FY23		FY24	
NZX ticker code	NZX listed companies FY21–FY24	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?	Mentions offsetting?	Using offsetting?
TPW	Trustpower Limited	No	No	N/A	N/A	N/A	N/A	N/A	N/A
TRA	Turners Automotive Group Limited	No	No	No	No	No	No	Yes	No (explicit)
TRU	TruScreen Group Limited	No	No	No	No	No	No	No	No
TSK	TASK Group Holdings Limited	N/A	N/A	No	No	No	No	N/A	N/A
TWL	Trade Window Holdings Limited	No	No	No	No	No	No	No	No
TWR	Tower Limited	No	No	Yes	No (explicit)	Yes	No (explicit)	Yes	No (explicit)
VCT	Vector Limited (NS)	No	No	No	No	Yes	No (explicit)	Yes	No (explicit)
VGL	Vista Group International Limited	No	No	No	No	No	No	No	No
VNT	Ventia Services Group Limited	No	No	No	No	Yes	No (explicit)	Yes	Forecast (implicit)
VSL	Vulcan Steel Limited	N/A	N/A	No	No	No	No	No	No
VTL	Vital Limited	Yes	No (explicit)	No	No	No	No	No	No
WBC	Westpac Banking Corporation	Yes	Current	Yes	Current	Yes	Current	Yes	Current
WCO	WasteCo Group Limited	N/A	N/A	No	No	No	No	No	No
WDT	Wellington Drive Technologies Limited	No	No	N/A	N/A	N/A	N/A	N/A	N/A
WHS	The Warehouse Group Limited	Yes	Current	Yes	Current	Yes	Current	Yes	No (explicit)
WIN	Winton Land Limited (NS)	No	No	No	No	No	No	No	No
ZEL	Z Energy Limited	Yes	Current	N/A	N/A	N/A	N/A	N/A	N/A

Table A7.2: NZSX-listed companies that used carbon offsets in FY21

NZX ticker code	NZSX-listed companies FY21	Discloses how much was offset	Discloses what type of offsets are used	Discloses where the offsets are located	Discloses if offsets are verified	Discloses who offsets are verified by	Toitu/Climate Active certification	SBTi targets
AMP	AMP Limited	Yes (14,716 t CO_2e)	Yes (reforestation and renewable energy)	Yes (New Zealand, Australia, China, India and Indonesia)	Yes	Yes (Verra)	Yes (Climate Active Carbon Neutral)	No (using SBTi guidance)
ARG	Argosy Property Limited	No (implied – 350 t CO_2e)	No	No	Yes (implied)	No (implied)	Yes (Toitū Net Carbon Zero)	No
ARV	Arvida Group Limited	Yes (50 t CO_2e)	No	No	Yes (implied)	No (implied)	Yes (Toitū Carbon Reduce)	No (using SBTi guidence)
ATM	The a2 Milk Company Limited	No (implied – 2,862 t CO_2e)	No	No	No	No	No	No
EBO	Ebos Group Limited	No	Yes (reforestation)	Yes (New Zealand and Australia)	Yes (implied)	No (implied)	No	No
KMD	Kathmandu Holdings Limited	No (implied – 5,429 t CO_2e)	Yes (reforestation and renewable energy)	Yes (Australia, China and India)	Yes	Yes (Gold standard)	Yes (Toitū Net Carbon Zero)	No (future goal)
MEL	Meridian Energy Limited (NS)	Yes (913,936 t CO_2e)	Yes (afforestation, renewable energy, energy efficiency and landfill gas flaring)	Yes (India)	Yes	Yes (Gold standard)	No	No
NPH	Napier Port Holdings Limited	No	No	No	No	No	No	No
NZO	New Zealand Oil & Gas Limited	No	Yes (reforestation)	Yes (New Zealand)	No	No	No	No
PCT	Precinct Properties NZ and Precinct Properties Investments Limited	No (implied – 3,913 t CO_2e)	No	Yes (international)	Yes	Yes (Gold Standard)	Yes (Toitū Net Carbon Zero)	No
PFI	Property For Industry Limited	Yes (105 t CO_2e)	Yes (afforestation)	Yes (New Zealand and Pacific Islands)	Yes	No (implied)	No	No

NZX ticker code	NZSX-listed companies FY21	Discloses how much was offset	Discloses what type of offsets are used	Discloses where the offsets are located	Discloses if offsets are verified	Discloses who offsets are verified by	Toitu/Climate Active certification	SBTi targets
SKC	SkyCity Entertainment Group Limited (NS)	Yes (16,750 t CO_2e)	Yes (cook stoves and renewable energy)	Yes (China and India)	Yes (implied)	No (implied)	Yes (Toitū Net Carbon Zero)	Yes (awaiting validation)
SUM	Summerset Group Holdings Limited	No (found externally – 7,224 t CO_2e)	Yes (reforestation – not comprehensive)	Yes (New Zealand and international)	Yes	No (implied)	Yes (Toitū Net Carbon Zero)	No
TGG	T&G Global Limited	No	Yes (deforestation avoidance)	Yes (Peru)	Yes	Yes (Verra)	No	No (future goal)
WBC	Westpac Banking Corporation	No (found externally – 97,055 t CO_2e)	Yes (fire avoidance)	Yes (Australia)	Yes (implied)	No (implied)	Yes (Climate Active Carbon Neutral and Toitū Net Carbon Zero)	No
WHS	The Warehouse Group Limited	No (implied – 36,684 t CO_2e)	Yes (afforestation – not comprehensive)	Yes (New Zealand, China and India)	Yes	Yes (Gold Standard)	Yes (Toitū Net Carbon Zero)	No
ZEL	Z Energy Limited	Yes (37,500 t CO_2e)	Yes (reforestation)	Yes (New Zealand)	Yes (implied)	No (implied)	No	No

Table A7.3: NZSX-listed companies that used carbon offsets in FY22

NZX ticker code	NZSX-listed companies FY22	Discloses how much was offset	Discloses what type of offsets are used	Discloses where the offsets are located	Discloses if offsets are verified	Discloses who offsets are verified by	Toitu/Climate Active certification	SBTi targets
ARG	Argosy Property Limited	Yes (354 t CO_2e)	No	Yes (New Zealand and international)	Yes (implied)	No (implied)	Yes (Toitū Net Carbon Zero)	No
ARV	Arvida Group Limited	Yes (50 t CO_2e)	No	No	Yes (implied)	No (implied)	Yes (Toitū Carbon Reduce)	No (future goal)
EBO	Ebos Group Limited	Yes (12,192 t CO_2e)	Yes (reforestation)	Yes (New Zealand and Australia)	Yes (implied)	No (implied)	No	No
MEL	Meridian Energy Limited (NS)	Yes (554,350 t CO_2e)	No	No	Yes	Yes (Gold Standard)	No	No
NPH	Napier Port Holdings Limited	No	No	No	No	No	No	No
NZO	New Zealand Oil & Gas Limited	Yes (10 t CO_2e)	Yes (reforestation and energy efficiency)	Yes (New Zealand)	No	No	No	No
NZX	NZX Limited	No (implied – 372 t CO_2e)	No	Yes (New Zealand)	Yes (implied)	No (implied)	Yes (Toitū Net Carbon Zero)	No (using SBTi guidance)
PCT	Precinct Properties NZ and Precinct Properties Investments Limited	No (implied – 4,767 t CO_2e)	Yes (cook stoves and renewable energy)	Yes (Ghana and Nicaragua)	Yes	Yes (Gold Standard)		
PFI	Property for Industry Limited	Yes (105 t CO_2e)	Yes (afforestation)	Yes (New Zealand and Pacific Islands)	Yes	No (implied)	No	No
SKC	SkyCity Entertainment Group Limited (NS)	Yes (15,637 t CO_2e)	Yes (renewable energy and energy efficiency)	No	Yes (implied)	No (implied)	Yes (Toitū Net Carbon Zero)	Yes
SUM	Summerset Group Holdings Limited	No (found externally – 6,278 t CO_2e)	Yes (reforestation)	Yes (New Zealand)	No	No	Yes (Toitū Net Carbon Zero)	No

NZX ticker code	NZSX-listed companies FY22	Discloses how much was offset	Discloses what type of offsets are used	Discloses where the offsets are located	Discloses if offsets are verified	Discloses who offsets are verified by	Toitu/Climate Active certification	SBTi targets
WBC	Westpac Banking Corporation	No (found externally – 101,925 t CO_2e)	No	No	Yes	No (implied)	Yes (Climate Active Carbon Neutral and Toitū Net Carbon Zero)	No (using SBTi guidance)
WHS	The Warehouse Group Limited	Yes (36,518 t CO_2e)	No	No	Yes (implied)	Yes (UN CDM)	Yes (Toitū Net Carbon Zero)	No (using SBTi guidance)

Table A7.4: NZSX-listed companies that used carbon offsets in FY23

NZX ticker code	NZSX-listed companies FY23	Discloses how much was offset	Discloses what type of offsets are used	Discloses where the offsets are located	Discloses if offsets are verified	Discloses who offsets are verified by	Toitu/Climate Active certification	SBTi targets
ALD	Ampol Limited	Yes (16,000 t CO_2e)	No	Yes (international)	Yes	No	Yes (Climate Active Carbon Neutral)	No
ANZ	ANZ Group Holdings Limited	Yes (99,464 t CO_2e)	No	No	Yes	No (implied)	Yes (Climate Active Carbon Neutral and Toitū Net Carbon Zero)	No (using SBTi guidance)
ARG	Argosy Property Limited	Yes (353 t CO_2e)	No	Yes (New Zealand)	Yes (implied)	No (implied)	Yes (Toitū Net Carbon Zero)	No
EBO	Ebos Group Limited	Yes (19,584 t CO_2e)	Yes (reforestation)	Yes (New Zealand and Australia)	Yes (implied)	No (implied)	No	No
FBU	Fletcher Building Limited	No	No	No	Yes	No (implied)	No	Yes
MEL	Meridian Energy Limited	Yes (47,758 t CO_2e)	No	No	Yes	Yes (Gold Standard)	No	Yes
NZO	New Zealand Oil & Gas Limited	Yes (10 t CO_2e)	Yes (reforestation and energy efficiency)	Yes (New Zealand)	No	No	No	No
NZX	NZX Limited	No (implied - 530 t CO_2e)	No	Yes (New Zealand)	Yes	No (implied)	Yes (Toitū Net Carbon Zero)	No (using SBTi guidance)
PCT	Precinct Properties NZ and Precinct Properties Investments Limited	No (implied – 4,197 t CO_2e)	No	Yes (international)	Yes	Yes (Gold Standard)	Yes (Toitū Net Carbon Zero)	No
PFI	Property For Industry Limited	Yes (77 t CO_2e)	Yes (afforestation and deforestation avoidance)	Yes (New Zealand)	Yes	No (implied)	No	No
SKC	SkyCity Entertainment Group Limited	No (implied – 17,107 t CO_2e)	Yes (renewable energy and energy efficiency)	Yes (international)	Yes	No (implied)	Yes (Toitū Carbon Reduce)	No (using SBTi guidance)

NZX ticker code	NZSX-listed companies FY23	Discloses how much was offset	Discloses what type of offsets are used	Discloses where the offsets are located	Discloses if offsets are verified	Discloses who offsets are verified by	Toitu/Climate Active certification	SBTi targets
SUM	Summerset Group Holdings Limited	Yes (3,953 t CO_2e)	Yes (reforestation – not comprehensive)	Yes (New Zealand and international)	Yes	Yes (Gold Standard)	Yes (Toitū Net Carbon Zero)	Yes (committed)
WBC	Westpac Banking Corporation	No (found externally – 86,091 t CO_2e)	No	Yes (Australia)	Yes	No (implied)	Yes (Climate Active Carbon Neutral and Toitū Net Carbon Zero)	No (using SBTi guidence)
WHS	The Warehouse Group Limited	No	No	No	No	No	Yes (Toitū Carbon Reduce)	No (future goal)

Table A7.5: NZSX-listed companies that used carbon offsets in FY24

NZX ticker code	NZSX-listed companies FY24	Discloses how much was offset	Discloses what type of offsets are used	Discloses where the offsets are located	Discloses if offsets are verified	Discloses who offsets are verified by	Toitu/Climate Active certification	SBTi targets
ANZ	ANZ Group Holdings Limited	Yes (109,026 t CO_2e)	Yes (reforestation, renewable energy and landfill gas flaring – not comprehensive)	Yes (Australia)	Yes	No (implied)	No	No (using SBTi guidance)
ARG	Argosy Property Limited	Yes (221 t CO_2e)	Yes (renewable energy)	Yes (international)	Yes	No (implied)	Yes (Toitū Net Carbon Zero)	No
EBO	Ebos Group Limited	Yes (3,530 t CO_2e)	Yes (reforestation)	Yes (Australia)	Yes	No (implied)	Yes (Climate Active Carbon Neutral)	No
FCG	Fonterra Co-operative Group Limited	No	No	No	No	No	No	Yes
MEL	Meridian Energy Limited	Yes (113,201 t CO_2e)	No	No	Yes	Yes (Gold Standard)	No	Yes
NZX	NZX Limited	Yes (601 t CO_2e)	No	Yes (international)	Yes	Yes (Gold Standard)	Yes (Toitū Net Carbon Zero)	No (using SBTi guidance)
PCT	Precinct Properties NZ and Precinct Properties Investments Limited	No (found externally – 2,322 t CO_2e)	No	Yes (international)	Yes	Yes (Gold Standard)	Yes (Toitū Net Carbon Zero)	Yes (committed)
PFI	Property For Industry Limited	Yes (129 t CO_2e)	Yes (deforestation avoidance)	Yes (Pacific Islands)	Yes	Yes (Plan Vivo)	No	No
SKO	Serko Limited	No	No	No	Yes (implied)	No (implied)	No	No (using SBTi guidance)
SUM	Summerset Group Holdings Limited	No (found externally – 3,653 t CO_2e)	No	Yes (Turkey and Bangladesh)	Yes (implied)	Yes (Gold Standard)	Yes (Toitū Net Carbon Zero)	Yes
WBC	Westpac Banking Corporation	No (found externally – 2,672 t CO_2e)	Yes (afforestation)	Yes (New Zealand)	Yes	No (implied)	Yes (Climate Active Carbon Neutral and Toitū Net Carbon Zero)	No (using SBTi guidance)

Appendix 8: Financial reporting and climate reporting standards and guidance

Table A8.1: The legal basis for issuing financial reporting and climate reporting standards and guidance

Legislation	Financial Reporting Act 2013	Financial Markets Authority Act 2011	Financial Markets Conduct Act 2013[1]
Confers the legal authority to issue:	Standards and guidance	Guidance only	Not applicable
Public information (financial reporting)[2]	**GAAP (NZ Accounting Standards)** Section 29: Tiers of financial reporting for different classes of reporting entities [Note: The tier structure is a key element of New Zealand's differential reporting system. Under the new GAAP standard, NZ IFRS 18: *Presentation and Disclosure in Financial Statements*, measures previously classified as non-GAAP, referred to as MPMs, will now fall within GAAP for Tier 1 and Tier 2 for-profit entities. The standard becomes mandatory from 1 January 2027.] Section 20: Auditing and assurance standards [Note: These standards only relate to GAAP.]		
Public information (climate reporting)	**Climate reporting (NZ Climate Standards)** Section 9AA: Meaning of climate-related disclosure framework In addition, NZ SAE 1: Assurance Engagements over Greenhouse Gas Emissions Disclosures is provided to support climate reporting Section 19B: Purpose of climate standards and climate-related disclosures		Section 461O: Meaning of climate reporting entity Section 461Z: Climate statements must be prepared Section 461ZH: Assurance engagement required for parts of climate statements relating to greenhouse gas emissions
External Reporting Board (XRB) role	Section 8: Meaning of generally accepted accounting practice [Note: This is only applicable if the information conforms with the financial reporting standards and/or an authoritative notice.] Section 19A: Guidance for purposes of non-financial reporting [Note: XRB 'may issue non-binding guidance that relates to non-financial reporting'.]		Section 461J: External Reporting Board must have regard to indication of level of public accountability.[3] Section 461K: FMC reporting entities considered to have higher level of public accountability.[3]
Public information (non-GAAP)[4]	Section 18: Non-GAAP standards [Note: XRB can issue a non-GAAP financial reporting standard, but it must state that it is a non-GAAP standard. The Institute is aware of only one XRB standard that is a non-GAAP standard, Tier 4 (NFP) Standard Reporting Requirements for Tier 4 Not-for-Profit Entities.]	Section 9: FMA's functions[5]	
Private information	Note: Neither the XRB nor the FMA has the mandate to issue standards or guidance on internal management information, as this falls outside the scope of their respective regulatory functions.		

Notes to Table A8.1:

1. There are also Financial Markets Conduct Regulations 2014.
2. The financial reporting standards framework sets out how the accounting standards (which have the same meaning as the financial reporting standards) operate together (see definition of 'accounting standards' in the Glossary on p.46). Note sections 12 and 17 of the Financial Reporting Act 2013: Financial reporting standards may cover non-GAAP and non-financial reporting.
3. See definition of 'public accountability' in the Glossary on p.47.
4. Non-GAAP information is considered to be all other financial information in the public arena, including non-GAAP financial information contained in financial statements, annual reports and result announcements, and climate-related financial information that is not required under a standard.
5. Under s 9(1)(a)(ii) the FMA can issue guidance notes. This includes guidance on how entities should present non-GAAP financial information, but the guidance is not enforceable.

Table A8.2: International voluntary guidance for reporting on retiring carbon credits

Organisation	Guidance	Excerpt from guidance
VCMI (International non-profit organisation)	*Claims Code of Practice* Version 3.1 August 2025	'In addition to meeting the quality thresholds for carbon credit use, companies are required to publicly **disclose key information related to each carbon credit retired**, including: • Number of credits purchased and retired that the company applied towards the VCMI Claim. Companies may utilize the interim options outlined in page 32 of the Claims Code, whilst CCP-labelled and Article 6.4 credits scale up in the market. However, from 1 January 2027, all credits purchased and retired to make a VCMI Claim shall be CCP-labelled or Article 6.4 credits issued under methodologies approved by the Article 6.4 Supervisory Body. • Carbon crediting program name, project name, project ID, retirement serial number, retirement date, and issuing registry for each credit used. • Host country, credit vintage, **methodology,** and project type. • Whether or not the carbon credit is associated with a corresponding adjustment in accordance with Article 6 of the Paris Agreement. If the carbon credit is reported as being associated with a corresponding adjustment, applied either currently or in the future, this shall be evidenced. • If associated with additional third-party certification regarding social or environmental integrity (e.g., SDGs label, SD Vista, Climate, Community and Biodiversity Standards, etc.), companies shall provide information related to how the credit promotes equity and generates co-benefits to ecosystems and local economies.' [Bold added][176]
SBTi (UK charity)	*Corporate Net-Zero Standard* Version 1.3. September 2025 The standard is currently being updated.	Use of carbon credits 'Example Corp. buys carbon credits that relate to mitigation outside of the value chain boundary from XYZ but does not count them as progress towards science-based targets and instead reports them as a BVCM activity. We purchase 350 tCO2e of emission reduction carbon credits at an average price of 80 USD/tCO2e from "Name of activity type", verified to "Name of standard". **These carbon credits are used as part of the delivery of Example Corp's BVCM pledge and the company makes a claim that it has contributed to global mitigation efforts, over and above its 1.5°C science-based target.'** [Bold added][177]
ISSB (Part of the IFRS Foundation. The Foundation is an international, non-profit organisation)	*IFRS S2: Climate-related Disclosures* June 2023	'36 For each greenhouse gas emissions target disclosed in accordance with paragraphs 33–35, an entity shall disclose: ... (e) the entity's **planned use** of carbon credits to offset greenhouse gas emissions to achieve any net greenhouse gas emissions target. In explaining its planned use of carbon credits the entity shall disclose information including, and with reference to paragraphs B70–B71: (i) the extent to which, and how, achieving any net greenhouse gas emissions target relies on the use of carbon credits; (ii) which third-party scheme(s) will verify or certify the carbon credits; (iii) the type of carbon credit, including whether the underlying offset will be nature-based or based on technological carbon removals, and whether the underlying offset is achieved through carbon reduction or removal; and (iv) any other factors necessary for users of general purpose financial reports to understand the credibility and integrity of the carbon credits the entity plans to use (for example, assumptions regarding the permanence of the carbon offset). [Bold added][178] [Note: The standard only applies to future carbon credit purchases, not carbon credits the company has already purchased and retired.]
PACM Supervisory Body (See the Paris Agreement)	The first meeting of the Body is in 2026.	The wesbite notes: 'The Article 6.4 mechanism, also known as the Paris Agreement Crediting Mechanism, has a Supervisory Body tasked with developing and supervising **the requirements and processes needed to operationalize the mechanism**. This includes developing and/or approving methodologies, registering activities, accrediting third-party verification bodies, and managing the Article 6.4 Registry.' [Bold added][179]

Note to Table A8.2:
There may be additional international guidance addressing the reporting of carbon-credit use; however, these four organisations represent the primary bodies that our research has identified as currently active, or potentially active, in this area.

Endnotes

1 Ministry for the Environment (MFE) (2023). *About the Ministry for the Environment.* [online] Available at: https://environment.govt.nz/about-us/ministry-for-the-environment [Accessed 18 Dec. 2025].

2 Environmental Protection Authority (n.d.). *Who does what.* [online] Available at: https://www.epa.govt.nz/industry-areas/emissions-trading-scheme/about-the-nzets/the-nz-ets-who-does-what [Accessed 18 Dec. 2025].

3 Ministry for the Environment (MFE) (2022). *Interim guidance for voluntary climate change mitigation.* [online] Available at: https://environment.govt.nz/publications/interim-guidance-for-voluntary-climate-change-mitigation [Accessed 18 Dec. 2025].

4 He Pou a Rangi - Climate Change Commission (n.d.). *About us*. [online] Available at: https://www.climatecommission.govt.nz [Accessed 18 Dec. 2025].

5 He Pou a Rangi - Climate Change Commission (n.d.). *How we work.* [online] Available at: https://www.climatecommission.govt.nz/our-work/how-we-work [Accessed 18 Dec. 2025].

6 He Pou a Rangi - Climate Change Commission (2021). *Ināia tonu nei: a low emissions future for Aotearoa.* [online]. Available at: https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/inaia-tonu-nei-a-low-emissions-future-for-aotearoa [Accessed 18 Dec. 2025].

7 External Reporting Board (XRB) (2025). *Our Strategy*. [online] Available at: https://www.xrb.govt.nz/about-xrb/our-strategy [Accessed 18 Dec. 2025].

8 External Reporting Board (XRB) (2025). *Resources*. [online] Available at: https://www.xrb.govt.nz/standards/climate-related-disclosures/resources [Accessed 18 Dec. 2025].

9 External Reporting Board (XRB) (2024). *Aotearoa New Zealand Climate Standards 1: Climate-related Disclosures (NZ CS 1).* [online] Available at: https://www.xrb.govt.nz/standards/climate-related-disclosures/aotearoa-new-zealand-climate-standards [Accessed 18 Dec. 2025].

10 Financial Markets Authority (FMA) (n.d.). *About*. [online] Available at: https://www.fma.govt.nz/about-us [Accessed 18 Dec. 2025].

11 New Zealand Financial Markets Association (NZFMA) (2023). *Climate-related disclosures and the FMA*. Available at: https://www.youtube.com/watch?v=C5X82bUuV1k [Accessed 18 Dec. 2025].

Financial Markets Authority (FMA) (2023). *Climate-related Disclosures Monitoring Plan 2023-2026.* [online] p.2. Available at: https://www.fma.govt.nz/library/guidance-library/crd-monitoring-plan-2023-2026 [Accessed 18 Dec. 2025].

12 Financial Markets Authority (FMA) (2023). *Proposed guidance and expectations for keeping proper climate-related disclosure records.* [online] Available at: https://www.fma.govt.nz/assets/Guidance/Proposed-guidance-for-keeping-proper-CRD-records.pdf [Accessed 18 Dec. 2025].

13 Financial Markets Authority (FMA) (2023). *Climate-related Disclosures Monitoring Plan 2023-2026.* [online] p.2. Available at: https://www.fma.govt.nz/library/guidance-library/crd-monitoring-plan-2023-2026 [Accessed 18 Dec. 2025].

14 Commerce Commission (n.d.). *Our role*. [online] Available at: https://www.comcom.govt.nz/about-us/our-role [Accessed 18 Dec. 2025].

15 Commerce Commission (2020). *Environmental Claims Guidelines: a guide for traders*. [online] p.15. Available at: https://www.comcom.govt.nz/business/dealing-with-typical-situations/environmental-claims [Accessed 18 Dec. 2025].

16 Commerce Commission (2020). *Environmental Claims Guidelines: a guide for traders*. [online] Available at: https://www.comcom.govt.nz/business/dealing-with-typical-situations/environmental-claims [Accessed 18 Dec. 2025].

17 Environmental Protection Authority (n.d.). *Protecting our way of life*. [online] Available at: https://www.epa.govt.nz [Accessed 18 Dec. 2025].

Environmental Protection Authority (n.d.). *What we do*. [online] Available at: https://www.epa.govt.nz/about-us/what-we-do [Accessed 18 Dec. 2025].

18 Environmental Protection Authority (n.d.). *Who does what.* [online] Available at: https://www.epa.govt.nz/industry-areas/emissions-trading-scheme/about-the-nzets/the-nz-ets-who-does-what [Accessed 18 Dec. 2025].

19 Energy Efficiency & Conservation Authority (EECA) (n.d.). *Voluntary Carbon Mitigation*. [online] Available at: https://www.eeca.govt.nz/insights/eeca-insights/voluntary-carbon-mitigation [Accessed 18 Dec. 2025].

20 Leining, C. and White, D. (2021). *Boosting voluntary climate action in Aotearoa New Zealand -an overview.* [online] Motu, Energy Efficiency & Conservation Authority (EECA). Available at: https://www.motu.nz/assets/Documents/our-research/environment/climate-change-mitigation/Boosting-Voluntary-Climate-Action-Motu-Overview.pdf [Accessed 18 Dec. 2025].

21 Copernicus Climate Change Service (2025). *Copernicus: 2024 is the first year to exceed 1.5°C above pre-industrial level*. [online] Available at: https://climate.copernicus.eu/copernicus-2024-first-year-exceed-15degc-above-pre-industrial-level [Accessed 30 Sep. 2025].

Harrabin, R. (2025). Nasa data reveals dramatic rise in intensity of weather events. *The Guardian*. [online] 17 Jun. Available at: https://www.theguardian.com/world/2025/jun/17/nasa-data-reveals-dramatic-rise-in-intensity-of-weather-events [Accessed 30 Sep. 2025].

22 World Meteorological Organization (WMO) (2025). *State of the Global Climate 2024*. [online] p.19. Available at: https://wmo.int/publication-series/state-of-global-climate-2024 [Accessed 30 Sep. 2025].

23 Climate Action Tracker (2024). *Emissions pathways to 2100 - Climate Action Tracker*. [online] Available at: https://climateactiontracker.org/global/emissions-pathways [Accessed 30 Sep. 2025].

United Nations Environment Programme (UNEP) (2024). *Emissions Gap Report 2024*. [online] pp.xiii, xv–xvi. Available at: https://www.unep.org/emissions-gap-report-2024 [Accessed 30 Sep. 2025].

24 Edmonds, J., Forrister, D., Clarke, L. and de Clara, S. (2019). *The Economic Potential of Article 6 of the Paris Agreement and Implementation Challenges.* [online] World Bank Group, p.1. Available at: http://documents.worldbank.org/curated/en/215681585753172514 [Accessed 30 Sep. 2025].

25 Ministry of Business, Innovation and Employment (MBIE) (2025). *Amendments to the Climate Related Disclosures Regime*. [online] p.2. Available at: https://www.mbie.govt.nz/dmsdocument/31552-amendments-to-the-climaterelated-disclosures-regime-proactiverelease-pdf [Accessed 12 Dec. 2025].

26 An organisation's strategy and decisions, such as committing to purchasing carbon offsets, can create anticipated financial impacts (AFIs) (also called AFEs by the IFRS). For example, an August 2025 IFRS guide, *Disclosing information about anticipated financial effects applying International Sustainability Standards Board (ISSB) Standards*, notes: 'IFRS S2 requires a company to provide information about the company's strategy to mitigate and adapt to climate-related transition and physical risks and respond to climate-related opportunities. This information might include information that is also relevant to anticipated financial effects [AFEs] —for example, information about the effect of the implementation of the company's transition plan on its financial position, financial performance and cash flows.' See International Financial Reporting Standards (IFRS) (2022). *Disclosing information about anticipated financial effects applying ISSB Standards Educational material.* [online] Available at: https://www.ifrs.org/content/dam/ifrs/supporting-implementation/issb-standards/disclosing-information-anticipated-financial-effects.pdf [Accessed 24 Sep. 2025].

27 Toitū Envirocare (2025). Pers. comm. Correspondence between and McGuinness Institute from August to December 2025. [McGuinness Institute document].

28 L, J. (2024). *Retiring Carbon Credits: Everything You Need To Know.* [online] Carbon Credits. Available at: https://carboncredits.com/retiring-carbon-credits-everything-you-need-to-know [Accessed 16 Sep. 2025].

29 World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) (2004). *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard.* [online] p.25. Available at: https://ghgprotocol.org/sites/default/files/ghgp/standards/ghg-protocol-revised.pdf [Accessed 21 Oct. 2025].

World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) (2011). *Corporate Value Chain (Scope 3) Accounting and Reporting Standard.* [online] pp.27, 29. Available at: https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf [Accessed 21 Oct. 2025].

30 CFP Energy (2024). *Compliance vs. Voluntary Carbon Markets Explained.* [online] Available at: https://www.cfp.energy/en/insights/compliance-vs-voluntary-carbon-markets-explained [Accessed 17 Sep. 2025].

31 Procton, A. (2025). *State of the Voluntary Carbon Market: Meeting the Moment Renewing Trust in Carbon Finance.* [online] Ecosystem Marketplace, p.20. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

32 Procton, A. (2025). *State of the Voluntary Carbon Market: Meeting the Moment Renewing Trust in Carbon Finance.* [online] Ecosystem Marketplace, p.25. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

33 Toitū Envirocare (2025). Pers. comm. Correspondence between and McGuinness Institute from August to December 2025. [McGuinness Institute document].

34 He Pou a Rangi – Climate Change Commission (2021). *Ināia tonu nei: a low emissions future for Aotearoa.* [online] p.360. Available at: https://www.climatecommission.govt.nz/our-work/advice-to-government-topic/inaia-tonu-nei-a-low-emissions-future-for-aotearoa [Accessed 17 Sep. 2025].

35 Ministry for the Environment (MFE) (2025). *New Zealand's second Nationally Determined Contribution.* [online] p.2. Available at: https://environment.govt.nz/publications/new-zealands- second-nationally-determined-contribution-submission-under-the-paris-agreement [Accessed 14 Mar. 2025].

36 New Zealand Parliament (2015). *New Zealand's Intended Nationally Determined Contribution*. [online] pp.1,5. Available at: https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/New%20Zealand/1/New%20Zealand%20INDC%202015.pdf [Accessed 19 Dec. 2025].

37 Ardern, J. and Shaw, J. (2021). *Govt increases contribution to global climate target.* [online] The Beehive. Available at: https://www.beehive.govt.nz/release/govt-increases-contribution-global-climate-target [Accessed 19 Dec. 2025].

38 Ministry for the Environment (MFE) (2024). *New Zealand's first Biennial Transparency Report under the Paris Agreement.* [online] p.21. Available at: https://environment.govt.nz/publications/new-zealands-first-biennial-transparency-report-under-the-paris-agreement [Accessed 17 Sep. 2025].

39 Gibson, E. (2024). Government won't buy overseas carbon credits to meet targets, Todd McClay says. *RNZ.* [online] 5 Dec. Available at: https://www.rnz.co.nz/news/political/535745/government-won-t-buy-overseas-carbon-credits-to-meet-targets-todd-mcclay-says [Accessed 17 Sep. 2025].

He Pou a Rangi – Climate Change Commission (2025). *Advice on NZ ETS unit limits and price control settings for 2026-2030.* [online] p.35. Available at: https://www.climatecommission.govt.nz/assets/ETS-advice/2025/CCC-NZ-ETS-advice-2025_WEB.pdf [Accessed 17 Sep. 2025].

Kivi, L. (2024). *Minister says buying offshore carbon credits 'unrealistic'*. [online] Carbonnews. Available at: https://www.carbonnews.co.nz/news/32557/story [Accessed 17 Sep. 2025].

40 Newton, K. (2025). Impossible to meet Paris Agreement targets without buying offshore carbon credits - experts. *RNZ*. [online] 4 Dec. Available at: https://www.rnz.co.nz/news/political/580790/impossible-to-meet-paris-agreement-targets-without-buying-offshore-carbon-credits-experts [Accessed 12 Dec. 2025].

41 Ministry for the Environment (MFE) (2024). *New Zealand's first Biennial Transparency Report under the Paris Agreement*. [online] p.72. Available at: https://environment.govt.nz/publications/new-zealands-first-biennial-transparency-report-under-the-paris-agreement [Accessed 17 Sep. 2025].

Ministry for the Environment (MFE) (2025). *New Zealand's second Nationally Determined Contribution*. [online] p.27. Available at: https://environment.govt.nz/publications/new-zealands-second-nationally-determined-contribution-submission-under-the-paris-agreement [Accessed 17 Sep. 2025].

42 Driver, G. (2024). Paris is burning: Will New Zealand abandon its climate change targets? *The Spinoff.* [online] 2 Oct. Available at: https://thespinoff.co.nz/politics/02-10-2024/paris-is-burning-will-new-zealand-abandon-its-climate-change-targets? [Accessed 17 Sep. 2025].

Newton, K. (2025). Impossible to meet Paris Agreement targets without buying offshore carbon credits - experts. *RNZ*. [online] 4 Dec. Available at: https://www.rnz.co.nz/news/political/580790/impossible-to-meet-paris-agreement-targets-without-buying-offshore-carbon-credits-experts [Accessed 12 Dec. 2025].

43 He Pou a Rangi – Climate Change Commission (2025). *Advice on NZ ETS unit limits and price control settings for 2026-2030.* [online] p.66. Available at: https://www.climatecommission.govt.nz/assets/ETS-advice/2025/CCC-NZ-ETS-advice-2025_WEB.pdf [Accessed 17 Sep. 2025].

44 McGuinness Institute (2024). *Discussion Paper 2024/01 – Risks Hiding in Plain Sight: Does a commitment under the Paris Agreement to purchase offshore carbon credits create a requirement to report that commitment in the financial statements of the New Zealand Government?* [online] Available at: https://www.mcguinnessinstitute.org/publications/discussion-papers [Accessed 17 Sep. 2025].

45 McGuinness Institute (2024). *Addendum to Discussion Paper 2024/01.* [online] Available at: https://www.mcguinnessinstitute.org/publications/discussion-papers [Accessed 17 Sep. 2025].

46 Ricketts, E. (2025). Treasury U-turns on emissions offsets after Minister says no to sending money offshore. *Stuff.* [online] 3 Dec. Available at: https://www.stuff.co.nz/politics/360908213/treasury-u-turns-emissions-offsets-after-ministers-says-no-sending-money-offshore [Accessed 11 Dec. 2025].

47 McGuinness Institute (2024). *Discussion Paper 2024/01 – Risks Hiding in Plain Sight: Does a commitment under the Paris Agreement to purchase offshore carbon credits create a requirement to report that commitment in the financial statements of the New Zealand Government?* [online] p.8. Available at: https://www.mcguinnessinstitute.org/publications/discussion-papers [Accessed 17 Sep. 2025].

48 Mcilraith, B. (2021). The most carbon-conscious companies and what they are doing to reduce emissions. *Stuff.* [online] 14 Nov. Available at: https://www.stuff.co.nz/business/126924574/the-most-carbonconscious-companies-and-what-they-aredoing-to-reduce-emissions [Accessed 17 Sep. 2025].

49 Ministry for the Environment (MFE) (2025). *Scaling Up Voluntary Nature Credits Market Activity in New Zealand: Proposed Government Roles*. [online] pp.7, 10. Available at: https://environment.govt.nz/publications/scaling-up-voluntary-nature-credits-market-activity-in-new-zealand [Accessed 11 Nov. 2025].

50 Ministry for the Environment (MFE) (2025). *Scaling Up Voluntary Nature Credits Market Activity in New Zealand: Proposed Government Roles.* [online] pp.8, 9. Available at: https://environment.govt.nz/publications/scaling-up-voluntary-nature-credits-market-activity-in-new-zealand [Accessed 11 Nov. 2025].

51 Ministry for the Environment (MFE) (2025). *Government announces a series of changes to NZ's climate change law.* [online] Available at: https://environment.govt.nz/news/government-announces-a-series-of-changes-to-nzs-climate-change-law [Accessed 11 Nov. 2025].

52 Ministry of Business, Innovation and Employment (MBIE) (2025). *Amendments to the Climate Related Disclosures Regime*. [online] p.11. Available at: https://www.mbie.govt.nz/dmsdocument/31552-amendments-to-the-climate-related-disclosures-regime-proactiverelease-pdf [Accessed 12 Dec. 2025]

53 McGuinness Institute (2025). *Working Paper 2025/06 – Analysing Climate Statements Contained in 2023 and 2024 Annual Reports of NZSX-listed Companies.* [online] Available at: https://www.mcguinnessinstitute.org/publications/working-papers [Accessed 25 Sep. 2025].

54 See paragraph 23 (e)(iv) of NZ CS 1: 'the extent to which the target relies on offsets, whether the offsets are verified or certified, and if so, under which scheme or schemes'.

External Reporting Board (XRB) (2022). *Aotearoa New Zealand Climate Standard 1: Climate-related Disclosures (NZ CS 1).* [online] p.10. Available at: https://www.xrb.govt.nz/dmsdocument/4770 [Accessed 17 Sep. 2025].

55 Commerce Commission (2020). *Environmental Claims Guidelines: a guide for traders.* [online] pp.2, 11–12. Available at: https://www.comcom.govt.nz/business/dealing-with-typical-situations/environmental-claims [Accessed 17 Dec. 2025].

56 DLA Piper (2025). *New Zealand: Legal and regulatory landscape in New Zealand.* [online] Available at: https://www.dlapiper.com/en-gb/insights/publications/2025/07/greenwashing-claims-from-a-global-perspective/new-zealand [Accessed 17 Dec. 2025].

57 Commerce Commission (2020). *Environmental Claims Guidelines: a guide for traders*. [online] p.11. Available at: https://www.comcom.govt.nz/business/dealing-with-typical-situations/environmental-claims [Accessed 17 Dec. 2025].

58 Williamson, P. and Middleton, R. (2023). Carbon offsets are a licence to pollute. *The Guardian.* [online] 24 Jan. Available at: https://www.theguardian.com/environment/2023/jan/24/carbon-offsets-are-a-licence-to-pollute [Accessed 17 Sep. 2025].

59 Poynting, M., Rivault, E. and Dale, B. (2025). World's hottest year: 2024 first to pass 1.5C warming limit. *BBC.* [online] 10 Jan. Available at: https://www.bbc.com/news/articles/cd7575x8yq5o [Accessed 17 Sep. 2025].

60 CarbonCredits (n.d.). *What is the Voluntary Carbon Market?* [online] Available at: https://carboncredits.com/what-is-the-voluntary-carbon-market [Accessed 17 Sep. 2025].

61 Zheleznova, O. (2025). *From $1 to $100+: Breaking Down Carbon Credit Pricing in the Voluntary Market.* [online] Carbonmark. Available at: https://www.carbonmark.com/post/understanding-carbon-credit-pricing [Accessed 17 Sep. 2025].

Engstrand, R. (2024). *Does Location Matter When Buying Carbon Credits?* [online] CNaught. Available at: https://www.cnaught.com/blog/does-location-matter-when-buying-carbon-credits [Accessed 4 Nov. 2025].

62 Allied Offsets (2025). *Forecasting the Voluntary Carbon Market.* [online] p.2. Available at: https://alliedoffsets.com/wp-content/uploads/2025/02/AlliedOffsets-Forecast-Report-March-2025.pdf [Accessed 17 Sep. 2025].

63 Saunders, J., Akhouri, U., Turner, G. and Lambert, J. (2025). *Frozen Carbon Credit Market May Thaw as 2030 Gets Closer.* [online] MSCI. Available at: https://www.msci.com/research-and-insights/blog-post/frozen-carbon-credit-market-may-thaw-as-2030-gets-closer [Accessed 17 Sep. 2025].

Procton, A. (2025). *State of the Voluntary Carbon Market: Meeting the Moment Renewing Trust in Carbon Finance.* [online] Ecosystem Marketplace, p.5. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

64 CarbonCredits (n.d.). *What is the Voluntary Carbon Market?* [online] Available at: https://carboncredits.com/what-is-the-voluntary-carbon-market [Accessed 17 Sep. 2025].

65 Raji, K. (2023). *Is Carbon Offset a Form of Greenwashing?* [online] Available at: https://earth.org/is-carbon-offset-a-form-of-greenwashing [Accessed 17 Sep. 2025].

66 Greenfield, P. (2023). Revealed: more than 90% of rainforest carbon offsets by biggest provider are worthless, analysis shows. *The Guardian*. [online] 18 Jan. Available at: https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoe [Accessed 17 Sep. 2025].

67 Richards, L. (2023). *Carbon Offsets: What Are 'Phantom Credits'?*. [online] Impakter. Available at: https://impakter.com/phantom-carbon-offsets-found-to-have-no-climate-benefit [Accessed 17 Sep. 2025].

68 Probst, B., Toetzke, M., Laura Díaz Anadón, L., Kontoleon, A. and Hoffmann, V.H. (2023). Systematic review of the actual emissions reductions of carbon offset projects across all major sectors. *Research Square*. [online] p.2. doi:https://doi.org/10.21203/rs.3.rs-3149652/v1. [Accessed 17 Sep. 2025].

69 Changing Markets Foundation (2024). *Joint Statement: Why carbon offsetting undermines climate targets.* [online] Available at: https://changingmarkets.org/joint-statement-why-carbon-offsetting-undermines-climate-targets [Accessed 17 Sep. 2025].

70 Readfearn, G. (2024). Corporations using 'ineffectual' carbon offsets are slowing path to 'real zero', more than 60 climate scientists say. *The Guardian*. [online] 27 Oct. Available at: https://www.theguardian.com/environment/2024/oct/28/corporations-using-ineffectual-carbon-offsets-are-slowing-path-to-real-zero-more-than-60-climate-scientists-say [Accessed 17 Sep. 2025].

71 Lethal Humidity Global Council (n.d.). *Real Zero.* [online] Available at: https://www.lethalhumidity.org/real-zero [Accessed 17 Sep. 2025].

72 Herd, E., McManus, D., Hatfield-Dodds, S., Boulus, P. and Cowie, M. (2024). *Essential and still evolving: The global voluntary carbon market outlook 2024.* [online] Available at: https://www.ey.com/en_nz/insights/sustainability/carbon-market-outlook-2024 [Accessed 17 Sep. 2025].

73 Science Based Targets (2025). *Deep Dive: The Role of Carbon Credits in SBTi Corporate Net-Zero Standard V2*. [online] Available at: https://sciencebasedtargets.org/blog/deep-dive-the-role-of-carbon-credits-in-sbti-corporate-net-zero-standard-v2 [Accessed 17 Sep. 2025].

74 Procton, A. (2025). *State of the Voluntary Carbon Market: Meeting the Moment Renewing Trust in Carbon Finance.* [online] Ecosystem Marketplace, p.23. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

75 Saunders, J., Akhouri, U., Turner, G. and Lambert, J. (2025). *Frozen Carbon Credit Market May Thaw as 2030 Gets Closer*. [online] MSCI. Available at: https://www.msci.com/research-and-insights/blog-post/frozen-carbon-credit-market-may-thaw-as-2030-gets-closer [Accessed 17 Sep. 2025].

76 Procton, A. (2025). *State of the Voluntary Carbon Market Meeting the Moment Renewing Trust in Carbon Finance.* [online] Ecosystem Marketplace, pp.3, 22. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

77 Allied Offsets (2025). *Forecasting the Voluntary Carbon Market.* [online] p.5. Available at: https://alliedoffsets.com/wp-content/uploads/2025/02/AlliedOffsets-Forecast-Report-March-2025.pdf [Accessed 17 Sep. 2025].

Procton, A. (2025). *State of the Voluntary Carbon Market Meeting the Moment Renewing Trust in Carbon Finance.*[online] Ecosystem Marketplace, p.22. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

78 Procton, A. (2025). *State of the Voluntary Carbon Market Meeting the Moment Renewing Trust in Carbon Finance*. [online] Ecosystem Marketplace, p.22. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

79 CarbonMark (2025). *Leveraging Blockchain for Scalable Climate Impact.* [online] p.8. Available at: https://us.bigin.online/org894283421/forms/carbonmark-2025-report [Accessed 17 Sep. 2025].

80 CarbonMark (2025). *Leveraging Blockchain for Scalable Climate Impact.* [online] pp.8–9. Available at: https://us.bigin.online/org894283421/forms/carbonmark-2025-report [Accessed 17 Sep. 2025].

Giles, J. (2025). *These 4 trends are driving the carbon market toward higher prices.* [online] Trellis. Available at: https://trellis.net/article/four-trends-are-driving-the-carbon-market-toward-higher-prices [Accessed 17 Sep. 2025].

81 Skidmore, Z. (2025). *Microsoft to purchase 18m tons of carbon credits from Rubicon Carbon.* [online] Data center dynamics. Available at: https://www.datacenterdynamics.com/en/news/microsoft-to-purchase-18m-tons-of-carbon-credits-from-rubicon-carbon [Accessed 17 Sep. 2025].

82 Procton, A. (2025). *State of the Voluntary Carbon Market Meeting the Moment Renewing Trust in Carbon Finance.* [online] Ecosystem Marketplace, p.6. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

83 Saunders, J., Akhouri, U., Turner, G. and Lambert, J. (2025). *Frozen Carbon Credit Market May Thaw as 2030 Gets Closer.* [online] MSCI. Available at: https://www.msci.com/research-and-insights/blog-post/frozen-carbon-credit-market-may-thaw-as-2030-gets-closer [Accessed 17 Sep. 2025].

Allied Offsets (2025). *Forecasting the Voluntary Carbon Market*. [online] p.2. Available at: https://alliedoffsets.com/wp-content/uploads/2025/02/AlliedOffsets-Forecast-Report-March-2025.pdf [Accessed 17 Sep. 2025].

84 HansFriederich (2021). *Green House Gas reductions and removal - opportunities and challenges*. [online] Available at: https://www.hansfriederich.com/2021/08/23/green-house-gas-reductions-and-removal-opportunities-and-challenges [Accessed 24 Sep. 2025].

Toitū Envirocare (2025) Pers. comm. Correspondence between and McGuinness Institute from August to December 2025. [McGuinness Institute document].

85 Procton, A. (2025). *State of the Voluntary Carbon Market Meeting the Moment Renewing Trust in Carbon Finance.* [online] Ecosystem Marketplace, pp.30–31. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

86 Toitū Envirocare (2025). Pers. comm. Correspondence between and McGuinness Institute from August to December 2025. [McGuinness Institute document].

87 The Integrity Council for the Voluntary Carbon Market (ICVCM) (n.d.). *The Core Carbon Principles.* [online] Available at: https://icvcm.org/core-carbon-principles [Accessed 17 Sep. 2025].

88 Procton, A. (2025). *State of the Voluntary Carbon Market Meeting the Moment Renewing Trust in Carbon Finance*. [online] Ecosystem Marketplace, pp.13, 25. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

89 Procton, A. (2025). *State of the Voluntary Carbon Market Meeting the Moment Renewing Trust in Carbon Finance*. [online] Ecosystem Marketplace, pp.30–31. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

90 Fortune Business Insights (2025). *Carbon Credit Validation Verification & Certification Market Size.* [online] Available at: https://www.fortunebusinessinsights.com/carbon-credit-validation-verification-and-certification-market-110986 [Accessed 17 Sep. 2025].

91 Venketachalam, M.G. (2022). *The voluntary carbon market needs ratings agencies.* [online] Carbon Pulse. Available at: https://carbon-pulse.com/156633 [Accessed 17 Sep. 2025].

92 Gould, J., Ginsberg-Keig, L. and Sizer, I. (2024). *Rating two years in carbon markets.* [online] BeZero Carbon. Available at: https://bezerocarbon.com/insights/rating-two-years-in-carbon-markets [Accessed 17 Sep. 2025].

93 International Carbon Reduction and Offset Alliance (ICROA) (2025). *ICROA Code of Best Practice.* [online] pp.1–2. Available at: https://icroa.org/wp-content/uploads/2025/07/ICROA_Code_Best_Practice_v2.6.2_07.2025.pdf [Accessed 17 Sep. 2025].

94 Science Based Targets (n.d.). *Target dashboard*. [online] Available at: https://sciencebasedtargets.org/target-dashboard [Accessed 17 Sep. 2025].

95 Science Based Targets (2025). *SBTi Corporate Net-Zero Standard*. [online] pp.13–14. Available at: https://files.sciencebasedtargets.org/production/files/Net-Zero-Standard.pdf?dm=1734357634&_gl=1 [Accessed 17 Sep. 2025].

96 Changing Markets Foundation (2024). *Joint Statement: Why carbon offsetting undermines climate targets*. [online] Available at: https://changingmarkets.org/joint-statement-why-carbon-offsetting-undermines-climate-targets [Accessed 17 Sep. 2025].

97 Science Based Targets (2025). *Deep Dive: The Role of Carbon Credits in SBTi Corporate Net-Zero Standard V2*. [online] Available at: https://sciencebasedtargets.org/blog/deep-dive-the-role-of-carbon-credits-in-sbti-corporate-net-zero-standard-v2 [Accessed 18 Aug. 2025].

98 Science Based Targets (2025). *SBTi Corporate Net-Zero Standard*. [online] p.73. Available at: https://files.sciencebasedtargets.org/production/files/Net-Zero-Standard.pdf?dm=1734357634&_gl=1 [Accessed 17 Sep. 2025].

Science Based Targets (2025). *SBTi Corporate Net-Zero Standard Version 2.0 – Draft for Second Public Consultation*. [online] p.15. Available at: https://files.sciencebasedtargets.org/production/files/CNZS-V2-Second-Consultation-Draft.pdf?dm=1762285041 [Accessed 29 Dec. 2025].

99 Herd, E., McManus, D., Hatfield-Dodds, S., Boulus, P. and Cowie, M. (2024). *Essential and still evolving: The global voluntary carbon market outlook 2024.* [online] p.21. Available at: https://www.ey.com/en_nz/insights/sustainability/carbon-market-outlook-2024 [Accessed 17 Sep. 2025].

100 International Sustainability Standards Board (ISSB) (2023). *IFRS S2 Climate-related Disclosures*. [online] pp.17–18. Available at: https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards-issb/english/2023/issued/part-a/issb-2023-a-ifrs-s2-climate-related-disclosures.pdf?bypass=on [Accessed 17 Sep. 2025].

101 Voluntary Carbon Markets Integrity Initiative (VCMI) (2025). *Claims Code of Practice Building integrity in voluntary carbon markets*. [online] pp.8, 13. Available at: https://vcmintegrity.org/wp-content/uploads/2025/08/VCMI-Claims-Code_2025Update_v.1.8-1.pdf [Accessed 16 Oct. 2025].

102 Toitū Envirocare (n.d.). *Toitū Net Carbon Zero.* [online] Available at: https://www.toitu.co.nz/solutions/climate-impact-certification/toitu-net-carbon-zero [Accessed 17 Sep. 2025].

103 NZX (n.d.). *NZX Main Board* (NZSX). [online] Available at: https://www.nzx.com/markets/nzsx [Accessed 23 Apr. 2025].

104 Auckland International Airport Limited (2024). *Auckland International Airport Annual Report 2024*. [online] p.50. Available at: https://www.nzx.com/announcements/436603 [Accessed 10 Oct. 2025].

105 Millennium & Copthorne Hotels New Zealand Limited (2025). *MCK 2024 Annual Report*. [online] p.23. Available at: https://www.nzx.com/announcements/449168 [Accessed 10 Oct. 2025].

106 Fursman, L., Dace, H. and Macgeoch, M. (2025). *International Carbon Markets: Climate Action at a Lower Price.* [online] Tony Blair Institute for Global Change, p.14. Available at: https://institute.global/insights/climate-andenergy/international-carbon-markets-climate-action-at-a-lower-price [Accessed 30 Sep. 2025]

107 Greenfield, P. (2021). Carbon offsets used by major airlines based on flawed system, warn experts. *The Guardian*. [online] 4 May. Available at: https://www.theguardian.com/environment/2021/may/04/carbon-offsets-used-by-major-airlines-based-on-flawed-system-warn-experts [Accessed 17 Oct. 2025].

108 Science Based Targets (2021). *SBTi launches world-first net-zero corporate standard*. [online] Available at: https://sciencebasedtargets.org/news/sbti-launches-world-first-net-zero-corporate-standard [Accessed 10 Oct. 2025].

109 Science Based Targets (2025). *SBTi Corporate Net-Zero Standard*. [online] p.23. Available at: https://files.sciencebasedtargets.org/production/files/Net-Zero-Standard.pdf?dm=1734357634&_gl=1 [Accessed 17 Sep. 2025].

110 New Zealand Rural Land Company Limited (2024). *New Zealand Rural Land Company Annual Report 2023*. [online] p.26. Available at: https://www.nzx.com/announcements/428697 [Accessed 20 Oct. 2025].

111 Comvita Limited (2024). *Comvita Annual Report 2024.* [online] p.28. Available at: https://www.nzx.com/announcements/438976 [Accessed 20 Oct. 2025].

112 ArborGen Holdings Limited (2024). *ArborGen Holdings Climate Statements FY 2024*. [online] p.12. Available at: https://www.nzx.com/announcements/435314 [Accessed 20 Oct. 2025].

113 Air New Zealand (2024). *Air New Zealand Climate Statement 2024*. [online] p.22. Available at: https://www.nzx.com/announcements/437064 [Accessed 20 Oct. 2025].

114 ArborGen Holdings Limited (2024). *ArborGen Holdings Climate Statements FY 2024*. [online] p.12. Available at: https://www.nzx.com/announcements/435314 [Accessed 20 Oct. 2025].

115 Comvita Limited (2024). *Comvita Climate Statement 2024*. [online] p.20. Available at: https://www.nzx.com/announcements/438976 [Accessed 20 Oct. 2025].

116 Fonterra Co-operative Group Limited (2024). *Fonterra Annual Report 2024*. [online] p.147. Available at: https://www.nzx.com/announcements/438785 [Accessed 20 Oct. 2025].

117 Comvita Limited (2024). *Comvita Climate Statement 2024.* [online] p.21. Available at: https://www.nzx.com/announcements/438976 [Accessed 20 Oct. 2025].

118 Kiwi Property Group Limited (2024). *Kiwi Property Group 2024 Climate-related Disclosures.* [online] p.22. Available at: https://www.nzx.com/announcements/433153 [Accessed 20 Oct. 2025].

119 New Zealand Rural Land Company Limited (2024). *New Zealand Rural Land Company Climate-related Disclosures 2024*. [online] pp.15, 32. Available at: https://www.nzx.com/announcements/450725 [Accessed 20 Oct. 2025].

120 NZX Limited (2025). *NZX 2024 Annual Report.* [online] pp.152, 153. Available at: https://www.nzx.com/announcements/447147 [Accessed 20 Oct. 2025].

121 Precinct Properties NZ and Precinct Properties Investments Limited (2024). *Precinct Properties Group Climate-related Disclosure 2024*. [online] p.39. Available at: https://www.nzx.com/announcements/440314 [Accessed 20 Oct. 2025].

122 Property For Industry Limited (2024). *Property For Industry FP24 Sustainability Update and Climate-Related Disclosures.* [online] pp.33, 34. Available at: https://www.nzx.com/announcements/437931 [Accessed 20 Oct. 2025].

123 Argosy Property Limited (2025). *2024 Climate-Related Financial Disclosures.* [online] p.16. Available at: https://www.nzx.com/announcements/431439 [Accessed 20 Oct. 2025].

Argosy Property Limited (2024). *2024 Sustainability Report.* [online] p.9. Available at: https://www.nzx.com/announcements/431439 [Accessed 20 Oct. 2025].

124 Fonterra Co-operative Group Limited (2024). *Fonterra Annual Report 2024*. [online] p.147. Available at: https://www.nzx.com/announcements/438785 [Accessed 20 Oct. 2025].

125 McGuinness Institute. (2025). *Working Paper 2025/06 – Analysing Climate Statements Contained in 2023 and 2024 Annual Reports of NZSX-listed Companies* [online] pp.32–37. Available at: www.mcguinnessinstitute.org/publications/working-papers [Accessed 17 Oct. 2025].

126 External Reporting Board (XRB) (2024). *Aotearoa New Zealand Climate Standards*. [online] Available at: https://www.xrb.govt.nz/standards/climate-related-disclosures/aotearoa-new-zealand-climate-standards [Accessed 17 Oct. 2025].

127 Accounting Standards Board (AcSB) (2024). *Carbon Credits Research.* [online] Available at: https://www.ifrs.org/content/dam/ifrs/meetings/2024/july/asaf/ap6-acsb-carbon-credit-research.pdf [Accessed 22 Oct. 2025].

128 Khalid Azizuddin (2020). *New Zealand becomes world's first country to introduce mandatory TCFD disclosure.* [online] *Responsible Investor*. Available at: https://www.responsible-investor.com/new-zealand-becomes-world-s-first-country-to-introduce-mandatory-tcfd-disclosure [Accessed 22 Oct. 2025].

129 U.S. Securities and Exchange Commission (2024). *SEC Adopts Rules to Enhance and Standardize Climate-Related Disclosures for Investors.* [online] Available at: https://www.sec.gov/newsroom/press-releases/2024-31 [Accessed 23 Oct. 2025].

130 Clifford Chance (2024). *US SEC Adopts New Climate-related Disclosure Requirements.* [online] p.3. Available at: https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2024/03/US%20SEC%20adopts%20new%20climate-related%20disclosure%20requirements.pdf [Accessed 23 Oct. 2025].

U.S. Securities and Exchange Commission (2020). *Accelerated Filer and Large Accelerated Filer Definitions.* [online] p.42. Available at: https://www.sec.gov/files/rules/final/2020/34-88365.pdf [Accessed 23 Oct. 2025].

131 Sweep (2025). *SEC Ends Defense of Climate Disclosure Rules.* [online] Available at: https://www.sweep.net/blog/sec-ends-defense-of-climate-disclosure-rules [Accessed 23 Oct. 2025].

132 Lee, M. (2024). *What the SEC's New Climate Disclosure Rules Could Mean for Companies and Investors.* [online] MSCI. Available at: https://www.msci.com/research-and-insights/blog-post/what-the-sec-new-climate-disclosure-rules-could-mean-for-companies-and-investors [Accessed 23 Oct. 2025].

133 U.S. Securities and Exchange Commission (2022). *The Enhancement and Standardization of Climate-Related Disclosures for Investors: Proposed Rule 33-11042.* [online] pp.78–79. Available at: https://www.sec.gov/rules-regulations/2024/03/s7-10-22 [Accessed 23 Oct. 2025].

134 See slide 17 for a diagram summarising how carbon credits purchased on the VCM should be accounted for. Accounting Standards Board (AcSB) (2024). *Carbon Credits Research*. [online] Available at: https://www.ifrs.org/content/dam/ifrs/meetings/2024/july/asaf/ap6-acsb-carbon-credit-research.pdf [Accessed 22 Oct. 2025].

Carlson, P. (2023). *What might a company that purchases carbon credits voluntarily need to consider?* [online] KPMG. Available at: https://kpmg.com/xx/en/our-insights/ifrg/2024/climatechange-ias2-voluntary-carbon-credits.html [Accessed 22 Oct. 2025].

135 External Reporting Board (XRB) (2023). *Financial Reporting Standard No. 44: New Zealand Additional Disclosures (FRS-44).* [online] Available at: https://www.xrb.govt.nz/dmsdocument/5053 [Accessed 22 Oct. 2025].

136 Ministry for the Environment (MFE) (2022). *Interim guidance for voluntary climate change mitigation*. [online] p.4. Available at: https://environment.govt.nz/publications/interim-guidance-for-voluntary-climate-change-mitigation [Accessed 17 Oct. 2025].

137 Voluntary Carbon Markets Integrity Initiative (VCMI) (2025). *VCMI Claims Code of Practice*. [online] Available at: https://vcmintegrity.org/vcmi-claims-code-of-practice [Accessed 17 Oct. 2025].

138 Voluntary Carbon Markets Integrity Initiative (VCMI) (2024). *VCMI welcomes UK Principles of high-integrity voluntary carbon markets and process for implementation*. [online] Available at: https://vcmintegrity.org/vcmi-welcomes-uk-principles-of-high-integrity-voluntary-carbon-markets-and-process-for-implementation [Accessed 17 Oct. 2025].

139 UK Government (2025). *Voluntary carbon and nature markets: raising integrity*. [online] Available at: https://www.gov.uk/government/consultations/voluntary-carbon-and-nature-markets-raising-integrity [Accessed 17 Oct. 2025].

140 Voluntary Carbon Markets Integrity Initiative (VCMI) (2024). *VCMI welcomes UK Principles of high-integrity voluntary carbon markets and process for implementation*. [online] Available at: https://vcmintegrity.org/vcmi-welcomes-uk-principles-of-high-integrity-voluntary-carbon-markets-and-process-for-implementation [Accessed 17 Oct. 2025].

141 Climate Action Data Trust (n.d.). *Climate Action Data Trust*. [online] Available at: https://climateactiondata.org [Accessed 17 Oct. 2025]

Climate Action Data Trust (n.d.). *Data Dashboard: Projects.* [online] Available at: https://data.climateactiondata.org/search/projects [Accessed 17 Oct. 2025].

142 BeZero Carbon (2024). *Corporate retirements: see the volume & quality of retired carbon credits.* [online] Available at: https://bezerocarbon.com/insights/corporate-retirements-see-the-volume-and-quality-of-retired-carbon-credits [Accessed 4 Nov. 2025].

143 Saunders, J., St. Laurent, B. and Buenaventura, L. (2024). *Transparency Is King When Using Carbon Credits.* [online] MSCI. Available at: https://www.msci.com/research-and-insights/blog-post/transparency-is-king-when-using-carbon-credits [Accessed 4 Nov. 2025].

144 Commerce Commission (2020). *Environmental Claims Guidelines: a guide for traders.* [online] p.2. Available at: https://www.comcom.govt.nz/business/dealing-with-typical-situations/environmental-claims [Accessed 16 Dec. 2025].

145 Commerce Commission (2020). *Environmental Claims Guidelines: a guide for traders*. [online] p.1. Available at: https://www.comcom.govt.nz/business/dealing-with-typical-situations/environmental-claims [Accessed 16 Dec. 2025].

146 Commerce Commission (2020). *Environmental Claims Guidelines: a guide for traders*. [online] p.11. Available at: https://www.comcom.govt.nz/business/dealing-with-typical-situations/environmental-claims [Accessed 16 Dec. 2025].

147 McGuinness Institute. (2025). *Working Paper 2025/05 – Reviewing Non-GAAP Financial Information in Annual Reports and Market Announcements of NZSX-listed Companies* [online] pp.16–17, 69. Available at: https://www.mcguinnessinstitute.org/publications/working-papers [Accessed 16 Dec. 2025].

148 Ministry for the Environment (MFE) (2022). *Interim guidance for voluntary climate change mitigation.* [online] Available at: https://environment.govt.nz/publications/interim-guidance-for-voluntary-climate-change-mitigation [Accessed 16 Dec. 2025].

149 McGuinness Institute (2025). *Working Paper 2025/05 – Reviewing Non-GAAP Financial Information in Annual Reports and Market Announcements of NZSX-listed Companies* [online] pp.16–17, 69. Available at: https://www.mcguinnessinstitute.org/publications/working-papers [Accessed 16 Dec. 2025].

150 Financial Markets Authority (FMA) (2022). *Fair dealing*. [online] Available at: https://www.fma.govt.nz/business/legislation/fair-dealing [Accessed 17 Dec. 2025].

151 Prism Sustainability Directory (n.d.). *Additionality*. [online] Available at: https://prism.sustainability-directory.com/area/additionality [Accessed 17 Sep. 2025].

Procton, A. (2025). *State of the Voluntary Carbon Market: Meeting the Moment Renewing Trust in Carbon Finance.* [online] Ecosystem Marketplace, p.36. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

152 Biodiversity Credit Alliance (2024). *Issue Paper #3: Definition of a Biodiversity Credit.* [online] p.7. Available at: https://www.biodiversitycreditalliance.org/products-knowledge [Accessed 11 Nov. 2025].

153 Toitū Envirocare (2025). Pers. comm. Correspondence between and McGuinness Institute from August to December 2025. [McGuinness Institute document].

154 Procton, A. (2025). *State of the Voluntary Carbon Market: Meeting the Moment Renewing Trust in Carbon Finance.* [online] Ecosystem Marketplace, p.38. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

International Carbon Reduction and Offset Alliance (ICROA) (n.d.). *Endorsed Crediting Programmes.* [online] Available at: https://icroa.org/endorsed-organisations [Accessed 18 Dec. 2025].

155 Ministry for the Environment (MFE) (2025). *Scaling Up Voluntary Nature Credits Market Activity in New Zealand: Proposed Government Roles.* [online] pp.8, 9. Available at: https://environment.govt.nz/publications/scaling-up-voluntary-nature-credits-market-activity-in-new-zealand [Accessed 11 Nov. 2025].

156 Toitū Envirocare (2025). Pers. comm. Correspondence between and McGuinness Institute from August to December 2025. [McGuinness Institute document].

157 Sylvera (2025). *The difference between insetting and offsetting.* [online] Available at: https://www.sylvera.com/blog/insetting [Accessed 22 Oct. 2025].

158 Intergovernmental Panel on Climate Change (n.d.). *IPCC Glossary Search – Offset (in climate policy).* [online] Available at: https://apps.ipcc.ch/glossary [Accessed 14 Nov. 2025].

159 Dias, A.K.N., Henson, A., Lavelle, M. and Ramesh, K. (2023). *BeZero's Carbon Risk Factor Series: Over-crediting.* [online] BeZero Carbon. Available at: https://bezerocarbon.com/insights/bezero-carbon-risk-factor-series-over-crediting [Accessed 4 Nov. 2025].

160 Prism Sustainability Directory (n.d.). *Phantom Credits.* [online] Available at: https://prism.sustainability-directory.com/area/phantom-credits [Accessed 17 Sep. 2025].

161 External Reporting Board (XRB) (2025). *External Reporting Board Standard A1 Application of the Accounting Standards Framework.* [online] p.7. Available at: https://www.xrb.govt.nz/standards/accounting-standards/for-profitstandards/standards-list/xrb-a1 [Accessed 27 Nov. 2025].

162 External Reporting Board (XRB) (2025). *External Reporting Board Standard A1 Application of the Accounting Standards Framework*. [online] p.7. Available at: https://www.xrb.govt.nz/standards/accounting-standards/for-profit-standards/standards-list/xrb-a1 [Accessed 27 Nov. 2025].

163 Procton, A. (2025). *State of the Voluntary Carbon Market: Meeting the Moment Renewing Trust in Carbon Finance.* [online] Ecosystem Marketplace, p.38. Available at: https://3298623.fs1.hubspotusercontent-na1.net/hubfs/3298623/SOVCM%202025/Ecosystem%20Marketplace%20State%20of%20the%20Voluntary%20Carbon%20Market%202025.pdf [Accessed 17 Sep. 2025].

164 Science Based Targets (2025). *Deep Dive: The Role of Carbon Credits in SBTi Corporate Net-Zero Standard V2*. [online] Available at: https://sciencebasedtargets.org/blog/deep-dive-the-role-of-carbon-credits-in-sbti-corporate-net-zero-standard-v2 [Accessed 17 Sep. 2025].

165 Toitū Envirocare (2025). Pers. comm. Correspondence between and McGuinness Institute from August to December 2025. [McGuinness Institute document].

166 Toitū Envirocare (2025). Pers. comm. Correspondence between and McGuinness Institute from August to December 2025. [McGuinness Institute document].

167 Toitū Envirocare (2025). Pers. comm. Correspondence between and McGuinness Institute from August to December 2025. [McGuinness Institute document].

168 L, J. (2024). *Retiring Carbon Credits: Everything You Need To Know*. [online] Carbon Credits. Available at: https://carboncredits.com/retiring-carbon-credits-everything-you-need-to-know [Accessed 16 Sep. 2025].

EcoTree (2024). *Understanding Carbon Credit Retirement: Lifecycle and How to Retire Them.* [online] Available at: https://ecotree.green/en/blog/lifecycle-of-carbon-credits-how-to-retire-a-carbon-credit [Accessed 30 Sep. 2025].

169 Climate Impact Partners (n.d.). *Carbon Credits Explained.* [online] Available at: https://www.climateimpact.com/business-solutions/carbon-credits-explained-what-they-are-and-how-they-work [Accessed 17 Sep. 2025].

Carbon Credits (n.d.). *Who Verifies Carbon Credits?* [online] Available at: https://carboncredits.com/who-verifies-carbon-credits [Accessed 17 Sep. 2025].

170 World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD) (2011). *Corporate Value Chain (Scope 3) Accounting and Reporting Standard*. [online] p.31. Available at: https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf [Accessed 21 Oct. 2025].

171 Toitū Envirocare (2025). Pers. comm. Correspondence between and McGuinness Institute from August to December 2025. [McGuinness Institute document].

172 Toitū Envirocare (2024). *Summerset Group Holdings Certification Overview*. [online] Available at: https://www.toitu.co.nz/members/summerset-group-holdings-limited [Accessed 21 Oct. 2025].

173 Climate Active (2025). *Public Disclosure Statements Archive: ANZ.* [online] pp.13–14. Available at: https://www.climateactive.org.au/buy-climate-active/certified-members/anz [Accessed 20 Oct. 2025].

174 Gold Standard (n.d.). *Impact Registry: Retirements*. [online] Available at: https://registry.goldstandard.org/credit-blocks?q=meridian+energy&page=1&sort_column=number_of_credits&sort_direction=desc&min_retirement_date=2023%2F01%2F01&useCases=OTHER_PURPOSES [Accessed 21 Oct. 2025].

175 Gold Standard (2025). *Impact Registry Retirement Details: Meridian Energy*. [online] Available at: https://registry.goldstandard.org/credit-blocks/details/522172 [Accessed 20 Oct. 2025].

176 Voluntary Carbon Markets Integrity Initiative (VCMI) (2025). *VCMI Claims Code of Practice*. [online] pp. 2, 33. Available at: https://vcmintegrity.org/vcmi-claims-code-of-practice [Accessed 17 Dec. 2025].

177 Science Based Targets (2025). *SBTi Corporate Net-Zero Standard*. [online] p.82. Available at: https://files.sciencebasedtargets.org/production/files/Net-Zero-Standard.pdf?dm=1734357634&_gl=1 [Accessed 17 Dec. 2025].

178 International Sustainability Standards Board (ISSB) (2023). *IFRS S2 Climate-related Disclosures*. [online] pp.17–18. Available at: https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards-issb/ english/2023/issued/part-a/issb-2023-a-ifrs-s2-climate-related-disclosures.pdf?bypass=on [Accessed 17 Sep. 2025].

179 United Nations Climate Change (n.d.) *Article 6.4 Supervisory Body*. [online] Available at: https://unfccc.int/process-and-meetings/bodies/constituted-bodies/article-64-supervisory-body [Accessed 17 Dec. 2025]

MCGUINNESS INSTITUTE
TE HONONGA WAKA